



**STRONGER  
THAN STEEL.<sup>SM</sup>**

MEMBER PROPERTIES & SPANS • CURTAIN WALLS • LOAD-BEARING WALLS • JOISTS • FRAMING DETAILS

IN CONFORMANCE WITH: 2001 North American Specification (NASPEC) with 2004 supplement • International Building Code (IBC) 2006



ClarkDietrich.  
THE FUTURE OF STEEL FRAMING  
**TAKES FORM.**

## The properties of cold-formed steel are impressive,

and the applications are many. But when you add in the product scope, design innovations and technical expertise that a company like ClarkDietrich alone can provide, the opportunities before you take on an entirely new dimension.

Due to our long history and core competency in steel framing, we can provide an unparalleled level of in-depth knowledge—not only to help you meet the codes, but to surpass expectations for cost-effective, high-performance solutions in today’s commercial and residential buildings.

This publication is specifically designed to help you as a contractor, engineer or architect find the right steel framing components for your projects. What’s more, we’ve worked to make this the industry’s most comprehensive technical support document for cold-formed steel framing.

It’s exactly the kind of resource you’d expect from a partner like ClarkDietrich. Yes, we’re known as a manufacturer of extensively tested, code-compliant steel framing products. But we also offer products that perform as a system, we support a range of efforts for smarter installation and design, and we provide the expertise of a versatile engineering services team—and all on a nationwide scale.

In the following pages, you will find ample information, data and notes to reliably guide your decisions. But please feel free to contact us at any time for additional clarity or support.

### Need Product Submittals?

Use **SubmittalPro®** at [clarkdietrich.com](http://clarkdietrich.com).

While this document is quite comprehensive, it does not completely cover our vast and growing lineup of products. You will find more complete information on each member selection, as well as nonstandard products, at [clarkdietrich.com](http://clarkdietrich.com).

### Need help with product selection, ordering, scheduling, delivery, or anything else?

Call us at **800-543-7140**, or on the West Coast at **800-365-5284**.

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### How to identify our products.

ClarkDietrich has adopted standard nomenclature established by the American Iron and Steel Institute (AISI) for identifying each of its products. Coding of each member consists of four parts, in this order:

- A number which identifies the web depth of the member to two decimal places. 600 = 6.00," 1000 = 10.00," 550 = 5.50," 362 = 3.625," etc.
- A letter that tells you the type of member, such as S = Stud/joist, T = Track, U = U-channel, and F = Furring channel.
- A number that defines the flange dimension in inches to two decimal places. 162 = 1.625," 200 = 2.00," 125 = 1.25," etc.
- A number following a hyphen that denotes the minimum delivered thickness in mils (33mils = 33/1000 inches which is approximately 0.0329"). Minimum delivered thickness is 95% of design thickness.

### Product availability.

Most products manufactured by ClarkDietrich are readily available in all markets, but there can be exceptions. Please contact your ClarkDietrich Sales Representative to make sure the product you need is available in your market area.

### Protective coatings.

Structural framing products are available with a variety of protective coatings that meet the CP60 coating protection level requirements of AISI S200 and ASTM C955. These coatings may include G60, A60, AZ50 or GF30, all of which satisfy the above referenced standards. Certified G90 coatings are an enhanced option that can be requested for highly corrosive environments. ClarkDietrich can supply a specific or enhanced coating to meet specific project requirements when requested. The buyer is solely responsible to assure that product is ordered to properly satisfy the applicable code or specification.

### Example: 362S162-43 (33ksi, CP60) punched



S = Structural stud or joist

T = Structural track

U = CRC or U-channel

F = Furring channel

#### Punching

Punched studs or joists will be supplied unless the customer indicates unpunched material is required at time of order. All track and channels are unpunched.

#### Protective Coating

Structural framing CP60 (G90 available)

#### Yield Strength (Fy)

33ksi steel will be specified unless the customer indicates 50ksi at time of order.

| ClarkDietrich structural member depths, flanges & available thickness |                                         |            |             | ClarkDietrich return lip dimensions |            |               | ClarkDietrich thickness identification and color coding |                 |                  |                |            |
|-----------------------------------------------------------------------|-----------------------------------------|------------|-------------|-------------------------------------|------------|---------------|---------------------------------------------------------|-----------------|------------------|----------------|------------|
| Member depths                                                         | Flange widths range                     | Mils range | Gauge range | Flange width                        | Return lip | Member depths | Member mils                                             | Thickness gauge | Design thickness | Min. thickness | Color code |
| (250) 2-1/2"                                                          | 1-5/8"                                  | 33-68      | 20-14 ga    | 137 (1-3/8")                        | 3/8"       | 3-5/8"-8"     | 33                                                      | 20              | 0.0346"          | 0.0329"        | White      |
| (350) 3-1/2"                                                          | 1-5/8"                                  | 33-68      | 20-14 ga    | 162 (1-5/8")                        | 1/2"       | 2-1/2"-16"    | 43                                                      | 18              | 0.0451"          | 0.0428"        | Yellow     |
| (362) 3-5/8"                                                          | 1-3/8", 1-5/8", 2", 2-1/2" & 3"         | 33-118     | 20-10 ga    | 200 (2")                            | 5/8"       | 3-5/8"-16"    | 54                                                      | 16              | 0.0566"          | 0.0538"        | Green      |
| (400) 4"                                                              | 1-3/8", 1-5/8", 2", 2-1/2" & 3"         | 33-97      | 20-12 ga    | 250 (2-1/2")                        | 5/8"       | 3-5/8"-16"    | 68                                                      | 14              | 0.0713"          | 0.0677"        | Orange     |
| (550) 5-1/2"                                                          | 1-5/8", 2" & 2-1/2"                     | 33-97      | 20-12 ga    | 300 (3")                            | 5/8"       | 6"-16"        | 97                                                      | 12              | 0.1017"          | 0.0966"        | Red        |
| (600) 6"                                                              | 1-3/8", 1-5/8", 2", 2-1/2", 3" & 3-1/2" | 33-118     | 20-10 ga    | 350 (3-1/2")                        | 1"         | 6"-16"        | 118                                                     | 10              | 0.1242"          | 0.1180"        | Blue       |
| (725) 7-1/4"                                                          | 1-5/8", 2" & 2-1/2"                     | 33-97      | 20-12 ga    |                                     |            |               |                                                         |                 |                  |                |            |
| (800) 8"                                                              | 1-3/8", 1-5/8", 2", 2-1/2", 3" & 3-1/2" | 33-118     | 20-10 ga    |                                     |            |               |                                                         |                 |                  |                |            |
| (925) 9-1/4"                                                          | 1-5/8", 2" & 2-1/2"                     | 43-97      | 18-12 ga    |                                     |            |               |                                                         |                 |                  |                |            |
| (1000) 10"                                                            | 1-5/8", 2", 2-1/2", 3" & 3-1/2"         | 43-118     | 18-10 ga    |                                     |            |               |                                                         |                 |                  |                |            |
| (1150) 11-1/2"                                                        | 1-5/8", 2" & 2-1/2"                     | 43-97      | 18-12 ga    |                                     |            |               |                                                         |                 |                  |                |            |
| (1200) 12"                                                            | 1-5/8", 2", 2-1/2", 3" & 3-1/2"         | 54-118     | 16-10 ga    |                                     |            |               |                                                         |                 |                  |                |            |
| (1350) 13-1/2"                                                        | 1-5/8", 2", 2-1/2", 3" & 3-1/2"         | 54-118     | 16-10 ga    |                                     |            |               |                                                         |                 |                  |                |            |
| (1400) 14"                                                            | 1-5/8", 2", 2-1/2", 3" & 3-1/2"         | 54-118     | 16-10 ga    |                                     |            |               |                                                         |                 |                  |                |            |
| (1600) 16"                                                            | 1-5/8", 2", 2-1/2", 3" & 3-1/2"         | 54-118     | 16-10 ga    |                                     |            |               |                                                         |                 |                  |                |            |

| Old stud/track designations |      |            |                 |       |            |
|-----------------------------|------|------------|-----------------|-------|------------|
| Old designation             | Type | Flange/leg | Old designation | Type  | Flange/leg |
| CWN                         | Stud | 1-3/8"     | TSB             | Track | 1-1/4"     |
| CSJ                         | Stud | 1-5/8"     | TSC             | Track | 2"         |
| CSW                         | Stud | 2"         | TSE             | Track | 3"         |
| CSE                         | Stud | 2-1/2"     |                 |       |            |
| CSS                         | Stud | 3"         |                 |       |            |
| CSX                         | Stud | 3-1/2"     |                 |       |            |

ClarkDietrich is a proud member of the Steel Framing Industry Association (SFIA).

## Support tools

### Technical service.

Technical service is the most important way we serve our present and prospective customers. After all, your experience with our products will only be a good one if you are satisfied that the material is right for the job and that it is being installed correctly. That's why we have provided four ways to make sure you can get the technical service you need.

**Web support**—[www.clarkdietrich.com](http://www.clarkdietrich.com) contains information on the company, its products and a wealth of other information related to the steel framing industry. This website also provides you with more detailed information about all of the company's products, including load and limiting heights tables for member sizes and configurations not contained in this printed manual. Please visit this site to familiarize yourself with what we have to offer.

**Engineering software**—To make sure you design structures successfully, we provide engineering software FREE to customers, engineers, architects and students. This state-of-the-art and user-friendly software helps configure exterior curtain wall framing for wind loads, load-bearing framing for combined loads, joists for required spans and anticipated load configurations, etc. A download is available from our website.

**ClarkDietrich Engineering Services**—A full-service design and engineering firm that provides certified engineering shop drawing packages. ClarkDietrich Design is licensed throughout the United States and can be reached by calling 877-832-3206.

**ClarkDietrich technical services**—For general technical service on products, member sizing, industry standards, framing details or information on engineering software, please call technical services at 888-437-3244.

### Architectural specification review.

Over time, project specifications can become outdated. For suggestions on how to improve the performance of your specifications, contact us about a complimentary review at 330-372-5564, ext. 244.

## Catalog notes

### Standards and specifications.

All members comply with ASTM standards and U.S. federal specifications as shown in the Material Certification at the back of this catalog. All structural properties are developed in accordance with the American Iron and Steel Institute's "Specification for the Design of Cold-Formed Steel Structural Members, 2001 with 2004 supplement."

### General notes.

The data contained in this catalog is intended to be used as a general guideline only and does not replace the judgment and designs of a qualified architect and/or engineer.

Product, application renderings and photographs are provided as a tool to show the general intent of the framing or finishing application only. These renderings or photographs may or may not be applicable to a specific project. They do not replace or supercede the architect or engineer of record, ASTM guidelines, U.S. national or local building codes, or approved industry standards.

ClarkDietrich reserves the right to change or modify the information contained in this catalog without prior notice or obligation. The information in this catalog supercedes all previously published data. Products and systems may be improved and/or changed after this catalog is printed.

All products described here may not be available in all geographic markets. Consult your local sales office for information.

### Warranty.

ClarkDietrich warrants that all products are free from defect at time of shipment, and are manufactured in accordance with company and/or industry standards as applicable.

NOTICE: ClarkDietrich shall not be liable for incidental and consequential damages, directly or indirectly sustained, nor for any loss caused by application of these goods not in accordance with current printed instructions or for other than the intended use. Our liability is expressly limited to replacement of defective goods. Any claim shall be deemed waived unless made in writing to us within thirty (30) days from date it was or reasonably should have been discovered.

## Overview

Steel framing is engineered to take advantage of the physical properties of formed steel to provide strength where needed and as needed in the construction of buildings. This section provides the basic information needed by architects and engineers to make sure the member called for in the plans will meet the criteria required by the structure.

### Structural framing general notes.

**1** Physical properties and load tables have been calculated in conformance with the 2001 North American Specification [NASPEC] with 2004 supplement for the Design of Cold-Formed Steel Structural Members and the International Building Code [IBC] 2006. U.S. provisions (ASD) have been used.

- 2** All materials delivered from ClarkDietrich shall be kept dry, preferably by being stored inside a building under a roof. Where necessary to store material outside, it shall be stacked off the ground, properly supported on a level platform, and fully protected from the weather. Reference ASTM C1007 Section 4.
- 3** Effective properties on structural framing incorporate the strength increase from the cold work of forming as applicable per NASPEC A7.2.
- 4** Gross properties are based on the section away from punchouts. Effective properties are based on punched sections.
- 5** For those steels with both 33 and 50ksi listings, if the design is based upon 50ksi, the 50ksi steel needs to be specified by the end user at the time of quote and order.

### GREEN Benefits and Recycled Content:

LEED® MR Credit 4—ClarkDietrich Building Systems produces light gauge framing products with a minimum recycled content of 48%, of which 25.5% is post-consumer and 6.8% pre-consumer. ClarkDietrich recycles nearly 100% of its post-industrial scrap.

LEED MR Credit 5—ClarkDietrich Building Systems operates regional manufacturing plants nationwide. Most projects are within a 500 mile radius of the manufacturing location and raw material source. Please visit [www.clarkdietrich.com](http://www.clarkdietrich.com) for plant locations.

### Symbols and terms.

The following tables are provided to help architects and engineers design structures that withstand various forces. Those forces include vertical loads such as weight from overhead, lateral loads such as wind, other applied pressure or a combination of those. Such natural forces can result in deflection and/or twisting of cold-formed steel framing members.

Key among these tables are the physical and structural properties tables in this next section. The tables provide typical data required to make determinations about the suitability of materials for certain intended purposes. The data is identified by commonly used engineering symbols and terms. This legend will help you to understand the symbols and terms used here.

- $I_x = (\text{in}^4)$ : Moment of inertia about the X-X axis, used for DEFLECTION
- $S_x = (\text{in}^3)$ : Section modulus about the X-X axis, used for STRESS & LOADS
- $R_x = (\text{in})$ : Radius of gyration about the X-X axis
- $I_y = (\text{in}^4)$ : Moment of inertia about the Y-Y axis
- $R_y = (\text{in})$ : Radius of gyration about the Y-Y axis, used for AXIAL LOADS

**Wind load (lbs/sq ft):** Forces produced by wind, either direct wind (positive pressure), a vacuum (negative pressure) or those generated by wind whipping around the corners of a building. These forces are usually calculated according to the prevailing building code. Wind forces are referred to as transverse loads, are perpendicular to the wall, and cause the wall to deflect.

**Axial load (lbs):** A vertical force produced by overhead loads, such as floors and roof. Floors and roofs contain both dead loads and live loads, which combine to make up the vertical loading.

**Header:** A joist or beam that spans two or more studs, accepts overhead loads from floors and roof and distributes the overhead load to the studs.

**Deflection:** The amount of movement of a system, usually greatest at the midpoint, caused by transverse loading.

- L/120: Length (height) of stud, in inches, divided by 120 (short interior wall studs)
- L/240: Length (height) of stud, in inches, divided by 240 (interior wall studs, exterior siding or EIFS)
- L/360: Length (height) of stud, in inches, divided by 360 (exterior stucco)
- L/600: Length (height) of stud, in inches, divided by 600 (exterior brick)
- L/720: Length (height) of stud, in inches, divided by 720 (exterior brick)

**Limited deflection:** A design criteria which specifies the maximum allowable deflection for a system (L/240, L/360, L/600, etc.). Deflection modification factor = IBC 2006 table 1604.3, note f. Allows wind load to be multiplied by 0.7 for checking "component and cladding" deflection limits.

### General table notes.

Unless otherwise noted, properties are computed according to the AISI NASPEC, 2001 with 2004 supplement.

$S_{xe}$  and  $M_{xa}$  for studs are based on the web perforated web properties for the standard ClarkDietrich oval knockout. For tracks,  $S_{xe}$  and  $M_{xa}$  are based on a solid section.  $I_{xe}$  is based on the solid section value for both studs and track.

"\*" Indicates that  $h/t$  (web-height-to-thickness ratio) is greater than 200, and therefore web stiffeners are required at all support points and concentric loads.

## Overview

### Wall stud and floor joist section properties.

ClarkDietrich cold-formed C-studs, produced to ASTM C955 standards, for axial load-bearing and curtain wall framing are prepunched with knockouts at regular intervals—specifically designed to allow for rapid installation of pipes, electrical conduit and wall bridging.

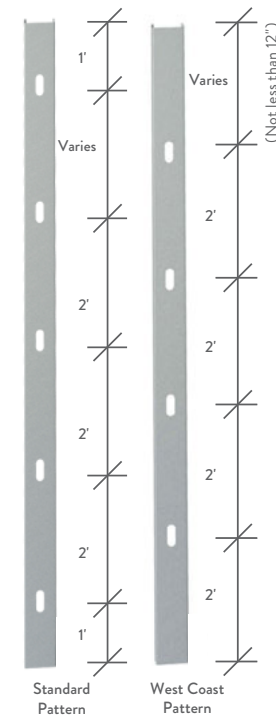
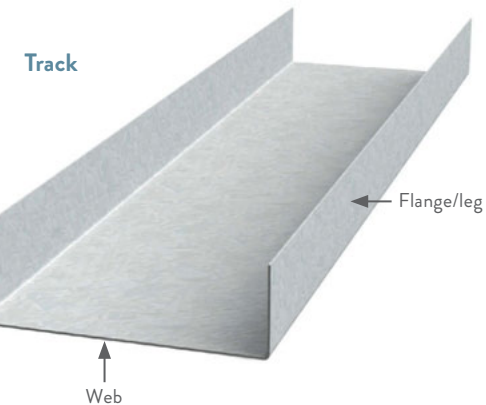
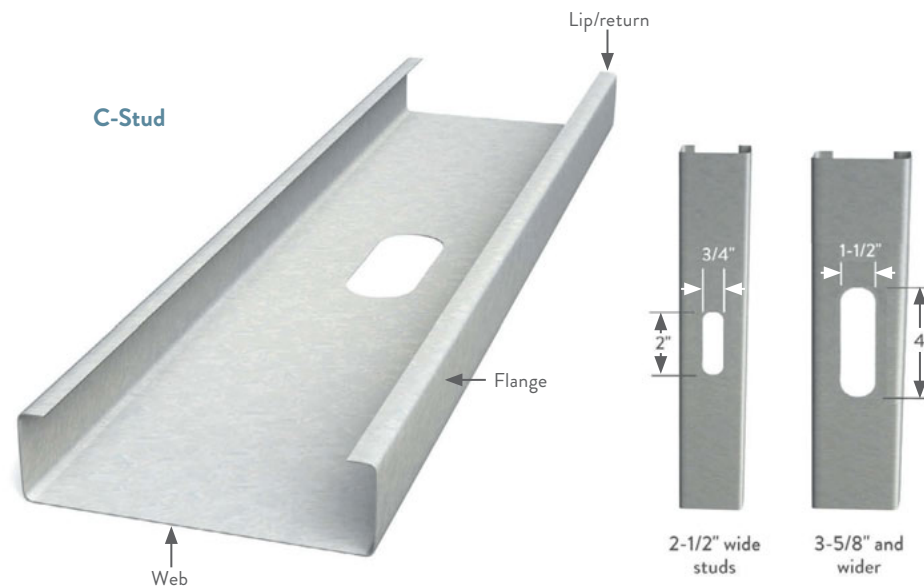
### Punchouts/Knockouts.

Allows for easy installation of wiring, plumbing and bridging. Standard knockout sizing is 1-1/2" x 4" in members 3-5/8" and wider. Members smaller than 3-5/8" are unpunched unless otherwise specified at time of order. If specified, members will be punched with a 3/4" x 2-1/2" knockout. Custom hole placement is available upon request.

Knockouts are punched 12" from the lead edge with additional knockouts every 24" o.c. (in the west, the first knockout is punched 24" from the lead edge).

### Track section properties.

ClarkDietrich structural track is a U-shaped framing component used as top and bottom runners to secure wall studs. It is produced to ASTM C955 standards, and comes in standard 10' lengths. Structural track is also used as end-support closures for joists at exterior or foundation walls, head and sill plates of wall openings and solid blocking. Track is normally ordered in corresponding size and gauge to the wall studs. Longer leg track is used for deflection conditions or to accommodate uneven or inconsistent floor or ceiling conditions. ClarkDietrich also offers custom sizes, lengths and coatings, in addition to slip track for track-over-track assemblies.



## 2-1/2" STUD/TRACK PROPERTIES

|             | Member     | Design thickness (in) | Gross Properties |            |                      |                      |                     |                      |                      |                     | 33ksi Effective Properties |                       |                          | 50ksi Effective Properties |                       |                          | Torsional Properties      |                      |                     |                     |       |
|-------------|------------|-----------------------|------------------|------------|----------------------|----------------------|---------------------|----------------------|----------------------|---------------------|----------------------------|-----------------------|--------------------------|----------------------------|-----------------------|--------------------------|---------------------------|----------------------|---------------------|---------------------|-------|
|             |            |                       | Weight (lb/ft)   | Area (in²) | I <sub>x</sub> (in⁴) | S <sub>x</sub> (in³) | R <sub>x</sub> (in) | I <sub>y</sub> (in⁴) | S <sub>y</sub> (in³) | R <sub>y</sub> (in) | I <sub>xe</sub> (in⁴)      | S <sub>xe</sub> (in³) | M <sub>xa</sub> (in-lbs) | I <sub>xe</sub> (in⁴)      | S <sub>xe</sub> (in³) | M <sub>xa</sub> (in-lbs) | J <sub>x</sub> 1000 (in⁴) | C <sub>w</sub> (in⁶) | X <sub>o</sub> (in) | R <sub>o</sub> (in) | Beta  |
| 2-1/2" Stud | 250S137-33 | 0.0346                | 0.68             | 0.199      | 0.206                | 0.165                | 1.017               | 0.053                | 0.060                | 0.517               | 0.206                      | 0.159                 | 3140                     | —                          | —                     | —                        | 0.080                     | 0.076                | -1.143              | 1.615               | 0.499 |
|             | 250S137-43 | 0.0451                | 0.87             | 0.255      | 0.261                | 0.209                | 1.011               | 0.067                | 0.075                | 0.511               | 0.261                      | 0.209                 | 4603                     | —                          | —                     | —                        | 0.173                     | 0.096                | -1.130              | 1.600               | 0.501 |
|             | 250S137-54 | 0.0566                | 1.08             | 0.316      | 0.318                | 0.255                | 1.004               | 0.080                | 0.090                | 0.504               | 0.318                      | 0.255                 | 5761                     | 0.318                      | 0.248                 | 8341                     | 0.338                     | 0.115                | -1.115              | 1.583               | 0.504 |
|             | 250S137-68 | 0.0713                | 1.33             | 0.390      | 0.386                | 0.309                | 0.995               | 0.096                | 0.107                | 0.495               | 0.386                      | 0.309                 | 7194                     | 0.386                      | 0.309                 | 10671                    | 0.660                     | 0.138                | -1.096              | 1.561               | 0.507 |
|             | 250S137-97 | 0.1017                | 1.83             | 0.538      | 0.515                | 0.412                | 0.978               | 0.123                | 0.137                | 0.478               | 0.515                      | 0.412                 | 10123                    | 0.515                      | 0.412                 | 14930                    | 1.854                     | 0.176                | -1.059              | 1.519               | 0.514 |
|             | 250S162-33 | 0.0346                | 0.77             | 0.225      | 0.238                | 0.190                | 1.028               | 0.088                | 0.088                | 0.626               | 0.238                      | 0.182                 | 3589                     | —                          | —                     | —                        | 0.090                     | 0.146                | -1.471              | 1.901               | 0.401 |
|             | 250S162-43 | 0.0451                | 0.98             | 0.289      | 0.302                | 0.242                | 1.023               | 0.111                | 0.111                | 0.620               | 0.302                      | 0.242                 | 5250                     | —                          | —                     | —                        | 0.196                     | 0.184                | -1.458              | 1.885               | 0.402 |
|             | 250S162-54 | 0.0566                | 1.22             | 0.358      | 0.370                | 0.296                | 1.016               | 0.135                | 0.135                | 0.613               | 0.370                      | 0.296                 | 6571                     | 0.370                      | 0.288                 | 9550                     | 0.383                     | 0.223                | -1.443              | 1.868               | 0.404 |
|             | 250S162-68 | 0.0713                | 1.51             | 0.443      | 0.450                | 0.360                | 1.008               | 0.162                | 0.162                | 0.605               | 0.450                      | 0.360                 | 8208                     | 0.450                      | 0.360                 | 12208                    | 0.750                     | 0.268                | -1.424              | 1.847               | 0.405 |
|             | 250S162-97 | 0.1017                | 2.09             | 0.614      | 0.605                | 0.484                | 0.992               | 0.213                | 0.213                | 0.589               | 0.605                      | 0.484                 | 11554                    | 0.605                      | 0.484                 | 17096                    | 2.117                     | 0.346                | -1.387              | 1.804               | 0.409 |
|             | 250S200-33 | 0.0346                | 0.88             | 0.259      | 0.281                | 0.225                | 1.041               | 0.156                | 0.134                | 0.775               | 0.278                      | 0.197                 | 3897                     | —                          | —                     | —                        | 0.104                     | 0.302                | -1.927              | 2.323               | 0.312 |
|             | 250S200-43 | 0.0451                | 1.14             | 0.334      | 0.358                | 0.287                | 1.036               | 0.198                | 0.170                | 0.769               | 0.358                      | 0.278                 | 5495                     | —                          | —                     | —                        | 0.226                     | 0.382                | -1.914              | 2.308               | 0.312 |
|             | 250S200-54 | 0.0566                | 1.41             | 0.415      | 0.440                | 0.352                | 1.030               | 0.242                | 0.207                | 0.763               | 0.440                      | 0.352                 | 7661                     | 0.440                      | 0.321                 | 9613                     | 0.444                     | 0.465                | -1.899              | 2.291               | 0.313 |
|             | 250S200-68 | 0.0713                | 1.75             | 0.515      | 0.537                | 0.430                | 1.022               | 0.293                | 0.251                | 0.755               | 0.537                      | 0.430                 | 9566                     | 0.537                      | 0.423                 | 14026                    | 0.871                     | 0.561                | -1.881              | 2.270               | 0.313 |
|             | 250S200-97 | 0.1017                | 2.44             | 0.716      | 0.726                | 0.581                | 1.007               | 0.391                | 0.335                | 0.739               | 0.726                      | 0.581                 | 13453                    | 0.726                      | 0.581                 | 19979                    | 2.468                     | 0.735                | -1.844              | 2.227               | 0.315 |
|             | 250S250-43 | 0.0451                | 1.29             | 0.379      | 0.426                | 0.341                | 1.060               | 0.336                | 0.235                | 0.942               | 0.426                      | 0.297                 | 5877                     | —                          | —                     | —                        | 0.257                     | 0.637                | -2.404              | 2.791               | 0.258 |
|             | 250S250-54 | 0.0566                | 1.61             | 0.472      | 0.525                | 0.420                | 1.055               | 0.412                | 0.288                | 0.935               | 0.525                      | 0.380                 | 7499                     | 0.521                      | 0.342                 | 10226                    | 0.504                     | 0.778                | -2.389              | 2.774               | 0.258 |
|             | 250S250-68 | 0.0713                | 1.99             | 0.586      | 0.642                | 0.514                | 1.047               | 0.503                | 0.350                | 0.926               | 0.642                      | 0.500                 | 10885                    | 0.642                      | 0.446                 | 13351                    | 0.992                     | 0.943                | -2.371              | 2.752               | 0.258 |
|             | 250S250-97 | 0.1017                | 2.78             | 0.818      | 0.872                | 0.698                | 1.033               | 0.678                | 0.472                | 0.910               | 0.873                      | 0.698                 | 15707                    | 0.873                      | 0.674                 | 22594                    | 2.818                     | 1.245                | -2.333              | 2.709               | 0.258 |

|              |            |        |      |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |        |       |       |
|--------------|------------|--------|------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|--------|-------|-------|
| 2-1/2" Track | 250T125-33 | 0.0346 | 0.59 | 0.173 | 0.189 | 0.144 | 1.046 | 0.027 | 0.029 | 0.397 | 0.162 | 0.101 | 1994  | —     | —     | —     | 0.069 | 0.032 | -0.761 | 1.353 | 0.684 |
|              | 250T125-43 | 0.0451 | 0.77 | 0.225 | 0.250 | 0.188 | 1.054 | 0.035 | 0.038 | 0.395 | 0.230 | 0.147 | 2897  | —     | —     | —     | 0.152 | 0.042 | -0.755 | 1.355 | 0.689 |
|              | 250T125-54 | 0.0566 | 0.96 | 0.282 | 0.319 | 0.236 | 1.062 | 0.043 | 0.047 | 0.392 | 0.311 | 0.203 | 4017  | 0.297 | 0.189 | 5646  | 0.302 | 0.054 | -0.749 | 1.357 | 0.696 |
|              | 250T125-68 | 0.0713 | 1.21 | 0.355 | 0.408 | 0.297 | 1.072 | 0.054 | 0.059 | 0.389 | 0.408 | 0.281 | 5554  | 0.402 | 0.262 | 7844  | 0.601 | 0.069 | -0.740 | 1.360 | 0.704 |
|              | 250T125-97 | 0.1017 | 1.72 | 0.506 | 0.595 | 0.421 | 1.085 | 0.074 | 0.082 | 0.383 | 0.596 | 0.421 | 9474  | 0.596 | 0.421 | 14118 | 1.743 | 0.099 | -0.725 | 1.360 | 0.716 |
|              | 250T150-33 | 0.0346 | 0.65 | 0.190 | 0.218 | 0.167 | 1.071 | 0.045 | 0.041 | 0.485 | 0.176 | 0.105 | 2068  | —     | —     | —     | 0.076 | 0.053 | -0.975 | 1.527 | 0.593 |
|              | 250T150-43 | 0.0451 | 0.84 | 0.247 | 0.288 | 0.217 | 1.079 | 0.058 | 0.053 | 0.483 | 0.251 | 0.153 | 3021  | —     | —     | —     | 0.167 | 0.070 | -0.968 | 1.528 | 0.599 |
|              | 250T150-54 | 0.0566 | 1.06 | 0.311 | 0.368 | 0.273 | 1.088 | 0.072 | 0.067 | 0.481 | 0.342 | 0.214 | 4223  | 0.325 | 0.197 | 5898  | 0.332 | 0.089 | -0.961 | 1.530 | 0.605 |
|              | 250T150-68 | 0.0713 | 1.33 | 0.391 | 0.472 | 0.344 | 1.099 | 0.089 | 0.083 | 0.478 | 0.465 | 0.299 | 5913  | 0.445 | 0.276 | 8268  | 0.662 | 0.114 | -0.953 | 1.531 | 0.613 |
|              | 250T150-97 | 0.1017 | 1.89 | 0.557 | 0.690 | 0.488 | 1.113 | 0.124 | 0.117 | 0.472 | 0.690 | 0.488 | 10762 | 0.690 | 0.456 | 13667 | 1.918 | 0.165 | -0.936 | 1.529 | 0.625 |
|              | 250T200-33 | 0.0346 | 0.77 | 0.225 | 0.276 | 0.211 | 1.108 | 0.097 | 0.071 | 0.658 | 0.198 | 0.110 | 2176  | —     | —     | —     | 0.090 | 0.116 | -1.420 | 1.918 | 0.452 |
|              | 250T200-43 | 0.0451 | 0.99 | 0.292 | 0.365 | 0.275 | 1.117 | 0.126 | 0.092 | 0.657 | 0.287 | 0.162 | 3200  | —     | —     | —     | 0.198 | 0.153 | -1.413 | 1.917 | 0.457 |
|              | 250T200-54 | 0.0566 | 1.25 | 0.367 | 0.467 | 0.346 | 1.127 | 0.157 | 0.115 | 0.654 | 0.396 | 0.228 | 4512  | 0.372 | 0.209 | 6258  | 0.393 | 0.195 | -1.405 | 1.917 | 0.462 |
|              | 250T200-68 | 0.0713 | 1.57 | 0.462 | 0.600 | 0.436 | 1.139 | 0.196 | 0.143 | 0.652 | 0.547 | 0.324 | 6405  | 0.516 | 0.296 | 8861  | 0.782 | 0.251 | -1.396 | 1.916 | 0.469 |
|              | 250T200-97 | 0.1017 | 2.24 | 0.658 | 0.879 | 0.622 | 1.155 | 0.275 | 0.202 | 0.646 | 0.877 | 0.548 | 10835 | 0.839 | 0.502 | 15028 | 2.269 | 0.366 | -1.378 | 1.911 | 0.480 |
|              | 250T300-33 | 0.0346 | 1.00 | 0.294 | 0.392 | 0.299 | 1.155 | 0.290 | 0.150 | 0.993 | 0.232 | 0.117 | 2310  | —     | —     | —     | 0.118 | 0.353 | -2.351 | 2.801 | 0.296 |
|              | 250T300-43 | 0.0451 | 1.30 | 0.383 | 0.519 | 0.390 | 1.165 | 0.376 | 0.194 | 0.991 | 0.341 | 0.173 | 3416  | —     | —     | —     | 0.259 | 0.468 | -2.343 | 2.798 | 0.299 |
|              | 250T300-54 | 0.0566 | 1.64 | 0.481 | 0.664 | 0.492 | 1.176 | 0.470 | 0.243 | 0.989 | 0.478 | 0.246 | 4855  | 0.443 | 0.224 | 6693  | 0.514 | 0.599 | -2.335 | 2.795 | 0.302 |
|              | 250T300-68 | 0.0713 | 2.06 | 0.605 | 0.856 | 0.622 | 1.190 | 0.588 | 0.305 | 0.987 | 0.673 | 0.353 | 6973  | 0.626 | 0.319 | 9559  | 1.024 | 0.773 | -2.324 | 2.791 | 0.307 |
|              | 250T300-97 | 0.1017 | 2.93 | 0.862 | 1.257 | 0.889 | 1.208 | 0.830 | 0.432 | 0.981 | 1.120 | 0.615 | 12145 | 1.049 | 0.553 | 16563 | 2.970 | 1.132 | -2.305 | 2.781 | 0.313 |

For additional section properties table notes, see page 5.

I<sub>x</sub> = Gross Moment of Inertia about x-axis.  
 S<sub>x</sub> = Gross Section Modulus about x-axis.  
 R<sub>x</sub> = Gross Radius of Gyration about x-axis.  
 I<sub>y</sub> = Gross Moment of Inertia about y-axis.

S<sub>y</sub> = Gross Section Modulus about y-axis.  
 R<sub>y</sub> = Gross Radius of Gyration about y-axis.  
 I<sub>xe</sub> = Effective Moment of Inertia about x-axis for deflection calculations.

S<sub>xe</sub> = Effective Section Modulus about x-axis.  
 M<sub>xa</sub> = Allowable Moment about x-axis.  
 J = St. Venant Torsion Constant.  
 C<sub>w</sub> = Warping Torsion Constant.

X<sub>o</sub> = Distance from shear center to the centroid along the principal x-axis.  
 R<sub>o</sub> = Polar Radius of Gyration about the centroidal principal axis.  
 Beta = 1-(X<sub>o</sub>/R<sub>o</sub>)<sup>2</sup>

Complies with IBC 2006 & AISI-NASPEC, 2001 with 2004 supplement

## 3-1/2" STUD/TRACK PROPERTIES

|             | Member     | Design thickness (in) | Gross Properties |            |                      |                      |                     |                      |                      |                     | 33ksi Effective Properties |                       |                          | 50ksi Effective Properties |                       |                          | Torsional Properties     |                      |                     |                     |       |
|-------------|------------|-----------------------|------------------|------------|----------------------|----------------------|---------------------|----------------------|----------------------|---------------------|----------------------------|-----------------------|--------------------------|----------------------------|-----------------------|--------------------------|--------------------------|----------------------|---------------------|---------------------|-------|
|             |            |                       | Weight (lb/ft)   | Area (in²) | I <sub>x</sub> (in⁴) | S <sub>x</sub> (in³) | R <sub>x</sub> (in) | I <sub>y</sub> (in⁴) | S <sub>y</sub> (in³) | R <sub>y</sub> (in) | I <sub>xe</sub> (in⁴)      | S <sub>xe</sub> (in³) | M <sub>xa</sub> (in-lbs) | I <sub>xe</sub> (in⁴)      | S <sub>xe</sub> (in³) | M <sub>xa</sub> (in-lbs) | J <sub>x1000</sub> (in⁴) | C <sub>w</sub> (in⁶) | X <sub>o</sub> (in) | R <sub>o</sub> (in) | Beta  |
| 3-1/2" Stud | 350S137-33 | 0.0346                | 0.79             | 0.234      | 0.446                | 0.255                | 1.383               | 0.060                | 0.062                | 0.505               | 0.435                      | 0.230                 | 4547                     | —                          | —                     | —                        | 0.093                    | 0.153                | -1.018              | 1.790               | 0.676 |
|             | 350S137-43 | 0.0451                | 1.02             | 0.300      | 0.568                | 0.325                | 1.376               | 0.075                | 0.078                | 0.499               | 0.555                      | 0.314                 | 6205                     | —                          | —                     | —                        | 0.203                    | 0.192                | -1.005              | 1.775               | 0.679 |
|             | 350S137-54 | 0.0566                | 1.27             | 0.373      | 0.697                | 0.398                | 1.367               | 0.090                | 0.094                | 0.492               | 0.681                      | 0.389                 | 8798                     | 0.681                      | 0.374                 | 11193                    | 0.398                    | 0.233                | -0.991              | 1.759               | 0.683 |
|             | 350S137-68 | 0.0713                | 1.57             | 0.461      | 0.849                | 0.485                | 1.357               | 0.107                | 0.111                | 0.483               | 0.829                      | 0.474                 | 11041                    | 0.829                      | 0.474                 | 16377                    | 0.781                    | 0.280                | -0.973              | 1.738               | 0.687 |
|             | 350S137-97 | 0.1017                | 2.18             | 0.640      | 1.145                | 0.654                | 1.338               | 0.139                | 0.144                | 0.466               | 1.116                      | 0.638                 | 15685                    | 1.116                      | 0.638                 | 23133                    | 2.205                    | 0.361                | -0.937              | 1.698               | 0.696 |
|             | 350S162-33 | 0.0346                | 0.88             | 0.259      | 0.513                | 0.293                | 1.407               | 0.099                | 0.092                | 0.619               | 0.502                      | 0.265                 | 5240                     | —                          | —                     | —                        | 0.104                    | 0.277                | -1.326              | 2.029               | 0.573 |
|             | 350S162-43 | 0.0451                | 1.14             | 0.334      | 0.655                | 0.374                | 1.400               | 0.125                | 0.116                | 0.613               | 0.642                      | 0.363                 | 7183                     | —                          | —                     | —                        | 0.226                    | 0.350                | -1.313              | 2.015               | 0.575 |
|             | 350S162-54 | 0.0566                | 1.41             | 0.415      | 0.805                | 0.460                | 1.393               | 0.152                | 0.141                | 0.606               | 0.789                      | 0.451                 | 10008                    | 0.789                      | 0.434                 | 12983                    | 0.444                    | 0.426                | -1.298              | 1.998               | 0.578 |
|             | 350S162-68 | 0.0713                | 1.75             | 0.515      | 0.984                | 0.562                | 1.383               | 0.184                | 0.170                | 0.597               | 0.964                      | 0.551                 | 12561                    | 0.964                      | 0.551                 | 18681                    | 0.871                    | 0.514                | -1.280              | 1.977               | 0.581 |
|             | 350S162-97 | 0.1017                | 2.44             | 0.716      | 1.336                | 0.763                | 1.366               | 0.242                | 0.223                | 0.581               | 1.307                      | 0.747                 | 17841                    | 1.307                      | 0.747                 | 26399                    | 2.468                    | 0.672                | -1.244              | 1.936               | 0.588 |
|             | 350S200-33 | 0.0346                | 1.00             | 0.294      | 0.604                | 0.345                | 1.433               | 0.176                | 0.140                | 0.774               | 0.587                      | 0.286                 | 5655                     | —                          | —                     | —                        | 0.118                    | 0.541                | -1.761              | 2.398               | 0.461 |
|             | 350S200-43 | 0.0451                | 1.29             | 0.379      | 0.772                | 0.441                | 1.427               | 0.224                | 0.178                | 0.769               | 0.759                      | 0.417                 | 8237                     | —                          | —                     | —                        | 0.257                    | 0.686                | -1.748              | 2.383               | 0.462 |
|             | 350S200-54 | 0.0566                | 1.61             | 0.472      | 0.951                | 0.543                | 1.420               | 0.274                | 0.217                | 0.762               | 0.935                      | 0.534                 | 11623                    | 0.935                      | 0.478                 | 14314                    | 0.504                    | 0.839                | -1.733              | 2.367               | 0.464 |
|             | 350S200-68 | 0.0713                | 1.99             | 0.586      | 1.167                | 0.667                | 1.411               | 0.333                | 0.263                | 0.754               | 1.146                      | 0.655                 | 14578                    | 1.146                      | 0.640                 | 21243                    | 0.992                    | 1.018                | -1.715              | 2.345               | 0.465 |
|             | 350S200-97 | 0.1017                | 2.78             | 0.818      | 1.592                | 0.910                | 1.395               | 0.445                | 0.352                | 0.738               | 1.563                      | 0.893                 | 20679                    | 1.563                      | 0.893                 | 30710                    | 2.818                    | 1.347                | -1.678              | 2.304               | 0.470 |
|             | 350S250-43 | 0.0451                | 1.44             | 0.424      | 0.906                | 0.518                | 1.461               | 0.380                | 0.246                | 0.947               | 0.893                      | 0.439                 | 8666                     | —                          | —                     | —                        | 0.287                    | 1.150                | -2.220              | 2.821               | 0.381 |
|             | 350S250-54 | 0.0566                | 1.80             | 0.528      | 1.119                | 0.639                | 1.455               | 0.467                | 0.302                | 0.940               | 1.103                      | 0.563                 | 11131                    | 1.095                      | 0.502                 | 15027                    | 0.565                    | 1.410                | -2.205              | 2.804               | 0.382 |
|             | 350S250-68 | 0.0713                | 2.24             | 0.657      | 1.376                | 0.786                | 1.447               | 0.570                | 0.369                | 0.931               | 1.356                      | 0.747                 | 16268                    | 1.356                      | 0.663                 | 19841                    | 1.112                    | 1.718                | -2.186              | 2.782               | 0.383 |
|             | 350S250-97 | 0.1017                | 3.13             | 0.919      | 1.885                | 1.077                | 1.432               | 0.770                | 0.498                | 0.915               | 1.857                      | 1.061                 | 23872                    | 1.857                      | 1.014                 | 33991                    | 3.169                    | 2.291                | -2.148              | 2.739               | 0.385 |

|              |            |        |      |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |        |       |       |
|--------------|------------|--------|------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|--------|-------|-------|
| 3-1/2" Track | 350T125-33 | 0.0346 | 0.71 | 0.208 | 0.401 | 0.222 | 1.390 | 0.030 | 0.031 | 0.379 | 0.349 | 0.163 | 3219  | —     | —     | —     | 0.083 | 0.069 | -0.669 | 1.589 | 0.823 |
|              | 350T125-43 | 0.0451 | 0.92 | 0.270 | 0.526 | 0.288 | 1.397 | 0.038 | 0.039 | 0.377 | 0.488 | 0.232 | 4590  | —     | —     | —     | 0.183 | 0.090 | -0.663 | 1.592 | 0.826 |
|              | 350T125-54 | 0.0566 | 1.15 | 0.339 | 0.668 | 0.361 | 1.404 | 0.048 | 0.049 | 0.375 | 0.652 | 0.317 | 6267  | 0.626 | 0.297 | 8903  | 0.363 | 0.114 | -0.658 | 1.595 | 0.830 |
|              | 350T125-68 | 0.0713 | 1.45 | 0.426 | 0.851 | 0.454 | 1.412 | 0.059 | 0.061 | 0.372 | 0.851 | 0.432 | 8543  | 0.838 | 0.407 | 12177 | 0.722 | 0.144 | -0.650 | 1.599 | 0.835 |
|              | 350T125-97 | 0.1017 | 2.07 | 0.607 | 1.231 | 0.643 | 1.423 | 0.082 | 0.085 | 0.366 | 1.231 | 0.643 | 14462 | 1.231 | 0.643 | 21552 | 2.094 | 0.205 | -0.636 | 1.602 | 0.842 |
|              | 350T150-33 | 0.0346 | 0.77 | 0.225 | 0.457 | 0.252 | 1.425 | 0.049 | 0.043 | 0.469 | 0.375 | 0.169 | 3337  | —     | —     | —     | 0.090 | 0.113 | -0.867 | 1.733 | 0.750 |
|              | 350T150-43 | 0.0451 | 0.99 | 0.292 | 0.600 | 0.328 | 1.432 | 0.064 | 0.056 | 0.467 | 0.529 | 0.242 | 4781  | —     | —     | —     | 0.198 | 0.148 | -0.861 | 1.735 | 0.754 |
|              | 350T150-54 | 0.0566 | 1.25 | 0.367 | 0.762 | 0.412 | 1.440 | 0.079 | 0.070 | 0.465 | 0.712 | 0.333 | 6574  | 0.679 | 0.310 | 9287  | 0.393 | 0.187 | -0.855 | 1.738 | 0.758 |
|              | 350T150-68 | 0.0713 | 1.57 | 0.462 | 0.971 | 0.518 | 1.450 | 0.099 | 0.087 | 0.462 | 0.957 | 0.459 | 9062  | 0.918 | 0.428 | 12803 | 0.782 | 0.238 | -0.847 | 1.742 | 0.763 |
|              | 350T150-97 | 0.1017 | 2.24 | 0.658 | 1.407 | 0.735 | 1.462 | 0.137 | 0.122 | 0.456 | 1.407 | 0.735 | 16213 | 1.407 | 0.693 | 20744 | 2.269 | 0.340 | -0.832 | 1.743 | 0.772 |
|              | 350T200-33 | 0.0346 | 0.88 | 0.259 | 0.568 | 0.314 | 1.480 | 0.108 | 0.074 | 0.647 | 0.421 | 0.178 | 3518  | —     | —     | —     | 0.104 | 0.245 | -1.286 | 2.065 | 0.612 |
|              | 350T200-43 | 0.0451 | 1.15 | 0.337 | 0.747 | 0.408 | 1.488 | 0.140 | 0.096 | 0.645 | 0.598 | 0.256 | 5067  | —     | —     | —     | 0.228 | 0.322 | -1.280 | 2.066 | 0.616 |
|              | 350T200-54 | 0.0566 | 1.44 | 0.424 | 0.950 | 0.514 | 1.497 | 0.175 | 0.120 | 0.642 | 0.815 | 0.355 | 7020  | 0.770 | 0.329 | 9857  | 0.453 | 0.409 | -1.273 | 2.067 | 0.621 |
|              | 350T200-68 | 0.0713 | 1.81 | 0.533 | 1.212 | 0.647 | 1.508 | 0.218 | 0.151 | 0.639 | 1.111 | 0.496 | 9794  | 1.054 | 0.458 | 13706 | 0.903 | 0.522 | -1.265 | 2.069 | 0.626 |
|              | 350T200-97 | 0.1017 | 2.59 | 0.760 | 1.760 | 0.920 | 1.522 | 0.305 | 0.212 | 0.634 | 1.754 | 0.821 | 16224 | 1.682 | 0.759 | 22717 | 2.619 | 0.752 | -1.248 | 2.068 | 0.636 |
|              | 350T300-33 | 0.0346 | 1.12 | 0.329 | 0.791 | 0.437 | 1.551 | 0.324 | 0.158 | 0.992 | 0.494 | 0.186 | 3666  | —     | —     | —     | 0.131 | 0.739 | -2.180 | 2.853 | 0.416 |
|              | 350T300-43 | 0.0451 | 1.45 | 0.428 | 1.041 | 0.569 | 1.560 | 0.420 | 0.205 | 0.991 | 0.707 | 0.275 | 5433  | —     | —     | —     | 0.289 | 0.973 | -2.173 | 2.852 | 0.420 |
|              | 350T300-54 | 0.0566 | 1.83 | 0.537 | 1.325 | 0.717 | 1.571 | 0.525 | 0.257 | 0.988 | 0.975 | 0.383 | 7577  | 0.913 | 0.354 | 10585 | 0.574 | 1.239 | -2.165 | 2.851 | 0.424 |
|              | 350T300-68 | 0.0713 | 2.30 | 0.676 | 1.694 | 0.904 | 1.583 | 0.657 | 0.322 | 0.986 | 1.351 | 0.540 | 10679 | 1.265 | 0.495 | 14826 | 1.144 | 1.584 | -2.155 | 2.850 | 0.428 |
|              | 350T300-97 | 0.1017 | 3.28 | 0.963 | 2.466 | 1.288 | 1.600 | 0.926 | 0.456 | 0.980 | 2.207 | 0.919 | 18157 | 2.075 | 0.836 | 25038 | 3.320 | 2.297 | -2.137 | 2.844 | 0.435 |

For additional section properties table notes, see page 5.

I<sub>x</sub> = Gross Moment of Inertia about x-axis.

S<sub>x</sub> = Gross Section Modulus about x-axis.

R<sub>x</sub> = Gross Radius of Gyration about x-axis.

I<sub>y</sub> = Gross Moment of Inertia about y-axis.

S<sub>y</sub> = Gross Section Modulus about y-axis.

R<sub>y</sub> = Gross Radius of Gyration about y-axis.

I<sub>xe</sub> = Effective Moment of Inertia about x-axis for deflection calculations.

S<sub>xe</sub> = Effective Section Modulus about x-axis.

M<sub>xa</sub> = Allowable Moment about x-axis.

J = St. Venant Torsion Constant.

C<sub>w</sub> = Warping Torsion Constant.

X<sub>o</sub> = Distance from shear center to the centroid along the principal x-axis.

R<sub>o</sub> = Polar Radius of Gyration about the centroidal principal axis.

Beta = 1-(X<sub>o</sub>/R<sub>o</sub>)<sup>2</sup>

Complies with IBC 2006 & AISI-NASPEC, 2001 with 2004 supplement

Pub. No. CD-STR-TechGuide 2/12

The technical content of this literature is effective 2/1/12 and supersedes all previous information.

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## 3-5/8" STUD/TRACK PROPERTIES

|             | Member     | Design thickness (in) | Gross Properties |            |                      |                      |                     |                      |                      |                     | 33ksi Effective Properties |                       |                          | 50ksi Effective Properties |                       |                          | Torsional Properties      |                      |                     |                     |       |
|-------------|------------|-----------------------|------------------|------------|----------------------|----------------------|---------------------|----------------------|----------------------|---------------------|----------------------------|-----------------------|--------------------------|----------------------------|-----------------------|--------------------------|---------------------------|----------------------|---------------------|---------------------|-------|
|             |            |                       | Weight (lb/ft)   | Area (in²) | I <sub>x</sub> (in⁴) | S <sub>x</sub> (in³) | R <sub>x</sub> (in) | I <sub>y</sub> (in⁴) | S <sub>y</sub> (in³) | R <sub>y</sub> (in) | I <sub>xe</sub> (in⁴)      | S <sub>xe</sub> (in³) | M <sub>xa</sub> (in-lbs) | I <sub>xe</sub> (in⁴)      | S <sub>xe</sub> (in³) | M <sub>xa</sub> (in-lbs) | J <sub>x</sub> 1000 (in⁴) | C <sub>w</sub> (in⁶) | X <sub>o</sub> (in) | R <sub>o</sub> (in) | Beta  |
| 3-5/8" Stud | 362S137-33 | 0.0346                | 0.81             | 0.238      | 0.484                | 0.267                | 1.427               | 0.060                | 0.062                | 0.503               | 0.472                      | 0.240                 | 4740                     | —                          | —                     | —                        | 0.095                     | 0.165                | -1.005              | 1.816               | 0.694 |
|             | 362S137-43 | 0.0451                | 1.04             | 0.306      | 0.617                | 0.340                | 1.420               | 0.076                | 0.078                | 0.497               | 0.604                      | 0.328                 | 6483                     | —                          | —                     | —                        | 0.207                     | 0.208                | -0.992              | 1.802               | 0.697 |
|             | 362S137-54 | 0.0566                | 1.29             | 0.380      | 0.756                | 0.417                | 1.412               | 0.091                | 0.094                | 0.490               | 0.740                      | 0.408                 | 9240                     | 0.740                      | 0.391                 | 11703                    | 0.406                     | 0.251                | -0.978              | 1.785               | 0.700 |
|             | 362S137-68 | 0.0713                | 1.60             | 0.470      | 0.922                | 0.509                | 1.401               | 0.109                | 0.112                | 0.481               | 0.902                      | 0.498                 | 11604                    | 0.902                      | 0.498                 | 17212                    | 0.796                     | 0.302                | -0.959              | 1.765               | 0.704 |
|             | 362S137-97 | 0.1017                | 2.22             | 0.652      | 1.245                | 0.687                | 1.382               | 0.140                | 0.144                | 0.464               | 1.217                      | 0.671                 | 16504                    | 1.217                      | 0.671                 | 24341                    | 2.249                     | 0.390                | -0.924              | 1.726               | 0.713 |
|             | 362S162-33 | 0.0346                | 0.90             | 0.264      | 0.557                | 0.307                | 1.453               | 0.100                | 0.092                | 0.617               | 0.544                      | 0.277                 | 5464                     | —                          | —                     | —                        | 0.105                     | 0.297                | -1.310              | 2.051               | 0.592 |
|             | 362S162-43 | 0.0451                | 1.16             | 0.340      | 0.710                | 0.392                | 1.446               | 0.127                | 0.117                | 0.611               | 0.697                      | 0.380                 | 7502                     | —                          | —                     | —                        | 0.230                     | 0.376                | -1.297              | 2.036               | 0.594 |
|             | 362S162-54 | 0.0566                | 1.44             | 0.422      | 0.873                | 0.482                | 1.438               | 0.154                | 0.142                | 0.604               | 0.857                      | 0.473                 | 10501                    | 0.857                      | 0.453                 | 13565                    | 0.451                     | 0.457                | -1.282              | 2.020               | 0.597 |
|             | 362S162-68 | 0.0713                | 1.78             | 0.523      | 1.068                | 0.590                | 1.429               | 0.186                | 0.170                | 0.596               | 1.048                      | 0.578                 | 13186                    | 1.048                      | 0.578                 | 19611                    | 0.886                     | 0.552                | -1.264              | 1.999               | 0.600 |
|             | 362S162-97 | 0.1017                | 2.48             | 0.729      | 1.451                | 0.801                | 1.411               | 0.245                | 0.224                | 0.580               | 1.423                      | 0.785                 | 18748                    | 1.423                      | 0.785                 | 27741                    | 2.512                     | 0.723                | -1.228              | 1.958               | 0.607 |
|             | 362S200-33 | 0.0346                | 1.02             | 0.298      | 0.654                | 0.361                | 1.480               | 0.179                | 0.141                | 0.774               | 0.636                      | 0.298                 | 5895                     | —                          | —                     | —                        | 0.119                     | 0.578                | -1.742              | 2.413               | 0.479 |
|             | 362S200-43 | 0.0451                | 1.31             | 0.385      | 0.836                | 0.461                | 1.474               | 0.227                | 0.178                | 0.768               | 0.823                      | 0.435                 | 8601                     | —                          | —                     | —                        | 0.260                     | 0.733                | -1.729              | 2.398               | 0.480 |
|             | 362S200-54 | 0.0566                | 1.63             | 0.479      | 1.031                | 0.569                | 1.467               | 0.277                | 0.218                | 0.761               | 1.015                      | 0.560                 | 12181                    | 1.015                      | 0.499                 | 14947                    | 0.512                     | 0.896                | -1.715              | 2.382               | 0.482 |
|             | 362S200-68 | 0.0713                | 2.02             | 0.595      | 1.265                | 0.698                | 1.459               | 0.337                | 0.264                | 0.753               | 1.245                      | 0.687                 | 15285                    | 1.245                      | 0.671                 | 22268                    | 1.007                     | 1.088                | -1.696              | 2.360               | 0.484 |
|             | 362S200-97 | 0.1017                | 2.83             | 0.830      | 1.728                | 0.953                | 1.442               | 0.451                | 0.354                | 0.737               | 1.699                      | 0.937                 | 21701                    | 1.699                      | 0.937                 | 32228                    | 2.862                     | 1.441                | -1.659              | 2.319               | 0.488 |
|             | 362S250-43 | 0.0451                | 1.46             | 0.430      | 0.980                | 0.541                | 1.510               | 0.385                | 0.247                | 0.946               | 0.968                      | 0.457                 | 9040                     | —                          | —                     | —                        | 0.291                     | 1.229                | -2.199              | 2.831               | 0.396 |
|             | 362S250-54 | 0.0566                | 1.82             | 0.535      | 1.211                | 0.668                | 1.504               | 0.473                | 0.304                | 0.940               | 1.195                      | 0.590                 | 11652                    | 1.186                      | 0.524                 | 15683                    | 0.572                     | 1.506                | -2.184              | 2.813               | 0.397 |
|             | 362S250-68 | 0.0713                | 2.27             | 0.666      | 1.490                | 0.822                | 1.496               | 0.577                | 0.370                | 0.931               | 1.470                      | 0.782                 | 17024                    | 1.470                      | 0.694                 | 20787                    | 1.127                     | 1.836                | -2.165              | 2.792               | 0.398 |
|             | 362S250-97 | 0.1017                | 3.17             | 0.932      | 2.043                | 1.127                | 1.481               | 0.781                | 0.500                | 0.915               | 2.015                      | 1.112                 | 25008                    | 2.015                      | 1.062                 | 35599                    | 3.212                     | 2.452                | -2.128              | 2.749               | 0.401 |

|              |            |        |      |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |        |       |       |
|--------------|------------|--------|------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|--------|-------|-------|
| 3-5/8" Track | 362T125-33 | 0.0346 | 0.72 | 0.212 | 0.435 | 0.232 | 1.432 | 0.030 | 0.031 | 0.377 | 0.379 | 0.171 | 3388  | —     | —     | —     | 0.085 | 0.075 | -0.659 | 1.621 | 0.835 |
|              | 362T125-43 | 0.0451 | 0.94 | 0.276 | 0.570 | 0.301 | 1.438 | 0.039 | 0.040 | 0.375 | 0.529 | 0.244 | 4823  | —     | —     | —     | 0.186 | 0.097 | -0.654 | 1.624 | 0.838 |
|              | 362T125-54 | 0.0566 | 1.18 | 0.346 | 0.723 | 0.378 | 1.445 | 0.048 | 0.049 | 0.373 | 0.706 | 0.333 | 6575  | 0.678 | 0.312 | 9350  | 0.370 | 0.123 | -0.648 | 1.627 | 0.841 |
|              | 362T125-68 | 0.0713 | 1.48 | 0.435 | 0.920 | 0.475 | 1.454 | 0.060 | 0.061 | 0.370 | 0.920 | 0.453 | 8950  | 0.907 | 0.427 | 12770 | 0.737 | 0.156 | -0.641 | 1.631 | 0.846 |
|              | 362T125-97 | 0.1017 | 2.11 | 0.620 | 1.330 | 0.673 | 1.465 | 0.082 | 0.085 | 0.364 | 1.330 | 0.673 | 15140 | 1.330 | 0.673 | 22561 | 2.137 | 0.222 | -0.627 | 1.634 | 0.853 |
|              | 362T150-33 | 0.0346 | 0.78 | 0.229 | 0.494 | 0.264 | 1.468 | 0.050 | 0.043 | 0.467 | 0.407 | 0.178 | 3513  | —     | —     | —     | 0.092 | 0.122 | -0.855 | 1.762 | 0.764 |
|              | 362T150-43 | 0.0451 | 1.01 | 0.298 | 0.649 | 0.343 | 1.475 | 0.064 | 0.056 | 0.465 | 0.572 | 0.254 | 5023  | —     | —     | —     | 0.202 | 0.160 | -0.850 | 1.765 | 0.768 |
|              | 362T150-54 | 0.0566 | 1.27 | 0.374 | 0.824 | 0.431 | 1.483 | 0.080 | 0.070 | 0.462 | 0.770 | 0.349 | 6895  | 0.735 | 0.326 | 9752  | 0.400 | 0.202 | -0.844 | 1.768 | 0.772 |
|              | 362T150-68 | 0.0713 | 1.60 | 0.471 | 1.049 | 0.542 | 1.493 | 0.099 | 0.087 | 0.460 | 1.033 | 0.480 | 9490  | 0.992 | 0.448 | 13422 | 0.797 | 0.257 | -0.836 | 1.771 | 0.777 |
|              | 362T150-97 | 0.1017 | 2.28 | 0.671 | 1.519 | 0.768 | 1.505 | 0.138 | 0.122 | 0.454 | 1.519 | 0.768 | 16947 | 1.519 | 0.725 | 21701 | 2.313 | 0.367 | -0.821 | 1.773 | 0.786 |
|              | 362T200-33 | 0.0346 | 0.90 | 0.264 | 0.613 | 0.327 | 1.525 | 0.110 | 0.075 | 0.645 | 0.456 | 0.187 | 3703  | —     | —     | —     | 0.105 | 0.265 | -1.272 | 2.088 | 0.629 |
|              | 362T200-43 | 0.0451 | 1.17 | 0.343 | 0.806 | 0.426 | 1.533 | 0.142 | 0.097 | 0.643 | 0.647 | 0.269 | 5324  | —     | —     | —     | 0.232 | 0.349 | -1.266 | 2.089 | 0.633 |
|              | 362T200-54 | 0.0566 | 1.47 | 0.431 | 1.025 | 0.536 | 1.542 | 0.177 | 0.121 | 0.640 | 0.880 | 0.373 | 7361  | 0.833 | 0.346 | 10351 | 0.461 | 0.443 | -1.259 | 2.091 | 0.638 |
|              | 362T200-68 | 0.0713 | 1.85 | 0.542 | 1.307 | 0.675 | 1.552 | 0.220 | 0.151 | 0.638 | 1.198 | 0.519 | 10253 | 1.137 | 0.480 | 14366 | 0.918 | 0.564 | -1.250 | 2.093 | 0.643 |
|              | 362T200-97 | 0.1017 | 2.63 | 0.773 | 1.896 | 0.959 | 1.566 | 0.308 | 0.213 | 0.632 | 1.889 | 0.858 | 16946 | 1.812 | 0.793 | 23753 | 2.663 | 0.811 | -1.234 | 2.092 | 0.652 |
|              | 362T300-33 | 0.0346 | 1.13 | 0.333 | 0.852 | 0.455 | 1.599 | 0.328 | 0.159 | 0.992 | 0.537 | 0.193 | 3805  | —     | —     | —     | 0.133 | 0.799 | -2.160 | 2.865 | 0.431 |
|              | 362T300-43 | 0.0451 | 1.47 | 0.433 | 1.121 | 0.593 | 1.609 | 0.424 | 0.206 | 0.990 | 0.764 | 0.289 | 5710  | —     | —     | —     | 0.293 | 1.052 | -2.153 | 2.864 | 0.435 |
|              | 362T300-54 | 0.0566 | 1.85 | 0.544 | 1.426 | 0.746 | 1.619 | 0.531 | 0.259 | 0.988 | 1.052 | 0.402 | 7947  | 0.986 | 0.371 | 11118 | 0.582 | 1.338 | -2.146 | 2.863 | 0.439 |
|              | 362T300-68 | 0.0713 | 2.33 | 0.685 | 1.822 | 0.941 | 1.631 | 0.664 | 0.324 | 0.985 | 1.455 | 0.566 | 11180 | 1.363 | 0.519 | 15542 | 1.159 | 1.710 | -2.136 | 2.862 | 0.443 |
|              | 362T300-97 | 0.1017 | 3.32 | 0.976 | 2.650 | 1.341 | 1.648 | 0.937 | 0.459 | 0.980 | 2.372 | 0.960 | 18960 | 2.232 | 0.874 | 26178 | 3.364 | 2.477 | -2.118 | 2.856 | 0.450 |

For additional section properties table notes, see page 5.

I<sub>x</sub> = Gross Moment of Inertia about x-axis.S<sub>x</sub> = Gross Section Modulus about x-axis.R<sub>x</sub> = Gross Radius of Gyration about x-axis.I<sub>y</sub> = Gross Moment of Inertia about y-axis.S<sub>y</sub> = Gross Section Modulus about y-axis.R<sub>y</sub> = Gross Radius of Gyration about y-axis.I<sub>xe</sub> = Effective Moment of Inertia about x-axis for deflection calculations.S<sub>xe</sub> = Effective Section Modulus about x-axis.M<sub>xa</sub> = Allowable Moment about x-axis.

J = St. Venant Torsion Constant.

C<sub>w</sub> = Warping Torsion Constant.X<sub>o</sub> = Distance from shear center to the centroid along the principal x-axis.R<sub>o</sub> = Polar Radius of Gyration about the centroidal principal axis.Beta = 1-(X<sub>o</sub>/R<sub>o</sub>)<sup>2</sup>

Complies with IBC 2006 &amp; AISI-NASPEC, 2001 with 2004 supplement

## 4" STUD/TRACK PROPERTIES

|         | Member     | Design thickness (in) | Gross Properties |            |                      |                      |                     |                      |                      | 33ksi Effective Properties |                       |                       | 50ksi Effective Properties |                       |                       | Torsional Properties     |                          |                      |                     |                     |       |
|---------|------------|-----------------------|------------------|------------|----------------------|----------------------|---------------------|----------------------|----------------------|----------------------------|-----------------------|-----------------------|----------------------------|-----------------------|-----------------------|--------------------------|--------------------------|----------------------|---------------------|---------------------|-------|
|         |            |                       | Weight (lb/ft)   | Area (in²) | I <sub>x</sub> (in⁴) | S <sub>x</sub> (in³) | R <sub>x</sub> (in) | I <sub>y</sub> (in⁴) | S <sub>y</sub> (in³) | R <sub>y</sub> (in)        | I <sub>xe</sub> (in⁴) | S <sub>xe</sub> (in³) | M <sub>xa</sub> (in-lbs)   | I <sub>xe</sub> (in⁴) | S <sub>xe</sub> (in³) | M <sub>xa</sub> (in-lbs) | J <sub>x1000</sub> (in⁴) | C <sub>w</sub> (in⁶) | X <sub>o</sub> (in) | R <sub>o</sub> (in) | Beta  |
| 4" Stud | 400S137-33 | 0.0346                | 0.85             | 0.251      | 0.610                | 0.305                | 1.559               | 0.062                | 0.063                | 0.498                      | 0.593                 | 0.269                 | 5319                       | —                     | —                     | —                        | 0.100                    | 0.204                | -0.967              | 1.901               | 0.741 |
|         | 400S137-43 | 0.0451                | 1.10             | 0.323      | 0.777                | 0.388                | 1.551               | 0.078                | 0.079                | 0.491                      | 0.762                 | 0.371                 | 7323                       | —                     | —                     | —                        | 0.218                    | 0.257                | -0.954              | 1.886               | 0.744 |
|         | 400S137-54 | 0.0566                | 1.36             | 0.401      | 0.954                | 0.477                | 1.542               | 0.094                | 0.095                | 0.484                      | 0.938                 | 0.465                 | 9197                       | 0.937                 | 0.442                 | 13242                    | 0.429                    | 0.312                | -0.940              | 1.870               | 0.747 |
|         | 400S137-68 | 0.0713                | 1.69             | 0.497      | 1.165                | 0.582                | 1.531               | 0.112                | 0.113                | 0.475                      | 1.145                 | 0.572                 | 13342                      | 1.145                 | 0.570                 | 17080                    | 0.841                    | 0.375                | -0.922              | 1.850               | 0.751 |
|         | 400S137-97 | 0.1017                | 2.35             | 0.691      | 1.577                | 0.789                | 1.511               | 0.145                | 0.146                | 0.458                      | 1.548                 | 0.774                 | 19035                      | 1.548                 | 0.774                 | 28073                    | 2.380                    | 0.486                | -0.887              | 1.811               | 0.760 |
|         | 400S162-33 | 0.0346                | 0.94             | 0.277      | 0.699                | 0.349                | 1.589               | 0.104                | 0.093                | 0.613                      | 0.682                 | 0.311                 | 6137                       | —                     | —                     | —                        | 0.111                    | 0.363                | -1.265              | 2.121               | 0.644 |
|         | 400S162-43 | 0.0451                | 1.21             | 0.357      | 0.892                | 0.446                | 1.582               | 0.131                | 0.118                | 0.607                      | 0.878                 | 0.428                 | 8464                       | —                     | —                     | —                        | 0.241                    | 0.459                | -1.252              | 2.107               | 0.647 |
|         | 400S162-54 | 0.0566                | 1.51             | 0.443      | 1.099                | 0.549                | 1.574               | 0.159                | 0.143                | 0.600                      | 1.082                 | 0.538                 | 10626                      | 1.082                 | 0.512                 | 15320                    | 0.474                    | 0.560                | -1.238              | 2.090               | 0.649 |
|         | 400S162-68 | 0.0713                | 1.87             | 0.550      | 1.346                | 0.673                | 1.564               | 0.192                | 0.172                | 0.591                      | 1.326                 | 0.663                 | 15109                      | 1.326                 | 0.661                 | 19789                    | 0.931                    | 0.677                | -1.220              | 2.070               | 0.653 |
|         | 400S162-97 | 0.1017                | 2.61             | 0.767      | 1.832                | 0.916                | 1.546               | 0.253                | 0.227                | 0.575                      | 1.804                 | 0.902                 | 21542                      | 1.804                 | 0.902                 | 31875                    | 2.643                    | 0.889                | -1.184              | 2.030               | 0.660 |
|         | 400S200-33 | 0.0346                | 1.06             | 0.311      | 0.819                | 0.409                | 1.621               | 0.185                | 0.142                | 0.770                      | 0.797                 | 0.335                 | 6616                       | —                     | —                     | —                        | 0.125                    | 0.697                | -1.689              | 2.465               | 0.530 |
|         | 400S200-43 | 0.0451                | 1.37             | 0.402      | 1.048                | 0.524                | 1.615               | 0.235                | 0.180                | 0.765                      | 1.033                 | 0.491                 | 9696                       | —                     | —                     | —                        | 0.272                    | 0.885                | -1.676              | 2.450               | 0.532 |
|         | 400S200-54 | 0.0566                | 1.70             | 0.500      | 1.293                | 0.646                | 1.608               | 0.287                | 0.221                | 0.758                      | 1.277                 | 0.635                 | 12546                      | 1.277                 | 0.563                 | 16854                    | 0.535                    | 1.083                | -1.662              | 2.433               | 0.534 |
|         | 400S200-68 | 0.0713                | 2.11             | 0.621      | 1.589                | 0.794                | 1.599               | 0.349                | 0.268                | 0.750                      | 1.569                 | 0.784                 | 17453                      | 1.569                 | 0.764                 | 22862                    | 1.052                    | 1.317                | -1.643              | 2.412               | 0.536 |
|         | 400S200-97 | 0.1017                | 2.96             | 0.869      | 2.175                | 1.087                | 1.582               | 0.468                | 0.358                | 0.734                      | 2.146                 | 1.073                 | 24840                      | 2.146                 | 1.073                 | 36890                    | 2.993                    | 1.749                | -1.607              | 2.372               | 0.541 |
|         | 400S250-43 | 0.0451                | 1.52             | 0.447      | 1.224                | 0.612                | 1.655               | 0.399                | 0.251                | 0.945                      | 1.211                 | 0.515                 | 10168                      | —                     | —                     | —                        | 0.302                    | 1.485                | -2.139              | 2.865               | 0.443 |
|         | 400S250-54 | 0.0566                | 1.89             | 0.557      | 1.513                | 0.757                | 1.649               | 0.490                | 0.308                | 0.938                      | 1.497                 | 0.666                 | 13156                      | 1.486                 | 0.590                 | 17659                    | 0.595                    | 1.822                | -2.124              | 2.848               | 0.444 |
|         | 400S250-68 | 0.0713                | 2.36             | 0.693      | 1.864                | 0.932                | 1.640               | 0.598                | 0.376                | 0.929                      | 1.844                 | 0.888                 | 19338                      | 1.844                 | 0.788                 | 23588                    | 1.173                    | 2.224                | -2.105              | 2.826               | 0.445 |
|         | 400S250-97 | 0.1017                | 3.30             | 0.970      | 2.561                | 1.281                | 1.625               | 0.810                | 0.507                | 0.913                      | 2.533                 | 1.266                 | 28487                      | 2.533                 | 1.209                 | 40531                    | 3.344                    | 2.977                | -2.068              | 2.784               | 0.448 |

|          |            |        |      |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |        |       |       |
|----------|------------|--------|------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|--------|-------|-------|
| 4" Track | 400T125-33 | 0.0346 | 0.77 | 0.225 | 0.545 | 0.264 | 1.557 | 0.031 | 0.031 | 0.371 | 0.477 | 0.198 | 3919  | —     | —     | —     | 0.090 | 0.093 | -0.631 | 1.720 | 0.865 |
|          | 400T125-43 | 0.0451 | 0.99 | 0.292 | 0.714 | 0.343 | 1.563 | 0.040 | 0.040 | 0.369 | 0.664 | 0.281 | 5550  | —     | —     | —     | 0.198 | 0.122 | -0.626 | 1.723 | 0.868 |
|          | 400T125-54 | 0.0566 | 1.25 | 0.367 | 0.905 | 0.431 | 1.569 | 0.049 | 0.050 | 0.366 | 0.883 | 0.381 | 7534  | 0.850 | 0.359 | 10748 | 0.393 | 0.154 | -0.621 | 1.727 | 0.871 |
|          | 400T125-68 | 0.0713 | 1.57 | 0.462 | 1.150 | 0.541 | 1.577 | 0.061 | 0.062 | 0.364 | 1.150 | 0.517 | 10215 | 1.133 | 0.488 | 14615 | 0.782 | 0.194 | -0.614 | 1.731 | 0.874 |
|          | 400T125-97 | 0.1017 | 2.24 | 0.658 | 1.659 | 0.767 | 1.587 | 0.084 | 0.086 | 0.358 | 1.659 | 0.766 | 17243 | 1.659 | 0.766 | 25696 | 2.269 | 0.275 | -0.600 | 1.735 | 0.880 |
|          | 400T150-33 | 0.0346 | 0.82 | 0.242 | 0.617 | 0.300 | 1.596 | 0.051 | 0.044 | 0.460 | 0.512 | 0.206 | 4062  | —     | —     | —     | 0.097 | 0.153 | -0.822 | 1.854 | 0.803 |
|          | 400T150-43 | 0.0451 | 1.07 | 0.315 | 0.809 | 0.389 | 1.603 | 0.066 | 0.057 | 0.458 | 0.717 | 0.292 | 5778  | —     | —     | —     | 0.213 | 0.200 | -0.817 | 1.857 | 0.806 |
|          | 400T150-54 | 0.0566 | 1.35 | 0.396 | 1.026 | 0.489 | 1.610 | 0.082 | 0.071 | 0.456 | 0.961 | 0.399 | 7893  | 0.919 | 0.374 | 11202 | 0.423 | 0.253 | -0.811 | 1.860 | 0.810 |
|          | 400T150-68 | 0.0713 | 1.69 | 0.498 | 1.305 | 0.614 | 1.619 | 0.102 | 0.088 | 0.453 | 1.286 | 0.547 | 10816 | 1.236 | 0.513 | 15345 | 0.843 | 0.320 | -0.804 | 1.864 | 0.814 |
|          | 400T150-97 | 0.1017 | 2.41 | 0.709 | 1.886 | 0.872 | 1.631 | 0.142 | 0.124 | 0.447 | 1.886 | 0.871 | 19219 | 1.886 | 0.824 | 24667 | 2.444 | 0.456 | -0.789 | 1.866 | 0.821 |
|          | 400T200-33 | 0.0346 | 0.94 | 0.277 | 0.762 | 0.370 | 1.659 | 0.113 | 0.076 | 0.639 | 0.572 | 0.217 | 4283  | —     | —     | —     | 0.111 | 0.332 | -1.230 | 2.162 | 0.676 |
|          | 400T200-43 | 0.0451 | 1.22 | 0.360 | 1.000 | 0.481 | 1.667 | 0.146 | 0.098 | 0.637 | 0.808 | 0.310 | 6122  | —     | —     | —     | 0.244 | 0.435 | -1.224 | 2.163 | 0.680 |
|          | 400T200-54 | 0.0566 | 1.54 | 0.452 | 1.269 | 0.605 | 1.675 | 0.182 | 0.123 | 0.635 | 1.094 | 0.426 | 8424  | 1.038 | 0.397 | 11887 | 0.484 | 0.552 | -1.217 | 2.166 | 0.684 |
|          | 400T200-68 | 0.0713 | 1.94 | 0.569 | 1.616 | 0.761 | 1.685 | 0.227 | 0.153 | 0.632 | 1.485 | 0.591 | 11675 | 1.411 | 0.548 | 16414 | 0.963 | 0.701 | -1.209 | 2.168 | 0.689 |
|          | 400T200-97 | 0.1017 | 2.76 | 0.811 | 2.340 | 1.081 | 1.699 | 0.318 | 0.216 | 0.626 | 2.331 | 0.970 | 19176 | 2.238 | 0.900 | 26958 | 2.795 | 1.007 | -1.193 | 2.168 | 0.697 |
|          | 400T300-33 | 0.0346 | 1.18 | 0.346 | 1.051 | 0.510 | 1.743 | 0.338 | 0.162 | 0.989 | 0.677 | 0.213 | 4217  | —     | —     | —     | 0.138 | 0.996 | -2.104 | 2.906 | 0.475 |
|          | 400T300-43 | 0.0451 | 1.53 | 0.450 | 1.381 | 0.664 | 1.752 | 0.438 | 0.210 | 0.987 | 0.952 | 0.333 | 6573  | —     | —     | —     | 0.305 | 1.309 | -2.098 | 2.905 | 0.479 |
|          | 400T300-54 | 0.0566 | 1.92 | 0.566 | 1.755 | 0.836 | 1.761 | 0.548 | 0.263 | 0.985 | 1.304 | 0.461 | 9100  | 1.225 | 0.427 | 12780 | 0.605 | 1.663 | -2.090 | 2.905 | 0.482 |
|          | 400T300-68 | 0.0713 | 2.42 | 0.712 | 2.238 | 1.054 | 1.774 | 0.686 | 0.329 | 0.982 | 1.796 | 0.644 | 12733 | 1.687 | 0.593 | 17768 | 1.204 | 2.121 | -2.081 | 2.905 | 0.487 |
|          | 400T300-97 | 0.1017 | 3.45 | 1.014 | 3.249 | 1.501 | 1.790 | 0.967 | 0.466 | 0.976 | 2.912 | 1.085 | 21439 | 2.744 | 0.992 | 29703 | 3.496 | 3.065 | -2.063 | 2.900 | 0.494 |

For additional section properties table notes, see page 5.

I<sub>x</sub> = Gross Moment of Inertia about x-axis.

S<sub>x</sub> = Gross Section Modulus about x-axis.

R<sub>x</sub> = Gross Radius of Gyration about x-axis.

I<sub>y</sub> = Gross Moment of Inertia about y-axis.

S<sub>y</sub> = Gross Section Modulus about y-axis.

R<sub>y</sub> = Gross Radius of Gyration about y-axis.

I<sub>xe</sub> = Effective Moment of Inertia about x-axis for deflection calculations.

S<sub>xe</sub> = Effective Section Modulus about x-axis.

M<sub>xa</sub> = Allowable Moment about x-axis.

J = St. Venant Torsion Constant.

C<sub>w</sub> = Warping Torsion Constant.

X<sub>o</sub> = Distance from shear center to the centroid along the principal x-axis.

R<sub>o</sub> = Polar Radius of Gyration about the centroidal principal axis.

Beta = 1-(X<sub>o</sub>/R<sub>o</sub>)<sup>2</sup>

Complies with IBC 2006 & AISI-NASPEC, 2001 with 2004 supplement

Pub. No. CD-STR-TechGuide 2/12

The technical content of this literature is effective 2/1/12 and supersedes all previous information.

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## 5-1/2" STUD/TRACK PROPERTIES

|             | Member     | Design thickness (in) | Gross Properties |            |                      |                      |                     |                      |                      | 33ksi Effective Properties |                       |                       | 50ksi Effective Properties |                       |                       | Torsional Properties     |                          |                      |                     |                     |       |
|-------------|------------|-----------------------|------------------|------------|----------------------|----------------------|---------------------|----------------------|----------------------|----------------------------|-----------------------|-----------------------|----------------------------|-----------------------|-----------------------|--------------------------|--------------------------|----------------------|---------------------|---------------------|-------|
|             |            |                       | Weight (lb/ft)   | Area (in²) | I <sub>x</sub> (in⁴) | S <sub>x</sub> (in³) | R <sub>x</sub> (in) | I <sub>y</sub> (in⁴) | S <sub>y</sub> (in³) | R <sub>y</sub> (in)        | I <sub>xe</sub> (in⁴) | S <sub>xe</sub> (in³) | M <sub>xa</sub> (in-lbs)   | I <sub>xe</sub> (in⁴) | S <sub>xe</sub> (in³) | M <sub>xa</sub> (in-lbs) | J <sub>x1000</sub> (in⁴) | C <sub>w</sub> (in⁶) | X <sub>o</sub> (in) | R <sub>o</sub> (in) | Beta  |
| 5-1/2" Stud | 550S137-33 | 0.0346                | 1.03             | 0.303      | 1.296                | 0.471                | 2.069               | 0.068                | 0.065                | 0.474                      | 1.295                 | 0.456                 | 9015                       | —                     | —                     | —                        | 0.121                    | 0.412                | -0.842              | 2.283               | 0.864 |
|             | 550S137-43 | 0.0451                | 1.33             | 0.390      | 1.656                | 0.602                | 2.060               | 0.085                | 0.081                | 0.467                      | 1.656                 | 0.602                 | 13280                      | —                     | —                     | —                        | 0.264                    | 0.520                | -0.830              | 2.269               | 0.866 |
|             | 550S137-54 | 0.0566                | 1.65             | 0.486      | 2.041                | 0.742                | 2.049               | 0.103                | 0.098                | 0.460                      | 2.040                 | 0.742                 | 16781                      | 2.040                 | 0.723                 | 24341                    | 0.519                    | 0.633                | -0.817              | 2.254               | 0.868 |
|             | 550S137-68 | 0.0713                | 2.05             | 0.604      | 2.503                | 0.910                | 2.036               | 0.123                | 0.116                | 0.451                      | 2.502                 | 0.910                 | 21214                      | 2.502                 | 0.910                 | 31466                    | 1.022                    | 0.763                | -0.801              | 2.234               | 0.872 |
|             | 550S137-97 | 0.1017                | 2.87             | 0.843      | 3.417                | 1.243                | 2.013               | 0.159                | 0.151                | 0.434                      | 3.416                 | 1.242                 | 30542                      | 3.416                 | 1.242                 | 45045                    | 2.906                    | 0.997                | -0.768              | 2.198               | 0.878 |
|             | 550S162-33 | 0.0346                | 1.12             | 0.329      | 1.471                | 0.535                | 2.115               | 0.115                | 0.096                | 0.591                      | 1.471                 | 0.517                 | 10211                      | —                     | —                     | —                        | 0.131                    | 0.713                | -1.115              | 2.463               | 0.795 |
|             | 550S162-43 | 0.0451                | 1.44             | 0.424      | 1.884                | 0.685                | 2.107               | 0.145                | 0.122                | 0.584                      | 1.883                 | 0.685                 | 14874                      | —                     | —                     | —                        | 0.287                    | 0.905                | -1.103              | 2.449               | 0.797 |
|             | 550S162-54 | 0.0566                | 1.80             | 0.528      | 2.326                | 0.846                | 2.098               | 0.176                | 0.148                | 0.577                      | 2.326                 | 0.846                 | 18773                      | 2.326                 | 0.822                 | 27230                    | 0.565                    | 1.105                | -1.090              | 2.434               | 0.800 |
|             | 550S162-68 | 0.0713                | 2.24             | 0.657      | 2.861                | 1.040                | 2.087               | 0.212                | 0.178                | 0.569                      | 2.860                 | 1.040                 | 23709                      | 2.860                 | 1.040                 | 35263                    | 1.112                    | 1.342                | -1.072              | 2.414               | 0.803 |
|             | 550S162-97 | 0.1017                | 3.13             | 0.919      | 3.923                | 1.427                | 2.066               | 0.280                | 0.235                | 0.552                      | 3.923                 | 1.426                 | 34072                      | 3.923                 | 1.426                 | 50415                    | 3.169                    | 1.774                | -1.039              | 2.377               | 0.809 |
|             | 550S200-33 | 0.0346                | 1.24             | 0.363      | 1.707                | 0.621                | 2.167               | 0.206                | 0.147                | 0.752                      | 1.686                 | 0.558                 | 11018                      | —                     | —                     | —                        | 0.145                    | 1.327                | -1.509              | 2.746               | 0.698 |
|             | 550S200-43 | 0.0451                | 1.60             | 0.469      | 2.189                | 0.796                | 2.160               | 0.261                | 0.187                | 0.746                      | 2.189                 | 0.777                 | 15355                      | —                     | —                     | —                        | 0.317                    | 1.690                | -1.497              | 2.732               | 0.700 |
|             | 550S200-54 | 0.0566                | 1.99             | 0.585      | 2.708                | 0.985                | 2.152               | 0.320                | 0.228                | 0.739                      | 2.708                 | 0.985                 | 21426                      | 2.708                 | 0.902                 | 27007                    | 0.625                    | 2.073                | -1.483              | 2.716               | 0.702 |
|             | 550S200-68 | 0.0713                | 2.48             | 0.728      | 3.340                | 1.214                | 2.141               | 0.389                | 0.278                | 0.731                      | 3.339                 | 1.214                 | 27020                      | 3.339                 | 1.187                 | 39418                    | 1.233                    | 2.530                | -1.465              | 2.695               | 0.705 |
|             | 550S200-97 | 0.1017                | 3.47             | 1.021      | 4.601                | 1.673                | 2.123               | 0.522                | 0.372                | 0.715                      | 4.600                 | 1.673                 | 38722                      | 4.600                 | 1.673                 | 57506                    | 3.519                    | 3.384                | -1.430              | 2.657               | 0.710 |
|             | 550S250-43 | 0.0451                | 1.75             | 0.514      | 2.524                | 0.918                | 2.215               | 0.445                | 0.261                | 0.930                      | 2.524                 | 0.818                 | 16165                      | —                     | —                     | —                        | 0.348                    | 2.835                | -1.933              | 3.084               | 0.607 |
|             | 550S250-54 | 0.0566                | 2.18             | 0.642      | 3.128                | 1.137                | 2.208               | 0.547                | 0.320                | 0.923                      | 3.127                 | 1.033                 | 20417                      | 3.086                 | 0.950                 | 28457                    | 0.686                    | 3.488                | -1.919              | 3.067               | 0.609 |
|             | 550S250-68 | 0.0713                | 2.72             | 0.800      | 3.865                | 1.405                | 2.199               | 0.669                | 0.391                | 0.914                      | 3.864                 | 1.357                 | 29549                      | 3.863                 | 1.232                 | 36889                    | 1.354                    | 4.272                | -1.900              | 3.046               | 0.611 |
|             | 550S250-97 | 0.1017                | 3.82             | 1.123      | 5.342                | 1.942                | 2.181               | 0.906                | 0.529                | 0.898                      | 5.341                 | 1.942                 | 43693                      | 5.341                 | 1.861                 | 62385                    | 3.870                    | 5.760                | -1.864              | 3.006               | 0.616 |

|              |            |        |      |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |        |       |       |
|--------------|------------|--------|------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|--------|-------|-------|
| 5-1/2" Track | 550T125-33 | 0.0346 | 0.94 | 0.277 | 1.154 | 0.410 | 2.041 | 0.033 | 0.032 | 0.346 | 1.018 | 0.264 | 5221  | —     | —     | —     | 0.111 | 0.193 | -0.541 | 2.140 | 0.936 |
|              | 550T125-43 | 0.0451 | 1.22 | 0.360 | 1.508 | 0.533 | 2.046 | 0.043 | 0.041 | 0.345 | 1.424 | 0.415 | 8197  | —     | —     | —     | 0.244 | 0.251 | -0.537 | 2.144 | 0.937 |
|              | 550T125-54 | 0.0566 | 1.54 | 0.452 | 1.905 | 0.668 | 2.052 | 0.053 | 0.051 | 0.342 | 1.863 | 0.598 | 11815 | 1.813 | 0.535 | 16023 | 0.484 | 0.316 | -0.532 | 2.147 | 0.939 |
|              | 550T125-68 | 0.0713 | 1.94 | 0.569 | 2.412 | 0.839 | 2.059 | 0.066 | 0.064 | 0.340 | 2.411 | 0.807 | 15938 | 2.378 | 0.768 | 23003 | 0.963 | 0.397 | -0.526 | 2.152 | 0.940 |
|              | 550T125-97 | 0.1017 | 2.76 | 0.811 | 3.464 | 1.189 | 2.067 | 0.090 | 0.089 | 0.334 | 3.463 | 1.188 | 26731 | 3.463 | 1.188 | 39834 | 2.795 | 0.558 | -0.515 | 2.156 | 0.943 |
|              | 550T150-33 | 0.0346 | 1.00 | 0.294 | 1.289 | 0.458 | 2.093 | 0.056 | 0.045 | 0.435 | 1.105 | 0.303 | 5988  | —     | —     | —     | 0.118 | 0.317 | -0.714 | 2.254 | 0.900 |
|              | 550T150-43 | 0.0451 | 1.30 | 0.383 | 1.685 | 0.596 | 2.099 | 0.072 | 0.059 | 0.433 | 1.512 | 0.467 | 9224  | —     | —     | —     | 0.259 | 0.413 | -0.710 | 2.257 | 0.901 |
|              | 550T150-54 | 0.0566 | 1.64 | 0.481 | 2.130 | 0.748 | 2.105 | 0.089 | 0.073 | 0.430 | 2.006 | 0.629 | 12424 | 1.930 | 0.595 | 17819 | 0.514 | 0.519 | -0.704 | 2.261 | 0.903 |
|              | 550T150-68 | 0.0713 | 2.06 | 0.605 | 2.699 | 0.939 | 2.113 | 0.110 | 0.091 | 0.427 | 2.659 | 0.850 | 16792 | 2.568 | 0.804 | 24059 | 1.024 | 0.655 | -0.698 | 2.266 | 0.905 |
|              | 550T150-97 | 0.1017 | 2.93 | 0.862 | 3.880 | 1.332 | 2.122 | 0.153 | 0.128 | 0.422 | 3.880 | 1.331 | 29361 | 3.880 | 1.268 | 37969 | 2.970 | 0.927 | -0.685 | 2.269 | 0.909 |
|              | 550T200-33 | 0.0346 | 1.12 | 0.329 | 1.559 | 0.555 | 2.178 | 0.124 | 0.079 | 0.613 | 1.234 | 0.300 | 5928  | —     | —     | —     | 0.131 | 0.687 | -1.089 | 2.511 | 0.812 |
|              | 550T200-43 | 0.0451 | 1.45 | 0.428 | 2.040 | 0.721 | 2.184 | 0.160 | 0.102 | 0.611 | 1.685 | 0.494 | 9759  | —     | —     | —     | 0.289 | 0.898 | -1.083 | 2.514 | 0.814 |
|              | 550T200-54 | 0.0566 | 1.83 | 0.537 | 2.581 | 0.906 | 2.192 | 0.199 | 0.127 | 0.609 | 2.255 | 0.669 | 13222 | 2.154 | 0.630 | 18873 | 0.574 | 1.133 | -1.077 | 2.517 | 0.817 |
|              | 550T200-68 | 0.0713 | 2.30 | 0.676 | 3.273 | 1.139 | 2.201 | 0.248 | 0.159 | 0.606 | 3.025 | 0.913 | 18046 | 2.893 | 0.857 | 25654 | 1.144 | 1.433 | -1.070 | 2.521 | 0.820 |
|              | 550T200-97 | 0.1017 | 3.28 | 0.963 | 4.714 | 1.618 | 2.212 | 0.347 | 0.224 | 0.600 | 4.691 | 1.470 | 29056 | 4.519 | 1.378 | 41247 | 3.320 | 2.044 | -1.056 | 2.523 | 0.825 |
|              | 550T300-33 | 0.0346 | 1.35 | 0.398 | 2.099 | 0.747 | 2.297 | 0.374 | 0.169 | 0.969 | 1.450 | 0.296 | 5848  | —     | —     | —     | 0.159 | 2.048 | -1.911 | 3.141 | 0.630 |
|              | 550T300-43 | 0.0451 | 1.76 | 0.518 | 2.749 | 0.972 | 2.305 | 0.485 | 0.220 | 0.967 | 1.981 | 0.508 | 10031 | —     | —     | —     | 0.350 | 2.680 | -1.904 | 3.142 | 0.633 |
|              | 550T300-54 | 0.0566 | 2.21 | 0.651 | 3.482 | 1.222 | 2.313 | 0.606 | 0.275 | 0.965 | 2.657 | 0.723 | 14296 | 2.528 | 0.664 | 19866 | 0.695 | 3.392 | -1.898 | 3.144 | 0.636 |
|              | 550T300-68 | 0.0713 | 2.78 | 0.818 | 4.422 | 1.538 | 2.324 | 0.758 | 0.345 | 0.962 | 3.608 | 0.995 | 19670 | 3.416 | 0.928 | 27783 | 1.385 | 4.304 | -1.889 | 3.146 | 0.639 |
|              | 550T300-97 | 0.1017 | 3.97 | 1.167 | 6.381 | 2.190 | 2.339 | 1.068 | 0.487 | 0.957 | 5.754 | 1.638 | 32364 | 5.453 | 1.515 | 45355 | 4.021 | 6.178 | -1.872 | 3.145 | 0.646 |

For additional section properties table notes, see page 5.

I<sub>x</sub> = Gross Moment of Inertia about x-axis.  
 S<sub>x</sub> = Gross Section Modulus about x-axis.  
 R<sub>x</sub> = Gross Radius of Gyration about x-axis.  
 I<sub>y</sub> = Gross Moment of Inertia about y-axis.

S<sub>y</sub> = Gross Section Modulus about y-axis.  
 R<sub>y</sub> = Gross Radius of Gyration about y-axis.  
 I<sub>xe</sub> = Effective Moment of Inertia about x-axis for deflection calculations.

S<sub>xe</sub> = Effective Section Modulus about x-axis.  
 M<sub>xa</sub> = Allowable Moment about x-axis.  
 J = St. Venant Torsion Constant.  
 C<sub>w</sub> = Warping Torsion Constant.

X<sub>o</sub> = Distance from shear center to the centroid along the principal x-axis.  
 R<sub>o</sub> = Polar Radius of Gyration about the centroidal principal axis.  
 Beta = 1-(X<sub>o</sub>/R<sub>o</sub>)<sup>2</sup>

Complies with IBC 2006 & AISI-NASPEC, 2001 with 2004 supplement

## 6" STUD/TRACK PROPERTIES

|          | Member     | Design thickness (in) | Gross Properties |                         |                                   |                                   |                     |                                   |                                   |                     | 33ksi Effective Properties         |                                    |                          | 50ksi Effective Properties         |                                    |                          | Torsional Properties      |                                   |                     |                     |       |
|----------|------------|-----------------------|------------------|-------------------------|-----------------------------------|-----------------------------------|---------------------|-----------------------------------|-----------------------------------|---------------------|------------------------------------|------------------------------------|--------------------------|------------------------------------|------------------------------------|--------------------------|---------------------------|-----------------------------------|---------------------|---------------------|-------|
|          |            |                       | Weight (lb/ft)   | Area (in <sup>2</sup> ) | I <sub>x</sub> (in <sup>4</sup> ) | S <sub>x</sub> (in <sup>3</sup> ) | R <sub>x</sub> (in) | I <sub>y</sub> (in <sup>4</sup> ) | S <sub>y</sub> (in <sup>3</sup> ) | R <sub>y</sub> (in) | I <sub>xe</sub> (in <sup>4</sup> ) | S <sub>xe</sub> (in <sup>3</sup> ) | M <sub>xa</sub> (in-lbs) | I <sub>xe</sub> (in <sup>4</sup> ) | S <sub>xe</sub> (in <sup>3</sup> ) | M <sub>xa</sub> (in-lbs) | Jx1000 (in <sup>4</sup> ) | C <sub>w</sub> (in <sup>6</sup> ) | X <sub>o</sub> (in) | R <sub>o</sub> (in) | Beta  |
| 6" Stud  | 600S137-33 | 0.0346                | 1.09             | 0.320                   | 1.597                             | 0.532                             | 2.234               | 0.070                             | 0.065                             | 0.466               | 1.560                              | 0.455                              | 8997                     | —                                  | —                                  | —                        | 0.128                     | 0.500                             | -0.808              | 2.421               | 0.889 |
|          | 600S137-43 | 0.0451                | 1.41             | 0.413                   | 2.043                             | 0.681                             | 2.224               | 0.087                             | 0.082                             | 0.460               | 2.041                              | 0.644                              | 12731                    | —                                  | —                                  | —                        | 0.279                     | 0.632                             | -0.797              | 2.407               | 0.890 |
|          | 600S137-54 | 0.0566                | 1.75             | 0.514                   | 2.520                             | 0.840                             | 2.214               | 0.105                             | 0.098                             | 0.452               | 2.519                              | 0.833                              | 16456                    | 2.519                              | 0.777                              | 23278                    | 0.550                     | 0.770                             | -0.784              | 2.392               | 0.893 |
|          | 600S137-68 | 0.0713                | 2.18             | 0.639                   | 3.094                             | 1.031                             | 2.200               | 0.125                             | 0.117                             | 0.443               | 3.093                              | 1.031                              | 24038                    | 3.093                              | 1.030                              | 30828                    | 1.082                     | 0.929                             | -0.768              | 2.372               | 0.895 |
|          | 600S137-97 | 0.1017                | 3.04             | 0.894                   | 4.233                             | 1.411                             | 2.176               | 0.162                             | 0.152                             | 0.426               | 4.232                              | 1.411                              | 34679                    | 4.232                              | 1.411                              | 51147                    | 3.081                     | 1.216                             | -0.736              | 2.336               | 0.901 |
|          | 600S162-33 | 0.0346                | 1.18             | 0.346                   | 1.808                             | 0.603                             | 2.286               | 0.118                             | 0.097                             | 0.583               | 1.808                              | 0.583                              | 11518                    | —                                  | —                                  | —                        | 0.138                     | 0.862                             | -1.074              | 2.592               | 0.828 |
|          | 600S162-43 | 0.0451                | 1.52             | 0.447                   | 2.317                             | 0.772                             | 2.277               | 0.148                             | 0.123                             | 0.577               | 2.316                              | 0.772                              | 16767                    | —                                  | —                                  | —                        | 0.302                     | 1.094                             | -1.062              | 2.578               | 0.830 |
|          | 600S162-54 | 0.0566                | 1.89             | 0.557                   | 2.863                             | 0.954                             | 2.268               | 0.181                             | 0.149                             | 0.570               | 2.862                              | 0.954                              | 21178                    | 2.862                              | 0.928                              | 30733                    | 0.595                     | 1.338                             | -1.049              | 2.563               | 0.833 |
|          | 600S162-68 | 0.0713                | 2.36             | 0.693                   | 3.524                             | 1.175                             | 2.256               | 0.218                             | 0.180                             | 0.561               | 3.523                              | 1.174                              | 26773                    | 3.523                              | 1.174                              | 39819                    | 1.173                     | 1.625                             | -1.032              | 2.543               | 0.835 |
|          | 600S162-97 | 0.1017                | 3.30             | 0.970                   | 4.842                             | 1.614                             | 2.234               | 0.287                             | 0.237                             | 0.544               | 4.841                              | 1.614                              | 38543                    | 4.841                              | 1.614                              | 57031                    | 3.344                     | 2.153                             | -0.999              | 2.507               | 0.841 |
|          | 600S200-33 | 0.0346                | 1.30             | 0.381                   | 2.091                             | 0.697                             | 2.343               | 0.211                             | 0.148                             | 0.745               | 2.069                              | 0.614                              | 12135                    | —                                  | —                                  | —                        | 0.152                     | 1.595                             | -1.459              | 2.859               | 0.740 |
|          | 600S200-43 | 0.0451                | 1.67             | 0.492                   | 2.683                             | 0.894                             | 2.336               | 0.268                             | 0.188                             | 0.739               | 2.683                              | 0.874                              | 17266                    | —                                  | —                                  | —                        | 0.333                     | 2.031                             | -1.446              | 2.845               | 0.742 |
|          | 600S200-54 | 0.0566                | 2.09             | 0.613                   | 3.322                             | 1.107                             | 2.327               | 0.329                             | 0.230                             | 0.732               | 3.321                              | 1.107                              | 24088                    | 3.321                              | 1.016                              | 30420                    | 0.656                     | 2.494                             | -1.432              | 2.829               | 0.744 |
|          | 600S200-68 | 0.0713                | 2.60             | 0.764                   | 4.100                             | 1.367                             | 2.317               | 0.400                             | 0.280                             | 0.723               | 4.099                              | 1.366                              | 30402                    | 4.099                              | 1.336                              | 44358                    | 1.293                     | 3.045                             | -1.415              | 2.809               | 0.746 |
|          | 600S200-97 | 0.1017                | 3.65             | 1.072                   | 5.656                             | 1.885                             | 2.297               | 0.536                             | 0.375                             | 0.707               | 5.655                              | 1.885                              | 43638                    | 5.655                              | 1.885                              | 64806                    | 3.694                     | 4.080                             | -1.380              | 2.772               | 0.752 |
|          | 600S250-43 | 0.0451                | 1.83             | 0.537                   | 3.082                             | 1.027                             | 2.396               | 0.458                             | 0.263                             | 0.923               | 3.082                              | 0.919                              | 18153                    | —                                  | —                                  | —                        | 0.363                     | 3.408                             | -1.874              | 3.179               | 0.652 |
|          | 600S250-54 | 0.0566                | 2.28             | 0.670                   | 3.822                             | 1.274                             | 2.389               | 0.563                             | 0.323                             | 0.917               | 3.821                              | 1.159                              | 22912                    | 3.768                              | 1.070                              | 32022                    | 0.716                     | 4.196                             | -1.860              | 3.163               | 0.654 |
|          | 600S250-68 | 0.0713                | 2.84             | 0.835                   | 4.726                             | 1.575                             | 2.379               | 0.688                             | 0.395                             | 0.908               | 4.725                              | 1.522                              | 33126                    | 4.721                              | 1.385                              | 41467                    | 1.414                     | 5.143                             | -1.842              | 3.142               | 0.657 |
|          | 600S250-97 | 0.1017                | 3.99             | 1.174                   | 6.541                             | 2.180                             | 2.361               | 0.932                             | 0.535                             | 0.891               | 6.540                              | 2.180                              | 49042                    | 6.540                              | 2.089                              | 70043                    | 4.045                     | 6.946                             | -1.805              | 3.103               | 0.661 |
|          | 600S300-54 | 0.0566                | 2.47             | 0.727                   | 4.322                             | 1.441                             | 2.439               | 0.876                             | 0.428                             | 1.098               | 4.271                              | 1.212                              | 23949                    | 4.017                              | 1.107                              | 33150                    | 0.777                     | 6.455                             | -2.299              | 3.527               | 0.575 |
|          | 600S300-68 | 0.0713                | 3.08             | 0.906                   | 5.352                             | 1.784                             | 2.430               | 1.075                             | 0.525                             | 1.089               | 5.341                              | 1.580                              | 31215                    | 5.219                              | 1.445                              | 43274                    | 1.535                     | 7.934                             | -2.280              | 3.506               | 0.577 |
|          | 600S300-97 | 0.1017                | 4.34             | 1.275                   | 7.425                             | 2.475                             | 2.413               | 1.466                             | 0.716                             | 1.072               | 7.424                              | 2.379                              | 52458                    | 7.330                              | 2.249                              | 67346                    | 4.395                     | 10.774                            | -2.243              | 3.465               | 0.581 |
| 6" Track | 600T125-33 | 0.0346                | 1.00             | 0.294                   | 1.423                             | 0.465                             | 2.199               | 0.034                             | 0.032                             | 0.339               | 1.245                              | 0.291                              | 5752                     | —                                  | —                                  | —                        | 0.118                     | 0.236                             | -0.517              | 2.285               | 0.949 |
|          | 600T125-43 | 0.0451                | 1.30             | 0.383                   | 1.858                             | 0.604                             | 2.204               | 0.043                             | 0.041                             | 0.337               | 1.764                              | 0.459                              | 9076                     | —                                  | —                                  | —                        | 0.259                     | 0.306                             | -0.513              | 2.288               | 0.950 |
|          | 600T125-54 | 0.0566                | 1.64             | 0.481                   | 2.346                             | 0.757                             | 2.209               | 0.054                             | 0.052                             | 0.335               | 2.301                              | 0.666                              | 13164                    | 2.242                              | 0.593                              | 17753                    | 0.514                     | 0.384                             | -0.508              | 2.292               | 0.951 |
|          | 600T125-68 | 0.0713                | 2.06             | 0.605                   | 2.969                             | 0.950                             | 2.216               | 0.067                             | 0.064                             | 0.332               | 2.968                              | 0.915                              | 18081                    | 2.932                              | 0.858                              | 25674                    | 1.024                     | 0.482                             | -0.503              | 2.296               | 0.952 |
|          | 600T125-97 | 0.1017                | 2.93             | 0.862                   | 4.259                             | 1.346                             | 2.223               | 0.092                             | 0.089                             | 0.327               | 4.258                              | 1.346                              | 30275                    | 4.258                              | 1.346                              | 45115                    | 2.970                     | 0.677                             | -0.492              | 2.300               | 0.954 |
|          | 600T150-33 | 0.0346                | 1.06             | 0.311                   | 1.583                             | 0.517                             | 2.255               | 0.057                             | 0.046                             | 0.426               | 1.321                              | 0.297                              | 5864                     | —                                  | —                                  | —                        | 0.125                     | 0.387                             | -0.685              | 2.395               | 0.918 |
|          | 600T150-43 | 0.0451                | 1.38             | 0.405                   | 2.069                             | 0.672                             | 2.260               | 0.073                             | 0.059                             | 0.424               | 1.885                              | 0.472                              | 9320                     | —                                  | —                                  | —                        | 0.274                     | 0.503                             | -0.680              | 2.398               | 0.920 |
|          | 600T150-54 | 0.0566                | 1.73             | 0.509                   | 2.613                             | 0.843                             | 2.266               | 0.091                             | 0.074                             | 0.422               | 2.475                              | 0.690                              | 13636                    | 2.402                              | 0.610                              | 18256                    | 0.544                     | 0.633                             | -0.675              | 2.402               | 0.921 |
|          | 600T150-68 | 0.0713                | 2.18             | 0.640                   | 3.309                             | 1.059                             | 2.273               | 0.113                             | 0.092                             | 0.419               | 3.260                              | 0.963                              | 19021                    | 3.160                              | 0.890                              | 26656                    | 1.084                     | 0.797                             | -0.669              | 2.406               | 0.923 |
|          | 600T150-97 | 0.1017                | 3.11             | 0.913                   | 4.752                             | 1.502                             | 2.282               | 0.156                             | 0.129                             | 0.414               | 4.751                              | 1.502                              | 33116                    | 4.751                              | 1.433                              | 42914                    | 3.145                     | 1.126                             | -0.657              | 2.410               | 0.926 |
|          | 600T200-33 | 0.0346                | 1.18             | 0.346                   | 1.904                             | 0.622                             | 2.346               | 0.126                             | 0.080                             | 0.604               | 1.529                              | 0.326                              | 6443                     | —                                  | —                                  | —                        | 0.138                     | 0.840                             | -1.049              | 2.640               | 0.842 |
|          | 600T200-43 | 0.0451                | 1.53             | 0.450                   | 2.490                             | 0.809                             | 2.352               | 0.163                             | 0.103                             | 0.602               | 2.070                              | 0.563                              | 11126                    | —                                  | —                                  | —                        | 0.305                     | 1.096                             | -1.044              | 2.643               | 0.844 |
|          | 600T200-54 | 0.0566                | 1.92             | 0.566                   | 3.147                             | 1.016                             | 2.359               | 0.204                             | 0.129                             | 0.600               | 2.762                              | 0.760                              | 15015                    | 2.643                              | 0.718                              | 21496                    | 0.605                     | 1.382                             | -1.038              | 2.646               | 0.846 |
|          | 600T200-68 | 0.0713                | 2.42             | 0.712                   | 3.989                             | 1.276                             | 2.368               | 0.254                             | 0.161                             | 0.597               | 3.694                              | 1.033                              | 20411                    | 3.538                              | 0.972                              | 29102                    | 1.204                     | 1.745                             | -1.031              | 2.651               | 0.849 |
|          | 600T200-97 | 0.1017                | 3.45             | 1.014                   | 5.738                             | 1.813                             | 2.379               | 0.354                             | 0.226                             | 0.591               | 5.709                              | 1.654                              | 32688                    | 5.505                              | 1.554                              | 46528                    | 3.496                     | 2.484                             | -1.017              | 2.654               | 0.853 |
|          | 600T300-33 | 0.0346                | 1.41             | 0.415                   | 2.545                             | 0.832                             | 2.476               | 0.384                             | 0.171                             | 0.962               | 1.790                              | 0.323                              | 6391                     | —                                  | —                                  | —                        | 0.166                     | 2.499                             | -1.855              | 3.239               | 0.672 |
|          | 600T300-43 | 0.0451                | 1.84             | 0.540                   | 3.331                             | 1.082                             | 2.483               | 0.497                             | 0.222                             | 0.960               | 2.440                              | 0.553                              | 10928                    | —                                  | —                                  | —                        | 0.365                     | 3.267                             | -1.849              | 3.241               | 0.675 |
|          | 600T300-54 | 0.0566                | 2.31             | 0.679                   | 4.215                             | 1.360                             | 2.492               | 0.622                             | 0.278                             | 0.957               | 3.241                              | 0.821                              | 16232                    | 3.110                              | 0.723                              | 21638                    | 0.726                     | 4.131                             | -1.842              | 3.243               | 0.677 |
|          | 600T300-68 | 0.0713                | 2.91             | 0.854                   | 5.349                             | 1.712                             | 2.503               | 0.778                             | 0.349                             | 0.954               | 4.387                              | 1.125                              | 22236                    | 4.161                              | 1.052                              | 31510                    | 1.446                     | 5.236                             | -1.834              | 3.246               | 0.681 |
|          | 600T300-97 | 0.1017                | 4.14             | 1.218                   | 7.709                             | 2.436                             | 2.516               | 1.096                             | 0.493                             | 0.949               | 6.964                              | 1.840                              | 36360                    | 6.611                              | 1.707                              | 51115                    | 4.196                     | 7.504                             | -1.817              | 3.246               | 0.686 |

For additional section properties table notes, see page 5.

I<sub>x</sub> = Gross Moment of Inertia about x-axis.

S<sub>x</sub> = Gross Section Modulus about x-axis.

R<sub>x</sub> = Gross Radius of Gyration about x-axis.

I<sub>y</sub> = Gross Moment of Inertia about y-axis.

S<sub>y</sub> = Gross Section Modulus about y-axis.

R<sub>y</sub> = Gross Radius of Gyration about y-axis.

I<sub>xe</sub> = Effective Moment of Inertia about x-axis for deflection calculations.

S<sub>xe</sub> = Effective Section Modulus about x-axis.

M<sub>xa</sub> = Allowable Moment about x-axis.

J = St. Venant Torsion Constant.

C<sub>w</sub> = Warping Torsion Constant.

X<sub>o</sub> = Distance from shear center to the centroid along the principal x-axis.

R<sub>o</sub> = Polar Radius of Gyration about the centroidal principal axis.

Beta = 1-(X<sub>o</sub>/R<sub>o</sub>)<sup>2</sup>

Complies with IBC 2006 & AISI-NASPEC, 2001 with 2004 supplement

## 8" STUD/TRACK PROPERTIES

|            | Member      | Design thickness (in) | Gross Properties |            |                      |                      |                     |                      |                      |                     | 33ksi Effective Properties |                       |                          | 50ksi Effective Properties |                       |                          | Torsional Properties |                      |                     |                     |       |
|------------|-------------|-----------------------|------------------|------------|----------------------|----------------------|---------------------|----------------------|----------------------|---------------------|----------------------------|-----------------------|--------------------------|----------------------------|-----------------------|--------------------------|----------------------|----------------------|---------------------|---------------------|-------|
|            |             |                       | Weight (lb/ft)   | Area (in²) | I <sub>x</sub> (in⁴) | S <sub>x</sub> (in³) | R <sub>x</sub> (in) | I <sub>y</sub> (in⁴) | S <sub>y</sub> (in³) | R <sub>y</sub> (in) | I <sub>xe</sub> (in⁴)      | S <sub>xe</sub> (in³) | M <sub>xa</sub> (in-lbs) | I <sub>xe</sub> (in⁴)      | S <sub>xe</sub> (in³) | M <sub>xa</sub> (in-lbs) | Jx1000 (in⁴)         | C <sub>w</sub> (in⁶) | X <sub>o</sub> (in) | R <sub>o</sub> (in) | Beta  |
| 8" Stud    | 800S137-33* | 0.0346                | 1.32             | 0.389      | 3.225                | 0.806                | 2.878               | 0.074                | 0.066                | 0.437               | 3.018                      | 0.622                 | 12300                    | —                          | —                     | —                        | 0.156                | 0.958                | -0.698              | 2.994               | 0.946 |
|            | 800S137-43  | 0.0451                | 1.71             | 0.503      | 4.135                | 1.034                | 2.867               | 0.093                | 0.083                | 0.430               | 4.000                      | 0.895                 | 17688                    | —                          | —                     | —                        | 0.340                | 1.213                | -0.687              | 2.980               | 0.947 |
|            | 800S137-54  | 0.0566                | 2.13             | 0.627      | 5.114                | 1.279                | 2.855               | 0.112                | 0.100                | 0.423               | 5.080                      | 1.179                 | 23306                    | 4.977                      | 1.084                 | 32451                    | 0.671                | 1.478                | -0.676              | 2.964               | 0.948 |
|            | 800S137-68  | 0.0713                | 2.66             | 0.782      | 6.302                | 1.576                | 2.839               | 0.134                | 0.120                | 0.414               | 6.300                      | 1.540                 | 30434                    | 6.282                      | 1.468                 | 43939                    | 1.323                | 1.789                | -0.661              | 2.944               | 0.950 |
|            | 800S137-97  | 0.1017                | 3.73             | 1.097      | 8.677                | 2.169                | 2.812               | 0.173                | 0.155                | 0.397               | 8.674                      | 2.169                 | 53314                    | 8.674                      | 2.169                 | 78631                    | 3.782                | 2.349                | -0.632              | 2.909               | 0.953 |
|            | 800S162-33* | 0.0346                | 1.41             | 0.415      | 3.610                | 0.902                | 2.948               | 0.127                | 0.099                | 0.552               | 3.403                      | 0.714                 | 14104                    | —                          | —                     | —                        | 0.166                | 1.632                | -0.938              | 3.143               | 0.911 |
|            | 800S162-43  | 0.0451                | 1.83             | 0.537      | 4.635                | 1.159                | 2.938               | 0.160                | 0.125                | 0.546               | 4.499                      | 1.018                 | 20125                    | —                          | —                     | —                        | 0.363                | 2.074                | -0.926              | 3.129               | 0.912 |
|            | 800S162-54  | 0.0566                | 2.28             | 0.670      | 5.740                | 1.435                | 2.927               | 0.195                | 0.152                | 0.539               | 5.705                      | 1.335                 | 26373                    | 5.603                      | 1.230                 | 36820                    | 0.716                | 2.540                | -0.914              | 3.114               | 0.914 |
|            | 800S162-68  | 0.0713                | 2.84             | 0.835      | 7.088                | 1.772                | 2.913               | 0.235                | 0.184                | 0.530               | 7.086                      | 1.736                 | 34305                    | 7.066                      | 1.663                 | 49776                    | 1.414                | 3.092                | -0.899              | 3.094               | 0.916 |
|            | 800S162-97  | 0.1017                | 3.99             | 1.174      | 9.793                | 2.448                | 2.889               | 0.309                | 0.243                | 0.513               | 9.790                      | 2.447                 | 58459                    | 9.790                      | 2.447                 | 86501                    | 4.045                | 4.113                | -0.868              | 3.060               | 0.919 |
|            | 800S200-33* | 0.0346                | 1.53             | 0.450      | 4.124                | 1.031                | 3.027               | 0.229                | 0.152                | 0.714               | 4.121                      | 0.806                 | 15931                    | —                          | —                     | —                        | 0.180                | 2.974                | -1.290              | 3.367               | 0.853 |
|            | 800S200-43  | 0.0451                | 1.98             | 0.582      | 5.302                | 1.326                | 3.019               | 0.292                | 0.193                | 0.708               | 5.301                      | 1.293                 | 25557                    | —                          | —                     | —                        | 0.394                | 3.794                | -1.278              | 3.354               | 0.855 |
|            | 800S200-54  | 0.0566                | 2.47             | 0.727      | 6.578                | 1.644                | 3.009               | 0.357                | 0.236                | 0.701               | 6.576                      | 1.644                 | 35771                    | 6.576                      | 1.500                 | 44922                    | 0.777                | 4.665                | -1.265              | 3.338               | 0.856 |
|            | 800S200-68  | 0.0713                | 3.08             | 0.906      | 8.139                | 2.035                | 2.996               | 0.434                | 0.287                | 0.692               | 8.137                      | 2.034                 | 45265                    | 8.137                      | 1.992                 | 66111                    | 1.535                | 5.709                | -1.248              | 3.319               | 0.859 |
|            | 800S200-97  | 0.1017                | 4.34             | 1.275      | 11.282               | 2.821                | 2.974               | 0.583                | 0.386                | 0.676               | 11.280                     | 2.820                 | 65277                    | 11.280                     | 2.820                 | 96943                    | 4.395                | 7.683                | -1.216              | 3.284               | 0.863 |
|            | 800S250-43  | 0.0451                | 2.13             | 0.627      | 6.015                | 1.504                | 3.098               | 0.500                | 0.271                | 0.893               | 6.014                      | 1.313                 | 25951                    | —                          | —                     | —                        | 0.424                | 6.368                | -1.675              | 3.633               | 0.787 |
|            | 800S250-54  | 0.0566                | 2.66             | 0.783      | 7.471                | 1.868                | 3.089               | 0.615                | 0.333                | 0.886               | 7.469                      | 1.713                 | 33844                    | 7.382                      | 1.527                 | 45705                    | 0.837                | 7.854                | -1.661              | 3.617               | 0.789 |
|            | 800S250-68  | 0.0713                | 3.33             | 0.978      | 9.259                | 2.315                | 3.077               | 0.752                | 0.407                | 0.877               | 9.257                      | 2.239                 | 48744                    | 9.236                      | 2.058                 | 61614                    | 1.655                | 9.648                | -1.644              | 3.597               | 0.791 |
|            | 800S250-97  | 0.1017                | 4.69             | 1.377      | 12.868               | 3.217                | 3.057               | 1.018                | 0.551                | 0.860               | 12.866                     | 3.216                 | 72359                    | 12.866                     | 3.089                 | 103561                   | 4.746                | 13.089               | -1.609              | 3.560               | 0.796 |
|            | 800S300-54  | 0.0566                | 2.86             | 0.840      | 8.364                | 2.091                | 3.156               | 0.960                | 0.442                | 1.069               | 8.254                      | 1.786                 | 35301                    | 7.867                      | 1.537                 | 46008                    | 0.898                | 12.082               | -2.073              | 3.924               | 0.721 |
| 800S300-68 | 0.0713      | 3.57                  | 1.049            | 10.379     | 2.595                | 3.145                | 1.178               | 0.543                | 1.060                | 10.346              | 2.319                      | 45832                 | 10.078                   | 2.144                      | 64179                 | 1.776                    | 14.881               | -2.055               | 3.904               | 0.723               |       |
| 800S300-97 | 0.1017      | 5.03                  | 1.479            | 14.454     | 3.614                | 3.127                | 1.608               | 0.740                | 1.043                | 14.452              | 3.478                      | 76705                 | 14.257                   | 3.306                      | 98994                 | 5.096                    | 20.301               | -2.019               | 3.865               | 0.727               |       |
| 8" Track   | 800T125-33  | 0.0346                | 1.24             | 0.363      | 2.889                | 0.712                | 2.820               | 0.036                | 0.033                | 0.313               | 2.421                      | 0.399                 | 7875                     | —                          | —                     | —                        | 0.145                | 0.454                | -0.439              | 2.871               | 0.977 |
|            | 800T125-43  | 0.0451                | 1.61             | 0.473      | 3.768                | 0.924                | 2.824               | 0.046                | 0.042                | 0.311               | 3.475                      | 0.638                 | 12600                    | —                          | —                     | —                        | 0.320                | 0.588                | -0.436              | 2.874               | 0.977 |
|            | 800T125-54  | 0.0566                | 2.02             | 0.594      | 4.750                | 1.159                | 2.828               | 0.057                | 0.053                | 0.309               | 4.672                      | 0.941                 | 18597                    | 4.430                      | 0.825                 | 24688                    | 0.635                | 0.735                | -0.432              | 2.877               | 0.977 |
|            | 800T125-68  | 0.0713                | 2.54             | 0.747      | 5.997                | 1.454                | 2.833               | 0.070                | 0.065                | 0.307               | 5.995                      | 1.356                 | 26786                    | 5.953                      | 1.215                 | 36367                    | 1.265                | 0.920                | -0.427              | 2.881               | 0.978 |
|            | 800T125-97  | 0.1017                | 3.62             | 1.065      | 8.584                | 2.061                | 2.839               | 0.097                | 0.091                | 0.301               | 8.581                      | 2.061                 | 46358                    | 8.581                      | 2.061                 | 69081                    | 3.671                | 1.286                | -0.417              | 2.885               | 0.979 |
|            | 800T150-33  | 0.0346                | 1.30             | 0.381      | 3.172                | 0.781                | 2.887               | 0.060                | 0.047                | 0.397               | 2.547                      | 0.405                 | 8011                     | —                          | —                     | —                        | 0.152                | 0.747                | -0.588              | 2.973               | 0.961 |
|            | 800T150-43  | 0.0451                | 1.68             | 0.495      | 4.139                | 1.015                | 2.891               | 0.077                | 0.060                | 0.395               | 3.680                      | 0.652                 | 12893                    | —                          | —                     | —                        | 0.335                | 0.970                | -0.584              | 2.976               | 0.961 |
|            | 800T150-54  | 0.0566                | 2.12             | 0.622      | 5.219                | 1.273                | 2.896               | 0.096                | 0.075                | 0.393               | 4.980                      | 0.970                 | 19165                    | 4.697                      | 0.845                 | 25293                    | 0.665                | 1.216                | -0.580              | 2.980               | 0.962 |
|            | 800T150-68  | 0.0713                | 2.66             | 0.783      | 6.593                | 1.598                | 2.902               | 0.119                | 0.094                | 0.390               | 6.523                      | 1.411                 | 27889                    | 6.357                      | 1.254                 | 37553                    | 1.325                | 1.526                | -0.575              | 2.984               | 0.963 |
|            | 800T150-97  | 0.1017                | 3.80             | 1.116      | 9.444                | 2.268                | 2.909               | 0.165                | 0.131                | 0.385               | 9.441                      | 2.267                 | 50005                    | 9.441                      | 2.177                 | 65183                    | 3.846                | 2.145                | -0.564              | 2.988               | 0.964 |
|            | 800T200-33  | 0.0346                | 1.41             | 0.415      | 3.738                | 0.921                | 3.000               | 0.135                | 0.082                | 0.571               | 2.763                      | 0.415                 | 8196                     | —                          | —                     | —                        | 0.166                | 1.628                | -0.918              | 3.189               | 0.917 |
|            | 800T200-43  | 0.0451                | 1.84             | 0.540      | 4.880                | 1.196                | 3.006               | 0.175                | 0.106                | 0.569               | 4.033                      | 0.673                 | 13295                    | —                          | —                     | —                        | 0.365                | 2.119                | -0.913              | 3.192               | 0.918 |
|            | 800T200-54  | 0.0566                | 2.31             | 0.679      | 6.157                | 1.502                | 3.012               | 0.218                | 0.132                | 0.567               | 5.510                      | 1.010                 | 19954                    | 5.155                      | 0.872                 | 26121                    | 0.726                | 2.665                | -0.908              | 3.196               | 0.919 |
|            | 800T200-68  | 0.0713                | 2.91             | 0.854      | 7.784                | 1.887                | 3.019               | 0.271                | 0.165                | 0.564               | 7.302                      | 1.489                 | 29425                    | 7.048                      | 1.309                 | 39189                    | 1.446                | 3.355                | -0.902              | 3.201               | 0.921 |
|            | 800T200-97  | 0.1017                | 4.14             | 1.218      | 11.165               | 2.681                | 3.028               | 0.379                | 0.232                | 0.558               | 11.103                     | 2.475                 | 48908                    | 10.755                     | 2.326                 | 69631                    | 4.196                | 4.754                | -0.890              | 3.205               | 0.923 |
|            | 800T300-33  | 0.0346                | 1.65             | 0.485      | 4.871                | 1.200                | 3.170               | 0.417                | 0.178                | 0.927               | 3.444                      | 0.434                 | 8568                     | —                          | —                     | —                        | 0.194                | 4.842                | -1.663              | 3.698               | 0.798 |
|            | 800T300-43  | 0.0451                | 2.14             | 0.630      | 6.363                | 1.560                | 3.177               | 0.540                | 0.230                | 0.925               | 4.914                      | 0.733                 | 14493                    | —                          | —                     | —                        | 0.426                | 6.317                | -1.658              | 3.701               | 0.799 |
|            | 800T300-54  | 0.066                 | 2.70             | 0.792      | 8.034                | 1.960                | 3.185               | 0.675                | 0.288                | 0.923               | 6.401                      | 1.180                 | 23314                    | 6.242                      | 0.957                 | 28655                    | 0.847                | 7.965                | -1.652              | 3.704               | 0.801 |
|            | 800T300-68  | 0.0713                | 3.39             | 0.997      | 10.168               | 2.465                | 3.194               | 0.844                | 0.361                | 0.920               | 8.492                      | 1.708                 | 33743                    | 8.156                      | 1.547                 | 46313                    | 1.687                | 10.062               | -1.644              | 3.708               | 0.803 |
|            | 800T300-97  | 0.1017                | 4.84             | 1.421      | 14.606               | 3.507                | 3.206               | 1.188                | 0.511                | 0.914               | 13.290                     | 2.737                 | 54088                    | 12.687                     | 2.566                 | 76821                    | 4.897                | 14.358               | -1.629              | 3.711               | 0.807 |

"\*" Indicates that h/t is greater than 200, and therefore web stiffeners are required at all support points and concentric loads.

For additional section properties table notes, see page 5.

I<sub>x</sub> = Gross Moment of Inertia about x-axis.

S<sub>x</sub> = Gross Section Modulus about x-axis.

R<sub>x</sub> = Gross Radius of Gyration about x-axis.

I<sub>y</sub> = Gross Moment of Inertia about y-axis.

S<sub>y</sub> = Gross Section Modulus about y-axis.

R<sub>y</sub> = Gross Radius of Gyration about y-axis.

I<sub>xe</sub> = Effective Moment of Inertia about x-axis for deflection calculations.

S<sub>xe</sub> = Effective Section Modulus about x-axis.

M<sub>xa</sub> = Allowable Moment about x-axis.

J = St. Venant Torsion Constant.

C<sub>w</sub> = Warping Torsion Constant.

X<sub>o</sub> = Distance from shear center to the centroid along the principal x-axis.

R<sub>o</sub> = Polar Radius of Gyration about the centroidal principal axis.

Beta = 1-(X<sub>o</sub>/R<sub>o</sub>)<sup>2</sup>

Complies with IBC 2006 & AISI-NASPEC, 2001 with 2004 supplement

## 10" STUD/TRACK PROPERTIES

|             | Member       | Design thickness (in) | Gross Properties |            |                      |                      |                     |                      |                      |                     | 33ksi Effective Properties |                       |                          | 50ksi Effective Properties |                       |                          | Torsional Properties |                      |                     |                     |       |
|-------------|--------------|-----------------------|------------------|------------|----------------------|----------------------|---------------------|----------------------|----------------------|---------------------|----------------------------|-----------------------|--------------------------|----------------------------|-----------------------|--------------------------|----------------------|----------------------|---------------------|---------------------|-------|
|             |              |                       | Weight (lb/ft)   | Area (in²) | I <sub>x</sub> (in⁴) | S <sub>x</sub> (in³) | R <sub>x</sub> (in) | I <sub>y</sub> (in⁴) | S <sub>y</sub> (in³) | R <sub>y</sub> (in) | I <sub>xe</sub> (in⁴)      | S <sub>xe</sub> (in³) | M <sub>xa</sub> (in-lbs) | I <sub>xe</sub> (in⁴)      | S <sub>xe</sub> (in³) | M <sub>xa</sub> (in-lbs) | Jx1000 (in⁴)         | C <sub>w</sub> (in⁶) | X <sub>o</sub> (in) | R <sub>o</sub> (in) | Beta  |
| 10" Stud    | 1000S162-43* | 0.0451                | 2.13             | 0.627      | 8.027                | 1.605                | 3.578               | 0.168                | 0.127                | 0.518               | 7.519                      | 1.301                 | 25712                    | —                          | —                     | —                        | 0.424                | 3.427                | -0.824              | 3.708               | 0.951 |
|             | 1000S162-54  | 0.0566                | 2.66             | 0.783      | 9.959                | 1.992                | 3.566               | 0.204                | 0.155                | 0.511               | 9.633                      | 1.723                 | 34046                    | 9.397                      | 1.573                 | 47105                    | 0.837                | 4.200                | -0.812              | 3.693               | 0.952 |
|             | 1000S162-68  | 0.0713                | 3.33             | 0.978      | 12.324               | 2.465                | 3.550               | 0.246                | 0.186                | 0.502               | 12.250                     | 2.275                 | 44952                    | 11.972                     | 2.153                 | 64469                    | 1.655                | 5.119                | -0.798              | 3.673               | 0.953 |
|             | 1000S162-97  | 0.1017                | 4.69             | 1.377      | 17.092               | 3.418                | 3.523               | 0.325                | 0.246                | 0.486               | 17.086                     | 3.417                 | 81621                    | 17.086                     | 3.285                 | 98341                    | 4.746                | 6.826                | -0.770              | 3.639               | 0.955 |
|             | 1000S200-43* | 0.0451                | 2.29             | 0.672      | 9.086                | 1.817                | 3.677               | 0.309                | 0.196                | 0.678               | 8.597                      | 1.471                 | 29075                    | —                          | —                     | —                        | 0.455                | 6.230                | -1.148              | 3.911               | 0.914 |
|             | 1000S200-54  | 0.0566                | 2.86             | 0.840      | 11.287               | 2.257                | 3.666               | 0.378                | 0.240                | 0.671               | 10.960                     | 1.985                 | 39229                    | 10.776                     | 1.707                 | 51102                    | 0.898                | 7.669                | -1.135              | 3.896               | 0.915 |
|             | 1000S200-68  | 0.0713                | 3.57             | 1.049      | 13.992               | 2.798                | 3.652               | 0.460                | 0.292                | 0.662               | 13.914                     | 2.605                 | 51484                    | 13.659                     | 2.419                 | 72416                    | 1.776                | 9.397                | -1.120              | 3.877               | 0.917 |
|             | 1000S200-97  | 0.1017                | 5.03             | 1.479      | 19.460               | 3.892                | 3.628               | 0.616                | 0.392                | 0.646               | 19.455                     | 3.891                 | 90069                    | 19.455                     | 3.756                 | 112448                   | 5.096                | 12.678               | -1.089              | 3.842               | 0.920 |
|             | 1000S250-43* | 0.0451                | 2.44             | 0.717      | 10.202               | 2.040                | 3.772               | 0.531                | 0.276                | 0.861               | 10.199                     | 1.617                 | 31945                    | —                          | —                     | —                        | 0.485                | 10.471               | -1.518              | 4.156               | 0.867 |
|             | 1000S250-54  | 0.0566                | 3.05             | 0.896      | 12.687               | 2.537                | 3.762               | 0.653                | 0.339                | 0.854               | 12.684                     | 2.279                 | 45034                    | 12.667                     | 1.881                 | 56317                    | 0.958                | 12.928               | -1.505              | 4.141               | 0.868 |
|             | 1000S250-68  | 0.0713                | 3.81             | 1.120      | 15.748               | 3.150                | 3.749               | 0.799                | 0.415                | 0.844               | 15.744                     | 3.052                 | 66450                    | 15.734                     | 2.766                 | 82812                    | 1.896                | 15.901               | -1.488              | 4.121               | 0.870 |
|             | 1000S250-97  | 0.1017                | 5.38             | 1.580      | 21.951               | 4.390                | 3.727               | 1.082                | 0.562                | 0.828               | 21.946                     | 4.389                 | 98740                    | 21.946                     | 4.226                 | 141670                   | 5.447                | 21.629               | -1.456              | 4.086               | 0.873 |
| 1000S300-54 | 0.0566       | 3.24                  | 0.953            | 14.087     | 2.817                | 3.845                | 1.024               | 0.452                | 1.037                | 13.946              | 2.315                      | 45737                 | 13.448                   | 1.904                      | 57016                 | 1.019                    | 19.898               | -1.892               | 4.409               | 0.816               |       |
| 1000S300-68 | 0.0713       | 4.05                  | 1.192            | 17.505     | 3.501                | 3.833                | 1.257               | 0.555                | 1.027                | 17.433              | 3.156                      | 62370                 | 17.091                   | 2.800                      | 83825                 | 2.017                    | 24.539               | -1.875               | 4.389               | 0.818               |       |
| 1000S300-97 | 0.1017       | 5.72                  | 1.682            | 24.442     | 4.888                | 3.812                | 1.716               | 0.757                | 1.010                | 24.436              | 4.714                      | 103975                | 24.104                   | 4.502                      | 134782                | 5.797                    | 33.566               | -1.840               | 4.352               | 0.821               |       |
| 10" Track   | 1000T125-43  | 0.0451                | 1.91             | 0.563      | 6.624                | 1.304                | 3.431               | 0.047                | 0.043                | 0.290               | 5.873                      | 0.816                 | 16124                    | —                          | —                     | —                        | 0.381                | 0.971                | -0.379              | 3.464               | 0.988 |
|             | 1000T125-54  | 0.0566                | 2.41             | 0.707      | 8.342                | 1.636                | 3.434               | 0.059                | 0.053                | 0.288               | 7.967                      | 1.217                 | 24050                    | 7.486                      | 1.056                 | 31624                    | 0.756                | 1.213                | -0.376              | 3.467               | 0.988 |
|             | 1000T125-68  | 0.0713                | 3.03             | 0.890      | 10.521               | 2.053                | 3.439               | 0.073                | 0.066                | 0.286               | 10.447                     | 1.779                 | 35160                    | 10.150                     | 1.573                 | 47110                    | 1.506                | 1.514                | -0.372              | 3.471               | 0.989 |
|             | 1000T125-97  | 0.1017                | 4.32             | 1.268      | 15.040               | 2.912                | 3.443               | 0.100                | 0.092                | 0.281               | 15.034                     | 2.903                 | 57356                    | 15.034                     | 2.746                 | 82221                    | 4.372                | 2.110                | -0.363              | 3.474               | 0.989 |
|             | 1000T150-43  | 0.0451                | 1.99             | 0.585      | 7.200                | 1.418                | 3.507               | 0.080                | 0.061                | 0.370               | 6.181                      | 0.833                 | 16466                    | —                          | —                     | —                        | 0.396                | 1.609                | -0.513              | 3.564               | 0.979 |
|             | 1000T150-54  | 0.0566                | 2.50             | 0.736      | 9.070                | 1.779                | 3.512               | 0.100                | 0.077                | 0.368               | 8.439                      | 1.251                 | 24713                    | 7.888                      | 1.080                 | 32330                    | 0.786                | 2.014                | -0.509              | 3.567               | 0.980 |
|             | 1000T150-68  | 0.0713                | 3.15             | 0.925      | 11.444               | 2.233                | 3.517               | 0.124                | 0.095                | 0.366               | 11.336                     | 1.845                 | 36453                    | 10.769                     | 1.620                 | 48492                    | 1.566                | 2.521                | -0.505              | 3.572               | 0.980 |
|             | 1000T150-97  | 0.1017                | 4.49             | 1.319      | 16.369               | 3.170                | 3.523               | 0.172                | 0.133                | 0.361               | 16.363                     | 3.160                 | 62440                    | 16.363                     | 2.879                 | 86204                    | 4.547                | 3.535                | -0.495              | 3.575               | 0.981 |
|             | 1000T200-43  | 0.0451                | 2.14             | 0.630      | 8.351                | 1.644                | 3.640               | 0.183                | 0.108                | 0.539               | 6.706                      | 0.857                 | 16935                    | —                          | —                     | —                        | 0.426                | 3.534                | -0.813              | 3.769               | 0.953 |
|             | 1000T200-54  | 0.0566                | 2.70             | 0.792      | 10.526               | 2.064                | 3.645               | 0.228                | 0.135                | 0.537               | 9.239                      | 1.297                 | 25624                    | 8.570                      | 1.112                 | 33295                    | 0.847                | 4.436                | -0.809              | 3.772               | 0.954 |
|             | 1000T200-68  | 0.0713                | 3.39             | 0.997      | 13.289               | 2.593                | 3.652               | 0.284                | 0.168                | 0.534               | 12.544                     | 1.935                 | 38230                    | 11.813                     | 1.683                 | 50380                    | 1.687                | 5.573                | -0.803              | 3.777               | 0.955 |
|             | 1000T200-97  | 0.1017                | 4.84             | 1.421      | 19.028               | 3.685                | 3.659               | 0.397                | 0.237                | 0.528               | 18.931                     | 3.403                 | 67246                    | 18.477                     | 3.052                 | 91389                    | 4.897                | 7.874                | -0.792              | 3.781               | 0.956 |
|             | 1000T300-43  | 0.0451                | 2.45             | 0.720      | 10.655               | 2.098                | 3.846               | 0.571                | 0.236                | 0.890               | 8.546                      | 0.915                 | 18076                    | —                          | —                     | —                        | 0.487                | 10.562               | -1.505              | 4.225               | 0.873 |
|             | 1000T300-54  | 0.0566                | 3.08             | 0.905      | 13.438               | 2.635                | 3.853               | 0.714                | 0.295                | 0.888               | 11.091                     | 1.454                 | 28726                    | 10.834                     | 1.192                 | 35697                    | 0.968                | 13.296               | -1.500              | 4.228               | 0.874 |
|             | 1000T300-68  | 0.0713                | 3.88             | 1.139      | 16.981               | 3.313                | 3.861               | 0.893                | 0.370                | 0.885               | 14.408                     | 2.374                 | 46914                    | 14.099                     | 1.902                 | 56956                    | 1.928                | 16.762               | -1.493              | 4.233               | 0.876 |
|             | 1000T300-97  | 0.1017                | 5.53             | 1.624      | 24.345               | 4.714                | 3.871               | 1.257                | 0.523                | 0.880               | 22.295                     | 3.774                 | 74575                    | 21.380                     | 3.565                 | 106733                   | 5.598                | 23.855               | -1.479              | 4.237               | 0.878 |

" \* " Indicates that h/t is greater than 200, and therefore web stiffeners are required at all support points and concentric loads.

For additional section properties table notes, see page 5.

I<sub>x</sub> = Gross Moment of Inertia about x-axis.

S<sub>x</sub> = Gross Section Modulus about x-axis.

R<sub>x</sub> = Gross Radius of Gyration about x-axis.

I<sub>y</sub> = Gross Moment of Inertia about y-axis.

S<sub>y</sub> = Gross Section Modulus about y-axis.

R<sub>y</sub> = Gross Radius of Gyration about y-axis.

I<sub>xe</sub> = Effective Moment of Inertia about x-axis for deflection calculations.

S<sub>xe</sub> = Effective Section Modulus about x-axis.

M<sub>xa</sub> = Allowable Moment about x-axis.

J = St. Venant Torsion Constant.

C<sub>w</sub> = Warping Torsion Constant.

X<sub>o</sub> = Distance from shear center to the centroid along the principal x-axis.

R<sub>o</sub> = Polar Radius of Gyration about the centroidal principal axis.

Beta = 1-(X<sub>o</sub>/R<sub>o</sub>)<sup>2</sup>

Complies with IBC 2006 & AISI-NASPEC, 2001 with 2004 supplement

Pub. No. CD-STR-TechGuide 2/12

The technical content of this literature is effective 2/1/12 and supersedes all previous information.

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## 12" STUD/TRACK PROPERTIES

|             | Member       | Design thickness (in) | Gross Properties |            |                      |                      |                     |                      |                      | 33ksi Effective Properties |                       |                       | 50ksi Effective Properties |                       |                       | Torsional Properties     |              |                      |                     |                     |       |
|-------------|--------------|-----------------------|------------------|------------|----------------------|----------------------|---------------------|----------------------|----------------------|----------------------------|-----------------------|-----------------------|----------------------------|-----------------------|-----------------------|--------------------------|--------------|----------------------|---------------------|---------------------|-------|
|             |              |                       | Weight (lb/ft)   | Area (in²) | I <sub>x</sub> (in⁴) | S <sub>x</sub> (in³) | R <sub>x</sub> (in) | I <sub>y</sub> (in⁴) | S <sub>y</sub> (in³) | R <sub>y</sub> (in)        | I <sub>xe</sub> (in⁴) | S <sub>xe</sub> (in³) | M <sub>xa</sub> (in-lbs)   | I <sub>xe</sub> (in⁴) | S <sub>xe</sub> (in³) | M <sub>xa</sub> (in-lbs) | Jx1000 (in⁴) | C <sub>w</sub> (in⁶) | X <sub>o</sub> (in) | R <sub>o</sub> (in) | Beta  |
| 12" Stud    | 1200S162-54* | 0.0566                | 3.05             | 0.896      | 15.744               | 2.624                | 4.191               | 0.212                | 0.156                | 0.486                      | 14.753                | 2.111                 | 41708                      | 14.308                | 1.916                 | 57361                    | 0.958        | 6.343                | -0.732              | 4.282               | 0.971 |
|             | 1200S162-68  | 0.0713                | 3.81             | 1.120      | 19.516               | 3.253                | 4.174               | 0.255                | 0.188                | 0.477                      | 18.945                | 2.815                 | 55623                      | 18.381                | 2.643                 | 79147                    | 1.896        | 7.735                | -0.719              | 4.262               | 0.972 |
|             | 1200S162-97  | 0.1017                | 5.38             | 1.580      | 27.146               | 4.524                | 4.145               | 0.336                | 0.249                | 0.461                      | 27.136                | 4.345                 | 85865                      | 26.883                | 4.106                 | 122921                   | 5.447        | 10.330               | -0.692              | 4.227               | 0.973 |
|             | 1200S200-54* | 0.0566                | 3.24             | 0.953      | 17.678               | 2.946                | 4.307               | 0.394                | 0.243                | 0.643                      | 16.689                | 2.427                 | 47961                      | 16.344                | 2.075                 | 62129                    | 1.019        | 11.556               | -1.032              | 4.475               | 0.947 |
|             | 1200S200-68  | 0.0713                | 4.05             | 1.192      | 21.944               | 3.657                | 4.291               | 0.479                | 0.296                | 0.634                      | 21.366                | 3.214                 | 63503                      | 20.853                | 2.961                 | 88652                    | 2.017        | 14.170               | -1.017              | 4.456               | 0.948 |
|             | 1200S200-97  | 0.1017                | 5.72             | 1.682      | 30.597               | 5.100                | 4.265               | 0.642                | 0.397                | 0.618                      | 30.587                | 4.917                 | 97164                      | 30.322                | 4.674                 | 139942                   | 5.797        | 19.147               | -0.988              | 4.421               | 0.950 |
|             | 1200S250-54* | 0.0566                | 3.44             | 1.010      | 19.697               | 3.283                | 4.417               | 0.683                | 0.344                | 0.823                      | 18.844                | 2.484                 | 49092                      | 18.449                | 2.151                 | 64392                    | 1.079        | 19.515               | -1.378              | 4.699               | 0.914 |
|             | 1200S250-68  | 0.0713                | 4.30             | 1.263      | 24.479               | 4.080                | 4.403               | 0.836                | 0.421                | 0.813                      | 23.951                | 3.494                 | 69038                      | 23.563                | 3.005                 | 89969                    | 2.138        | 24.023               | -1.362              | 4.680               | 0.915 |
|             | 1200S250-97  | 0.1017                | 6.07             | 1.784      | 34.196               | 5.699                | 4.379               | 1.132                | 0.570                | 0.797                      | 34.186                | 5.514                 | 108950                     | 33.986                | 5.041                 | 150930                   | 6.148        | 32.730               | -1.331              | 4.645               | 0.918 |
|             | 1200S300-54* | 0.0566                | 3.63             | 1.066      | 21.717               | 3.619                | 4.513               | 1.075                | 0.459                | 1.004                      | 21.661                | 2.738                 | 54111                      | 21.057                | 2.275                 | 68104                    | 1.140        | 30.066               | -1.743              | 4.941               | 0.876 |
| 1200S300-68 | 0.0713       | 4.54                  | 1.334            | 27.014     | 4.502                | 4.500                | 1.319               | 0.564                | 0.994                | 26.906                     | 4.060                 | 80228                 | 26.497                     | 3.315                 | 99239                 | 2.258                    | 37.109       | -1.726               | 4.921               | 0.877               |       |
| 1200S300-97 | 0.1017       | 6.42                  | 1.885            | 37.795     | 6.299                | 4.477                | 1.801               | 0.769                | 0.977                | 37.785                     | 6.087                 | 134258                | 37.274                     | 5.834                 | 174681                | 6.498                    | 50.846       | -1.694               | 4.886               | 0.880               |       |
| 12" Track   | 1200T125-54  | 0.0566                | 2.79             | 0.820      | 13.349               | 2.189                | 4.034               | 0.060                | 0.054                | 0.271                      | 12.306                | 1.493                 | 29503                      | 11.472                | 1.288                 | 38551                    | 0.877        | 1.821                | -0.333              | 4.056               | 0.993 |
|             | 1200T125-68  | 0.0713                | 3.51             | 1.032      | 16.825               | 2.747                | 4.037               | 0.074                | 0.067                | 0.268                      | 16.237                | 2.205                 | 43564                      | 15.679                | 1.932                 | 57853                    | 1.747        | 2.269                | -0.329              | 4.060               | 0.993 |
|             | 1200T125-97  | 0.1017                | 5.01             | 1.472      | 24.035               | 3.899                | 4.041               | 0.102                | 0.093                | 0.264                      | 24.023                | 3.683                 | 72776                      | 23.681                | 3.433                 | 102775                   | 5.073        | 3.155                | -0.322              | 4.062               | 0.994 |
|             | 1200T150-54  | 0.0566                | 2.89             | 0.849      | 14.392               | 2.360                | 4.118               | 0.103                | 0.077                | 0.348                      | 12.974                | 1.531                 | 30259                      | 12.033                | 1.315                 | 39358                    | 0.907        | 3.035                | -0.454              | 4.157               | 0.988 |
|             | 1200T150-68  | 0.0713                | 3.63             | 1.068      | 18.146               | 2.963                | 4.122               | 0.127                | 0.096                | 0.345                      | 17.559                | 2.280                 | 45045                      | 16.557                | 1.985                 | 59430                    | 1.808        | 3.793                | -0.450              | 4.161               | 0.988 |
|             | 1200T150-97  | 0.1017                | 5.18             | 1.523      | 25.935               | 4.207                | 4.127               | 0.176                | 0.135                | 0.340                      | 25.924                | 3.988                 | 78810                      | 25.652                | 3.586                 | 107378                   | 5.248        | 5.307                | -0.442              | 4.165               | 0.989 |
|             | 1200T200-54  | 0.0566                | 3.08             | 0.905      | 16.480               | 2.702                | 4.266               | 0.236                | 0.136                | 0.510                      | 14.092                | 1.584                 | 31293                      | 12.975                | 1.351                 | 40460                    | 0.968        | 6.718                | -0.730              | 4.358               | 0.972 |
|             | 1200T200-68  | 0.0713                | 3.88             | 1.139      | 20.789               | 3.394                | 4.272               | 0.294                | 0.170                | 0.508                      | 19.269                | 2.381                 | 47056                      | 18.017                | 2.056                 | 61571                    | 1.928        | 8.427                | -0.725              | 4.363               | 0.972 |
|             | 1200T200-97  | 0.1017                | 5.53             | 1.624      | 29.735               | 4.824                | 4.279               | 0.410                | 0.240                | 0.502                      | 29.679                | 4.267                 | 84323                      | 28.808                | 3.783                 | 113267                   | 5.598        | 11.882               | -0.715              | 4.367               | 0.973 |
|             | 1200T300-54  | 0.0566                | 3.47             | 1.019      | 20.654               | 3.386                | 4.503               | 0.745                | 0.300                | 0.855                      | 15.872                | 1.643                 | 32472                      | 14.468                | 1.393                 | 41699                    | 1.089        | 20.223               | -1.375              | 4.785               | 0.917 |
|             | 1200T300-68  | 0.0713                | 4.36             | 1.282      | 26.073               | 4.257                | 4.510               | 0.931                | 0.376                | 0.852                      | 21.980                | 2.499                 | 49373                      | 20.330                | 2.138                 | 64004                    | 2.170        | 25.458               | -1.369              | 4.790               | 0.918 |
|             | 1200T300-97  | 0.1017                | 6.22             | 1.828      | 37.335               | 6.057                | 4.520               | 1.310                | 0.532                | 0.847                      | 34.660                | 4.590                 | 90708                      | 33.182                | 4.009                 | 120044                   | 6.299        | 36.162               | -1.356              | 4.794               | 0.920 |

" \* " Indicates that h/t is greater than 200, and therefore web stiffeners are required at all support points and concentric loads.

For additional section properties table notes, see page 5.

I<sub>x</sub> = Gross Moment of Inertia about x-axis.

S<sub>x</sub> = Gross Section Modulus about x-axis.

R<sub>x</sub> = Gross Radius of Gyration about x-axis.

I<sub>y</sub> = Gross Moment of Inertia about y-axis.

S<sub>y</sub> = Gross Section Modulus about y-axis.

R<sub>y</sub> = Gross Radius of Gyration about y-axis.

I<sub>xe</sub> = Effective Moment of Inertia about x-axis for deflection calculations.

S<sub>xe</sub> = Effective Section Modulus about x-axis.

M<sub>xa</sub> = Allowable Moment about x-axis.

J = St. Venant Torsion Constant.

C<sub>w</sub> = Warping Torsion Constant.

X<sub>o</sub> = Distance from shear center to the centroid along the principal x-axis.

R<sub>o</sub> = Polar Radius of Gyration about the centroidal principal axis.

Beta = 1-(X<sub>o</sub>/R<sub>o</sub>)<sup>2</sup>

Complies with IBC 2006 & AISI-NASPEC, 2001 with 2004 supplement

## 14" STUD/TRACK PROPERTIES

|             | Member       | Design thickness (in) | Gross Properties |            |                      |                      |                     |                      |                      |                     | 33ksi Effective Properties |                       |                          | 50ksi Effective Properties |                       |                          | Torsional Properties |                      |                     |                     |       |
|-------------|--------------|-----------------------|------------------|------------|----------------------|----------------------|---------------------|----------------------|----------------------|---------------------|----------------------------|-----------------------|--------------------------|----------------------------|-----------------------|--------------------------|----------------------|----------------------|---------------------|---------------------|-------|
|             |              |                       | Weight (lb/ft)   | Area (in²) | I <sub>x</sub> (in⁴) | S <sub>x</sub> (in³) | R <sub>x</sub> (in) | I <sub>y</sub> (in⁴) | S <sub>y</sub> (in³) | R <sub>y</sub> (in) | I <sub>xe</sub> (in⁴)      | S <sub>xe</sub> (in³) | M <sub>xa</sub> (in-lbs) | I <sub>xe</sub> (in⁴)      | S <sub>xe</sub> (in³) | M <sub>xa</sub> (in-lbs) | Jx1000 (in⁴)         | C <sub>w</sub> (in⁶) | X <sub>o</sub> (in) | R <sub>o</sub> (in) | Beta  |
| 14" Stud    | 1400S162-54* | 0.0566                | 3.44             | 1.010      | 23.324               | 3.332                | 4.806               | 0.218                | 0.157                | 0.464               | 21.118                     | 2.498                 | 49355                    | 20.379                     | 2.258                 | 67595                    | 1.079                | 8.985                | -0.667              | 4.874               | 0.981 |
|             | 1400S162-68  | 0.0713                | 4.30             | 1.263      | 28.950               | 4.136                | 4.788               | 0.262                | 0.190                | 0.456               | 27.343                     | 3.355                 | 66290                    | 26.362                     | 3.133                 | 93797                    | 2.138                | 10.961               | -0.654              | 4.854               | 0.982 |
|             | 1400S162-97  | 0.1017                | 6.07             | 1.784      | 40.363               | 5.766                | 4.757               | 0.345                | 0.251                | 0.440               | 40.170                     | 5.266                 | 104058                   | 39.081                     | 4.928                 | 147551                   | 6.148                | 14.650               | -0.630              | 4.819               | 0.983 |
|             | 1400S200-54* | 0.0566                | 3.63             | 1.066      | 25.975               | 3.711                | 4.936               | 0.406                | 0.245                | 0.617               | 23.783                     | 2.868                 | 56672                    | 23.214                     | 2.442                 | 73128                    | 1.140                | 16.363               | -0.946              | 5.063               | 0.965 |
|             | 1400S200-68  | 0.0713                | 4.54             | 1.334      | 32.281               | 4.612                | 4.919               | 0.494                | 0.298                | 0.608               | 30.669                     | 3.821                 | 75511                    | 29.782                     | 3.502                 | 104853                   | 2.258                | 20.074               | -0.932              | 5.044               | 0.966 |
|             | 1400S200-97  | 0.1017                | 6.42             | 1.885      | 45.100               | 6.443                | 4.891               | 0.662                | 0.400                | 0.592               | 44.886                     | 5.935                 | 117272                   | 43.799                     | 5.594                 | 167471                   | 6.498                | 27.153               | -0.906              | 5.009               | 0.967 |
|             | 1400S250-54* | 0.0566                | 3.82             | 1.123      | 28.728               | 4.104                | 5.058               | 0.707                | 0.347                | 0.794               | 26.775                     | 2.929                 | 57880                    | 26.166                     | 2.529                 | 75713                    | 1.200                | 27.689               | -1.272              | 5.275               | 0.942 |
|             | 1400S250-68  | 0.0713                | 4.78             | 1.405      | 35.737               | 5.105                | 5.043               | 0.865                | 0.425                | 0.784               | 34.222                     | 4.142                 | 81849                    | 33.550                     | 3.547                 | 106210                   | 2.379                | 34.102               | -1.257              | 5.256               | 0.943 |
|             | 1400S250-97  | 0.1017                | 6.76             | 1.987      | 50.010               | 7.144                | 5.017               | 1.171                | 0.576                | 0.768               | 49.781                     | 6.628                 | 130978                   | 48.841                     | 6.011                 | 179981                   | 6.848                | 46.513               | -1.227              | 5.221               | 0.945 |
|             | 1400S300-54* | 0.0566                | 4.01             | 1.180      | 31.480               | 4.497                | 5.166               | 1.115                | 0.465                | 0.972               | 29.603                     | 3.022                 | 59709                    | 27.253                     | 2.583                 | 77321                    | 1.261                | 42.713               | -1.617              | 5.500               | 0.914 |
| 1400S300-68 | 0.0713       | 5.02                  | 1.477            | 39.194     | 5.599                | 5.152                | 1.369               | 0.570                | 0.963                | 37.884              | 4.233                      | 83646                 | 36.274                   | 3.652                      | 109348                | 2.500                    | 52.747               | -1.601               | 5.480               | 0.915               |       |
| 1400S300-97 | 0.1017       | 7.11                  | 2.089            | 54.921     | 7.846                | 5.128                | 1.869               | 0.779                | 0.946                | 54.780              | 7.044                      | 139184                | 53.554                   | 6.352                      | 190179                | 7.199                    | 72.355               | -1.570               | 5.446               | 0.917               |       |
| 14" Track   | 1400T125-54  | 0.0566                | 3.18             | 0.934      | 19.998               | 2.817                | 4.628               | 0.061                | 0.054                | 0.256               | 17.741                     | 1.769                 | 34950                    | 16.425                     | 1.519                 | 45471                    | 0.998                | 2.561                | -0.299              | 4.645               | 0.996 |
|             | 1400T125-68  | 0.0713                | 4.00             | 1.175      | 25.195               | 3.536                | 4.631               | 0.076                | 0.067                | 0.254               | 23.541                     | 2.630                 | 51971                    | 22.608                     | 2.291                 | 68585                    | 1.989                | 3.187                | -0.296              | 4.648               | 0.996 |
|             | 1400T125-97  | 0.1017                | 5.70             | 1.675      | 35.975               | 5.021                | 4.634               | 0.104                | 0.094                | 0.249               | 35.688                     | 4.470                 | 88325                    | 34.492                     | 4.121                 | 123384                   | 5.774                | 4.425                | -0.289              | 4.650               | 0.996 |
|             | 1400T150-54  | 0.0566                | 3.27             | 0.962      | 21.414               | 3.016                | 4.718               | 0.105                | 0.078                | 0.330               | 18.639                     | 1.812                 | 35799                    | 17.170                     | 1.549                 | 46379                    | 1.028                | 4.282                | -0.410              | 4.747               | 0.993 |
|             | 1400T150-68  | 0.0713                | 4.12             | 1.210      | 26.986               | 3.788                | 4.722               | 0.130                | 0.097                | 0.328               | 25.398                     | 2.714                 | 53638                    | 23.790                     | 2.350                 | 70358                    | 2.049                | 5.346                | -0.407              | 4.751               | 0.993 |
|             | 1400T150-97  | 0.1017                | 5.87             | 1.726      | 38.547               | 5.381                | 4.726               | 0.180                | 0.136                | 0.323               | 38.243                     | 4.823                 | 95302                    | 37.200                     | 4.295                 | 128602                   | 5.949                | 7.469                | -0.399              | 4.754               | 0.993 |
|             | 1400T200-54  | 0.0566                | 3.47             | 1.019      | 24.245               | 3.415                | 4.879               | 0.242                | 0.138                | 0.487               | 20.121                     | 1.870                 | 36957                    | 18.407                     | 1.590                 | 47618                    | 1.089                | 9.526                | -0.665              | 4.948               | 0.982 |
|             | 1400T200-68  | 0.0713                | 4.36             | 1.282      | 30.567               | 4.290                | 4.884               | 0.301                | 0.172                | 0.485               | 27.691                     | 2.828                 | 55883                    | 25.727                     | 2.430                 | 72751                    | 2.170                | 11.936               | -0.661              | 4.952               | 0.982 |
|             | 1400T200-97  | 0.1017                | 6.22             | 1.828      | 43.692               | 6.099                | 4.889               | 0.420                | 0.242                | 0.479               | 43.578                     | 5.136                 | 101499                   | 41.551                     | 4.515                 | 135183                   | 6.299                | 16.806               | -0.651              | 4.956               | 0.983 |
|             | 1400T300-54  | 0.0566                | 3.85             | 1.132      | 29.908               | 4.213                | 5.140               | 0.770                | 0.304                | 0.825               | 22.453                     | 1.937                 | 38279                    | 20.349                     | 1.637                 | 49021                    | 1.210                | 28.816               | -1.271              | 5.359               | 0.944 |
|             | 1400T300-68  | 0.0713                | 4.85             | 1.424      | 37.730               | 5.296                | 5.147               | 0.962                | 0.381                | 0.822               | 31.277                     | 2.958                 | 58455                    | 28.759                     | 2.521                 | 75473                    | 2.411                | 36.239               | -1.265              | 5.364               | 0.944 |
|             | 1400T300-97  | 0.1017                | 6.91             | 2.031      | 53.983               | 7.535                | 5.155               | 1.353                | 0.538                | 0.816               | 50.374                     | 5.494                 | 108566                   | 47.372                     | 4.765                 | 142677                   | 7.000                | 51.405               | -1.253              | 5.368               | 0.946 |

" \* " Indicates that h/t is greater than 200, and therefore web stiffeners are required at all support points and concentric loads.

For additional section properties table notes, see page 5.

I<sub>x</sub> = Gross Moment of Inertia about x-axis.  
S<sub>x</sub> = Gross Section Modulus about x-axis.  
R<sub>x</sub> = Gross Radius of Gyration about x-axis.  
I<sub>y</sub> = Gross Moment of Inertia about y-axis.

S<sub>y</sub> = Gross Section Modulus about y-axis.  
R<sub>y</sub> = Gross Radius of Gyration about y-axis.  
I<sub>xe</sub> = Effective Moment of Inertia about x-axis for deflection calculations.

S<sub>xe</sub> = Effective Section Modulus about x-axis.  
M<sub>xa</sub> = Allowable Moment about x-axis.  
J = St. Venant Torsion Constant.  
C<sub>w</sub> = Warping Torsion Constant.

X<sub>o</sub> = Distance from shear center to the centroid along the principal x-axis.  
R<sub>o</sub> = Polar Radius of Gyration about the centroidal principal axis.  
Beta = 1-(X<sub>o</sub>/R<sub>o</sub>)<sup>2</sup>

Complies with IBC 2006 & AISI-NASPEC, 2001 with 2004 supplement

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## ALLOWABLE STUD SHEAR (LBS)

| Member    |          | Solid Section Shear | Perforated Shear | Member    |          | Solid Section Shear | Perforated Shear |
|-----------|----------|---------------------|------------------|-----------|----------|---------------------|------------------|
| Size (in) | Ga (ksi) |                     |                  | Size (in) | Ga (ksi) |                     |                  |
| 2.5       | 20 (33)  | 997                 | 420              | 8         | 20 (33)  | 472                 | —                |
|           | 18 (33)  | 1268                | 397              |           | 18 (33)  | 1047                | 1047             |
|           | 16 (33)  | 1554                | 373              |           | 16 (33)  | 2094                | 2094             |
|           | 16 (50)  | 2354                | 565              |           | 16 (50)  | 2094                | 2094             |
|           | 14 (33)  | 1890                | 342              |           | 14 (33)  | 4213                | 3363             |
|           | 14 (50)  | 2864                | 519              |           | 14 (50)  | 4213                | 3363             |
|           | 12 (33)  | 2575                | 304              |           | 12 (33)  | 8841                | 4868             |
|           | 12 (50)  | 3902                | 461              |           | 12 (50)  | 10882               | 5992             |
| 3.625     | 20 (33)  | 1025                | 535              | 10        | 20 (33)  | —                   | —                |
|           | 18 (33)  | 1735                | 678              |           | 18 (33)  | 832                 | —                |
|           | 16 (33)  | 2342                | 705              |           | 16 (33)  | 1663                | 1663             |
|           | 16 (50)  | 3375                | 1016             |           | 16 (50)  | 1663                | 1663             |
|           | 14 (33)  | 2883                | 662              |           | 14 (33)  | 3339                | 3339             |
|           | 14 (50)  | 4368                | 1004             |           | 14 (50)  | 3339                | 3339             |
|           | 12 (33)  | 3991                | 607              |           | 12 (33)  | 8841                | 6478             |
|           | 12 (50)  | 6047                | 920              |           | 12 (50)  | 9800                | 7181             |
| 4         | 20 (33)  | 966                 | 601              | 12        | 20 (33)  | —                   | —                |
|           | 18 (33)  | 1735                | 811              |           | 18 (33)  | —                   | —                |
|           | 16 (33)  | 2605                | 944              |           | 16 (33)  | 1379                | —                |
|           | 16 (50)  | 3375                | 1223             |           | 16 (50)  | 1379                | —                |
|           | 14 (33)  | 3213                | 895              |           | 14 (33)  | 2766                | 2766             |
|           | 14 (50)  | 4869                | 1356             |           | 14 (50)  | 2766                | 2766             |
|           | 12 (33)  | 4463                | 832              |           | 12 (33)  | 8103                | 7413             |
|           | 12 (50)  | 6762                | 1260             |           | 12 (50)  | 8103                | 7413             |
| 6         | 20 (33)  | 634                 | 634              | 14        | 20 (33)  | —                   | —                |
|           | 18 (33)  | 1409                | 1238             |           | 18 (33)  | —                   | —                |
|           | 16 (33)  | 2742                | 1891             |           | 16 (33)  | 1178                | —                |
|           | 16 (50)  | 2827                | 1949             |           | 16 (50)  | 1178                | —                |
|           | 14 (33)  | 4342                | 2338             |           | 14 (33)  | 2360                | 2360             |
|           | 14 (50)  | 5345                | 2878             |           | 14 (50)  | 2360                | 2360             |
|           | 12 (33)  | 6980                | 2572             |           | 12 (33)  | 6906                | 6906             |
|           | 12 (50)  | 10575               | 3897             |           | 12 (50)  | 6906                | 6906             |

## Notes for Allowable Stud Shear:

- 1 Capacities are calculated per AISI-NASPEC, 2001 with 2004 supplement.
- 2 If  $h/t > 260$  for solid sections, then values are not printed.
- 3 If  $h/t > 200$  for perforated sections, then values are not printed.
- 4 For perforated sections, the standard ClarkDietrich oval knockout of 1-1/2" (3/4" for 2-1/2" webs) x 4" is used.

## ALLOWABLE WEB CRIPPLING LOADS

For wall studs in track (lbs)

| Member    |          | End One Flange Loading (Single Members) (Wall Studs)<br>Bearing Length (in) |      |      |       |
|-----------|----------|-----------------------------------------------------------------------------|------|------|-------|
| Size (in) | Ga (ksi) | 1.25                                                                        | 1.5  | 2    | 2.375 |
| 3.625     | 20 (33)  | 292                                                                         | 314  | 355  | 382   |
|           | 18 (33)  | 457                                                                         | 492  | 554  | 595   |
|           | 16 (33)  | 676                                                                         | 726  | 815  | 874   |
|           | 16 (50)  | 1024                                                                        | 1100 | 1234 | 1325  |
|           | 14 (33)  | 1000                                                                        | 1072 | 1200 | 1286  |
|           | 14 (50)  | 1515                                                                        | 1624 | 1818 | 1948  |
| 4         | 20 (33)  | 288                                                                         | 311  | 350  | 377   |
|           | 18 (33)  | 453                                                                         | 487  | 548  | 589   |
|           | 16 (33)  | 669                                                                         | 719  | 807  | 866   |
|           | 16 (50)  | 1014                                                                        | 1089 | 1223 | 1312  |
|           | 14 (33)  | 991                                                                         | 1063 | 1190 | 1275  |
| 6         | 14 (50)  | 1502                                                                        | 1611 | 1803 | 1932  |
|           | 20 (33)  | 271                                                                         | 292  | 330  | 355   |
|           | 18 (33)  | 430                                                                         | 463  | 521  | 560   |
|           | 16 (33)  | 640                                                                         | 688  | 772  | 828   |
|           | 16 (50)  | 970                                                                         | 1042 | 1170 | 1255  |
|           | 14 (33)  | 953                                                                         | 1022 | 1144 | 1226  |
|           | 14 (50)  | 1444                                                                        | 1549 | 1734 | 1858  |

## Notes for Allowable Web Crippling Loads:

- 1 Wall stud web crippling is computed in accordance with the AISI-NASPEC, 2001 with 2004 supplement Wall Stud Standard.
- 2 The code does not give values if:  $t\text{-design} < 0.0346$ ;  $t\text{-design} > .077$ ;  $F_y < 33\text{ksi}$ ,  $F_y > 50\text{ksi}$ ,  $\text{Web} < 3.5$ ;  $\text{Web} > 6$ ;  $N < 1.25$ ; or  $N > 2.375$ . Values are not printed for these sections.
- 3 For wall stud web crippling, the track thickness is assumed to be equal to the stud thickness.

Complies with IBC 2006 &amp; AISI-NASPEC, 2001 with 2004 supplement

The technical content of this literature is effective 2/1/12 and supersedes all previous information.



## ALLOWABLE WALL HEIGHT TABLES

## INTERIOR WALL HEIGHTS

With structural framing

| Member     | Spacing<br>(in) o.c. | Spsf    |         |         |
|------------|----------------------|---------|---------|---------|
|            |                      | L/120   | L/240   | L/360   |
| 250S137-33 | 12                   | 17' 6"  | 13' 11" | 12' 2"  |
|            | 16                   | 15' 11" | 12' 8"  | 11' 1"  |
|            | 24                   | 13' 11" | 11' 1"  | 9' 8"   |
| 250S137-43 | 12                   | 19' 0"  | 15' 1"  | 13' 2"  |
|            | 16                   | 17' 3"  | 13' 8"  | 11' 11" |
|            | 24                   | 15' 1"  | 11' 11" | 10' 5"  |
| 250S137-54 | 12                   | 20' 3"  | 16' 1"  | 14' 1"  |
|            | 16                   | 18' 5"  | 14' 8"  | 12' 9"  |
|            | 24                   | 16' 1"  | 12' 9"  | 11' 2"  |
| 250S137-68 | 12                   | 21' 8"  | 17' 2"  | 15' 0"  |
|            | 16                   | 19' 8"  | 15' 7"  | 13' 7"  |
|            | 24                   | 17' 2"  | 13' 7"  | 11' 11" |
| 250S137-97 | 12                   | 23' 10" | 18' 11" | 16' 6"  |
|            | 16                   | 21' 8"  | 17' 2"  | 15' 0"  |
|            | 24                   | 18' 11" | 15' 0"  | 13' 1"  |
| 250S162-33 | 12                   | 18' 5"  | 14' 7"  | 12' 9"  |
|            | 16                   | 16' 9"  | 13' 3"  | 11' 7"  |
|            | 24                   | 14' 7"  | 11' 7"  | 10' 2"  |
| 250S162-43 | 12                   | 19' 11" | 15' 10" | 13' 10" |
|            | 16                   | 18' 1"  | 14' 5"  | 12' 7"  |
|            | 24                   | 15' 10" | 12' 7"  | 11' 0"  |
| 250S162-54 | 12                   | 21' 4"  | 16' 11" | 14' 9"  |
|            | 16                   | 19' 5"  | 15' 5"  | 13' 5"  |
|            | 24                   | 16' 11" | 13' 5"  | 11' 9"  |
| 250S162-68 | 12                   | 22' 9"  | 18' 1"  | 15' 9"  |
|            | 16                   | 20' 8"  | 16' 5"  | 14' 4"  |
|            | 24                   | 18' 1"  | 14' 4"  | 12' 6"  |
| 250S162-97 | 12                   | 25' 1"  | 19' 11" | 17' 5"  |
|            | 16                   | 22' 10" | 18' 1"  | 15' 10" |
|            | 24                   | 19' 11" | 15' 10" | 13' 10" |

2-1/2" Structural Framing

| Member     | Spacing<br>(in) o.c. | Spsf    |         |         |
|------------|----------------------|---------|---------|---------|
|            |                      | L/120   | L/240   | L/360   |
| 250S200-33 | 12                   | 19' 5"  | 15' 5"  | 13' 5"  |
|            | 16                   | 17' 7"  | 14' 0"  | 12' 3"  |
|            | 24                   | 15' 5"  | 12' 3"  | 10' 8"  |
| 250S200-43 | 12                   | 21' 1"  | 16' 9"  | 14' 8"  |
|            | 16                   | 19' 2"  | 15' 3"  | 13' 4"  |
|            | 24                   | 16' 9"  | 13' 4"  | 11' 7"  |
| 250S200-54 | 12                   | 22' 7"  | 17' 11" | 15' 8"  |
|            | 16                   | 20' 6"  | 16' 4"  | 14' 3"  |
|            | 24                   | 17' 11" | 14' 3"  | 12' 5"  |
| 250S200-68 | 12                   | 24' 2"  | 19' 2"  | 16' 9"  |
|            | 16                   | 21' 11" | 17' 5"  | 15' 3"  |
|            | 24                   | 19' 2"  | 15' 3"  | 13' 4"  |
| 250S200-97 | 12                   | 26' 8"  | 21' 2"  | 18' 6"  |
|            | 16                   | 24' 3"  | 19' 3"  | 16' 10" |
|            | 24                   | 21' 2"  | 16' 10" | 14' 8"  |
| 250S250-43 | 12                   | 22' 4"  | 17' 9"  | 15' 6"  |
|            | 16                   | 20' 4"  | 16' 1"  | 14' 1"  |
|            | 24                   | 17' 9"  | 14' 1"  | 12' 4"  |
| 250S250-54 | 12                   | 24' 0"  | 19' 0"  | 16' 7"  |
|            | 16                   | 21' 9"  | 17' 3"  | 15' 1"  |
|            | 24                   | 19' 0"  | 15' 1"  | 13' 2"  |
| 250S250-68 | 12                   | 25' 8"  | 20' 4"  | 17' 9"  |
|            | 16                   | 23' 3"  | 18' 6"  | 16' 2"  |
|            | 24                   | 20' 4"  | 16' 2"  | 14' 1"  |
| 250S250-97 | 12                   | 28' 5"  | 22' 6"  | 19' 8"  |
|            | 16                   | 25' 10" | 20' 6"  | 17' 11" |
|            | 24                   | 22' 6"  | 17' 11" | 15' 7"  |

2-1/2" Structural Framing

**Notes:**

- 1 Studs are checked for simple-span deflection and stress. Stress calculations are made for mid-span fully braced moment, end shear through the unperforated section, and shear moment interaction through the perforated section 10" away from the end bearing.
- 2 A 1/3 stress increase is not used.
- 3 Limiting heights are based on continuous lateral support of each flange over the full height of the stud.

- 4 Heights are based on steel properties only.
- 5 End reactions must be checked for web crippling separately.
- 6 Cells having an "f" indicate the limiting height is controlled by stress.
- 7 Cells marked with an " \* " have an  $h/t > 200$  and thus require end stiffeners. Blank cells have an  $h/t > 260$ .

- 8 Capacities are calculated according to the AISI-NASPEC, 2001 with 2004 supplement. A 1-1/2" by 4" knockout spaced no closer than 24" o.c. is assumed. (3/4" for 2-1/2" studs)
- 9 All values are based on  $F_y=33\text{ksi}$ .
- 10 For deflection calculations, interior wall loads have been multiplied by 1.0 per the AISI Standard for Cold-Formed Steel Framing - Wall Stud Design 2004 Edition.

Complies with IBC 2006 &amp; AISI-NASPEC, 2001 with 2004 supplement

# INTERIOR WALL HEIGHTS

With structural framing

| Member     | Spacing<br>(in) o.c. | Spsf      |         |         |
|------------|----------------------|-----------|---------|---------|
|            |                      | L/120     | L/240   | L/360   |
| 350S137-33 | 12                   | 22' 8"    | 18' 0"  | 15' 9"  |
|            | 16                   | 20' 8"    | 16' 4"  | 14' 4"  |
|            | 24                   | 17' 7" f  | 14' 4"  | 12' 6"  |
| 350S137-43 | 12                   | 24' 7"    | 19' 6"  | 17' 1"  |
|            | 16                   | 22' 4"    | 17' 9"  | 15' 6"  |
|            | 24                   | 19' 6"    | 15' 6"  | 13' 6"  |
| 350S137-54 | 12                   | 26' 4"    | 20' 11" | 18' 3"  |
|            | 16                   | 23' 11"   | 19' 0"  | 16' 7"  |
|            | 24                   | 20' 11"   | 16' 7"  | 14' 6"  |
| 350S137-68 | 12                   | 28' 2"    | 22' 4"  | 19' 6"  |
|            | 16                   | 25' 7"    | 20' 3"  | 17' 9"  |
|            | 24                   | 22' 4"    | 17' 9"  | 15' 6"  |
| 350S137-97 | 12                   | 31' 1"    | 24' 8"  | 21' 7"  |
|            | 16                   | 28' 3"    | 22' 5"  | 19' 7"  |
|            | 24                   | 24' 8"    | 19' 7"  | 17' 1"  |
| 350S162-33 | 12                   | 23' 9"    | 18' 11" | 16' 6"  |
|            | 16                   | 21' 7"    | 17' 2"  | 15' 0"  |
|            | 24                   | 18' 10" f | 15' 0"  | 13' 1"  |
| 350S162-43 | 12                   | 25' 10"   | 20' 6"  | 17' 11" |
|            | 16                   | 23' 5"    | 18' 7"  | 16' 3"  |
|            | 24                   | 20' 6"    | 16' 3"  | 14' 2"  |
| 350S162-54 | 12                   | 27' 8"    | 21' 11" | 19' 2"  |
|            | 16                   | 25' 1"    | 19' 11" | 17' 5"  |
|            | 24                   | 21' 11"   | 17' 5"  | 15' 3"  |
| 350S162-68 | 12                   | 29' 7"    | 23' 5"  | 20' 6"  |
|            | 16                   | 26' 10"   | 21' 4"  | 18' 7"  |
|            | 24                   | 23' 5"    | 18' 7"  | 16' 3"  |
| 350S162-97 | 12                   | 32' 9"    | 26' 0"  | 22' 8"  |
|            | 16                   | 29' 9"    | 23' 7"  | 20' 7"  |
|            | 24                   | 26' 0"    | 20' 7"  | 18' 0"  |

3-1/2" Structural Framing

| Member     | Spacing<br>(in) o.c. | Spsf     |         |         |
|------------|----------------------|----------|---------|---------|
|            |                      | L/120    | L/240   | L/360   |
| 350S200-33 | 12                   | 25' 0"   | 19' 10" | 17' 4"  |
|            | 16                   | 22' 9"   | 18' 0"  | 15' 9"  |
|            | 24                   | 19' 7" f | 15' 9"  | 13' 9"  |
| 350S200-43 | 12                   | 27' 3"   | 21' 8"  | 18' 11" |
|            | 16                   | 24' 9"   | 19' 8"  | 17' 2"  |
|            | 24                   | 21' 8"   | 17' 2"  | 15' 0"  |
| 350S200-54 | 12                   | 29' 3"   | 23' 2"  | 20' 3"  |
|            | 16                   | 26' 7"   | 21' 1"  | 18' 5"  |
|            | 24                   | 23' 2"   | 18' 5"  | 16' 1"  |
| 350S200-68 | 12                   | 31' 3"   | 24' 10" | 21' 8"  |
|            | 16                   | 28' 5"   | 22' 7"  | 19' 8"  |
|            | 24                   | 24' 10"  | 19' 8"  | 17' 3"  |
| 350S200-97 | 12                   | 34' 8"   | 27' 6"  | 24' 1"  |
|            | 16                   | 31' 6"   | 25' 0"  | 21' 10" |
|            | 24                   | 27' 6"   | 21' 10" | 19' 1"  |
| 350S250-43 | 12                   | 28' 9"   | 22' 10" | 19' 11" |
|            | 16                   | 26' 1"   | 20' 9"  | 18' 1"  |
|            | 24                   | 22' 10"  | 18' 1"  | 15' 10" |
| 350S250-54 | 12                   | 30' 10"  | 24' 6"  | 21' 5"  |
|            | 16                   | 28' 0"   | 22' 3"  | 19' 5"  |
|            | 24                   | 24' 6"   | 19' 5"  | 17' 0"  |
| 350S250-68 | 12                   | 33' 1"   | 26' 3"  | 22' 11" |
|            | 16                   | 30' 0"   | 23' 10" | 20' 10" |
|            | 24                   | 26' 3"   | 20' 10" | 18' 2"  |
| 350S250-97 | 12                   | 36' 8"   | 29' 2"  | 25' 5"  |
|            | 16                   | 33' 4"   | 26' 6"  | 23' 1"  |
|            | 24                   | 29' 2"   | 23' 1"  | 20' 2"  |

3-1/2" Structural Framing

## Notes:

- 1 Studs are checked for simple-span deflection and stress. Stress calculations are made for mid-span fully braced moment, end shear through the unperforated section, and shear moment interaction through the perforated section 10" away from the end bearing.
- 2 A 1/3 stress increase is not used.
- 3 Limiting heights are based on continuous lateral support of each flange over the full height of the stud.

- 4 Heights are based on steel properties only.
- 5 End reactions must be checked for web crippling separately.
- 6 Cells having an "f" indicate the limiting height is controlled by stress.
- 7 Cells marked with an " \* " have an h/t > 200 and thus require end stiffeners. Blank cells have an h/t > 260.

- 8 Capacities are calculated according to the AISI-NASPEC, 2001 with 2004 supplement. A 1-1/2" by 4" knockout spaced no closer than 24" o.c. is assumed. (3/4" for 2-1/2" studs)
- 9 All values are based on Fy=33ksi.
- 10 For deflection calculations, interior wall loads have been multiplied by 1.0 per the AISI Standard for Cold-Formed Steel Framing - Wall Stud Design 2004 Edition.

Complies with IBC 2006 & AISI-NASPEC, 2001 with 2004 supplement

The technical content of this literature is effective 2/1/12 and supersedes all previous information.

## INTERIOR WALL HEIGHTS

With structural framing

| Member     | Spacing<br>(in) o.c. | Spsf     |         |         |
|------------|----------------------|----------|---------|---------|
|            |                      | L/120    | L/240   | L/360   |
| 362S137-33 | 12                   | 23' 4"   | 18' 6"  | 16' 2"  |
|            | 16                   | 21' 2"   | 16' 10" | 14' 8"  |
|            | 24                   | 18' 0" f | 14' 8"  | 12' 10" |
| 362S137-43 | 12                   | 25' 3"   | 20' 1"  | 17' 6"  |
|            | 16                   | 23' 0"   | 18' 3"  | 15' 11" |
|            | 24                   | 20' 1"   | 15' 11" | 13' 11" |
| 362S137-54 | 12                   | 27' 1"   | 21' 6"  | 18' 9"  |
|            | 16                   | 24' 7"   | 19' 6"  | 17' 1"  |
|            | 24                   | 21' 6"   | 17' 1"  | 14' 11" |
| 362S137-68 | 12                   | 28' 11"  | 22' 11" | 20' 1"  |
|            | 16                   | 26' 3"   | 20' 10" | 18' 3"  |
|            | 24                   | 22' 11"  | 18' 3"  | 15' 11" |
| 362S137-97 | 12                   | 32' 0"   | 25' 4"  | 22' 2"  |
|            | 16                   | 29' 0"   | 23' 1"  | 20' 2"  |
|            | 24                   | 25' 4"   | 20' 2"  | 17' 7"  |
| 362S162-33 | 12                   | 24' 5"   | 19' 5"  | 16' 11" |
|            | 16                   | 22' 2"   | 17' 7"  | 15' 5"  |
|            | 24                   | 19' 3" f | 15' 5"  | 13' 5"  |
| 362S162-43 | 12                   | 26' 6"   | 21' 0"  | 18' 5"  |
|            | 16                   | 24' 1"   | 19' 1"  | 16' 8"  |
|            | 24                   | 21' 0"   | 16' 8"  | 14' 7"  |
| 362S162-54 | 12                   | 28' 5"   | 22' 6"  | 19' 8"  |
|            | 16                   | 25' 10"  | 20' 6"  | 17' 11" |
|            | 24                   | 22' 6"   | 17' 11" | 15' 8"  |
| 362S162-68 | 12                   | 30' 4"   | 24' 1"  | 21' 1"  |
|            | 16                   | 27' 7"   | 21' 11" | 19' 2"  |
|            | 24                   | 24' 1"   | 19' 2"  | 16' 9"  |
| 362S162-97 | 12                   | 33' 8"   | 26' 8"  | 23' 4"  |
|            | 16                   | 30' 7"   | 24' 3"  | 21' 2"  |
|            | 24                   | 26' 8"   | 21' 2"  | 18' 6"  |

3-5/8" Structural Framing

| Member     | Spacing<br>(in) o.c. | Spsf     |         |         |
|------------|----------------------|----------|---------|---------|
|            |                      | L/120    | L/240   | L/360   |
| 362S200-33 | 12                   | 25' 8"   | 20' 5"  | 17' 10" |
|            | 16                   | 23' 4"   | 18' 6"  | 16' 2"  |
|            | 24                   | 20' 0" f | 16' 2"  | 14' 2"  |
| 362S200-43 | 12                   | 28' 0"   | 22' 3"  | 19' 5"  |
|            | 16                   | 25' 5"   | 20' 2"  | 17' 8"  |
|            | 24                   | 22' 3"   | 17' 8"  | 15' 5"  |
| 362S200-54 | 12                   | 30' 0"   | 23' 10" | 20' 10" |
|            | 16                   | 27' 3"   | 21' 8"  | 18' 11" |
|            | 24                   | 23' 10"  | 18' 11" | 16' 6"  |
| 362S200-68 | 12                   | 32' 2"   | 25' 6"  | 22' 3"  |
|            | 16                   | 29' 2"   | 23' 2"  | 20' 3"  |
|            | 24                   | 25' 6"   | 20' 3"  | 17' 8"  |
| 362S200-97 | 12                   | 35' 8"   | 28' 4"  | 24' 9"  |
|            | 16                   | 32' 5"   | 25' 8"  | 22' 5"  |
|            | 24                   | 28' 4"   | 22' 5"  | 19' 7"  |
| 362S250-43 | 12                   | 29' 6"   | 23' 5"  | 20' 6"  |
|            | 16                   | 26' 10"  | 21' 3"  | 18' 7"  |
|            | 24                   | 23' 5"   | 18' 7"  | 16' 3"  |
| 362S250-54 | 12                   | 31' 8"   | 25' 2"  | 21' 11" |
|            | 16                   | 28' 9"   | 22' 10" | 19' 11" |
|            | 24                   | 25' 2"   | 19' 11" | 17' 5"  |
| 362S250-68 | 12                   | 33' 11"  | 26' 11" | 23' 6"  |
|            | 16                   | 30' 10"  | 24' 6"  | 21' 5"  |
|            | 24                   | 26' 11"  | 21' 5"  | 18' 8"  |
| 362S250-97 | 12                   | 37' 8"   | 29' 11" | 26' 2"  |
|            | 16                   | 34' 3"   | 27' 2"  | 23' 9"  |
|            | 24                   | 29' 11"  | 23' 9"  | 20' 9"  |

3-5/8" Structural Framing

**Notes:**

- 1 Studs are checked for simple-span deflection and stress. Stress calculations are made for mid-span fully braced moment, end shear through the unperforated section, and shear moment interaction through the perforated section 10" away from the end bearing.
- 2 A 1/3 stress increase is not used.
- 3 Limiting heights are based on continuous lateral support of each flange over the full height of the stud.

- 4 Heights are based on steel properties only.
- 5 End reactions must be checked for web crippling separately.
- 6 Cells having an "f" indicate the limiting height is controlled by stress.
- 7 Cells marked with an "\*" have an  $h/t > 200$  and thus require end stiffeners. Blank cells have an  $h/t > 260$ .

- 8 Capacities are calculated according to the AISI-NASPEC, 2001 with 2004 supplement. A 1-1/2" by 4" knockout spaced no closer than 24" o.c. is assumed. (3/4" for 2-1/2" studs)
- 9 All values are based on  $F_y=33\text{ksi}$ .
- 10 For deflection calculations, interior wall loads have been multiplied by 1.0 per the AISI Standard for Cold-Formed Steel Framing - Wall Stud Design 2004 Edition.

Complies with IBC 2006 &amp; AISI-NASPEC, 2001 with 2004 supplement

The technical content of this literature is effective 2/1/12 and supersedes all previous information.

# INTERIOR WALL HEIGHTS

With structural framing

| Member     | Spacing<br>(in) o.c. | Spsf     |         |         |
|------------|----------------------|----------|---------|---------|
|            |                      | L/120    | L/240   | L/360   |
| 400S137-33 | 12                   | 25' 2"   | 20' 0"  | 17' 6"  |
|            | 16                   | 22' 11"  | 18' 2"  | 15' 10" |
|            | 24                   | 19' 0" f | 15' 10" | 13' 10" |
| 400S137-43 | 12                   | 27' 4"   | 21' 8"  | 18' 11" |
|            | 16                   | 24' 10"  | 19' 8"  | 17' 2"  |
|            | 24                   | 21' 8"   | 17' 2"  | 15' 0"  |
| 400S137-54 | 12                   | 29' 3"   | 23' 3"  | 20' 3"  |
|            | 16                   | 26' 7"   | 21' 1"  | 18' 5"  |
|            | 24                   | 23' 3"   | 18' 5"  | 16' 1"  |
| 400S137-68 | 12                   | 31' 3"   | 24' 10" | 21' 8"  |
|            | 16                   | 28' 5"   | 22' 6"  | 19' 8"  |
|            | 24                   | 24' 10"  | 19' 8"  | 17' 2"  |
| 400S137-97 | 12                   | 34' 7"   | 27' 5"  | 24' 0"  |
|            | 16                   | 31' 5"   | 24' 11" | 21' 9"  |
|            | 24                   | 27' 5"   | 21' 9"  | 19' 0"  |
| 400S162-33 | 12                   | 26' 4"   | 20' 11" | 18' 3"  |
|            | 16                   | 23' 11"  | 19' 0"  | 16' 7"  |
|            | 24                   | 20' 5" f | 16' 7"  | 14' 6"  |
| 400S162-43 | 12                   | 28' 7"   | 22' 8"  | 19' 10" |
|            | 16                   | 26' 0"   | 20' 7"  | 18' 0"  |
|            | 24                   | 22' 8"   | 18' 0"  | 15' 9"  |
| 400S162-54 | 12                   | 30' 8"   | 24' 4"  | 21' 3"  |
|            | 16                   | 27' 10"  | 22' 1"  | 19' 4"  |
|            | 24                   | 24' 4"   | 19' 4"  | 16' 10" |
| 400S162-68 | 12                   | 32' 10"  | 26' 0"  | 22' 9"  |
|            | 16                   | 29' 10"  | 23' 8"  | 20' 8"  |
|            | 24                   | 26' 0"   | 20' 8"  | 18' 1"  |
| 400S162-97 | 12                   | 36' 4"   | 28' 10" | 25' 2"  |
|            | 16                   | 33' 0"   | 26' 3"  | 22' 11" |
|            | 24                   | 28' 10"  | 22' 11" | 20' 0"  |

4" Structural Framing

| Member     | Spacing<br>(in) o.c. | Spsf     |         |         |
|------------|----------------------|----------|---------|---------|
|            |                      | L/120    | L/240   | L/360   |
| 400S200-33 | 12                   | 27' 8"   | 22' 0"  | 19' 2"  |
|            | 16                   | 25' 2"   | 19' 11" | 17' 5"  |
|            | 24                   | 21' 2" f | 17' 5"  | 15' 3"  |
| 400S200-43 | 12                   | 30' 2"   | 23' 11" | 20' 11" |
|            | 16                   | 27' 5"   | 21' 9"  | 19' 0"  |
|            | 24                   | 23' 11"  | 19' 0"  | 16' 7"  |
| 400S200-54 | 12                   | 32' 4"   | 25' 8"  | 22' 5"  |
|            | 16                   | 29' 5"   | 23' 4"  | 20' 5"  |
|            | 24                   | 25' 8"   | 20' 5"  | 17' 10" |
| 400S200-68 | 12                   | 34' 8"   | 27' 6"  | 24' 0"  |
|            | 16                   | 31' 6"   | 25' 0"  | 21' 10" |
|            | 24                   | 27' 6"   | 21' 10" | 19' 1"  |
| 400S200-97 | 12                   | 38' 6"   | 30' 7"  | 26' 8"  |
|            | 16                   | 35' 0"   | 27' 9"  | 24' 3"  |
|            | 24                   | 30' 7"   | 24' 3"  | 21' 2"  |
| 400S250-43 | 12                   | 31' 9"   | 25' 3"  | 22' 0"  |
|            | 16                   | 28' 10"  | 22' 11" | 20' 0"  |
|            | 24                   | 25' 3"   | 20' 0"  | 17' 6"  |
| 400S250-54 | 12                   | 34' 1"   | 27' 1"  | 23' 8"  |
|            | 16                   | 31' 0"   | 24' 7"  | 21' 6"  |
|            | 24                   | 27' 1"   | 21' 6"  | 18' 9"  |
| 400S250-68 | 12                   | 36' 7"   | 29' 0"  | 25' 4"  |
|            | 16                   | 33' 3"   | 26' 4"  | 23' 0"  |
|            | 24                   | 29' 0"   | 23' 0"  | 20' 1"  |
| 400S250-97 | 12                   | 40' 8"   | 32' 3"  | 28' 2"  |
|            | 16                   | 36' 11"  | 29' 4"  | 25' 7"  |
|            | 24                   | 32' 3"   | 25' 7"  | 22' 4"  |

4" Structural Framing

## Notes:

- 1 Studs are checked for simple-span deflection and stress. Stress calculations are made for mid-span fully braced moment, end shear through the unperforated section, and shear moment interaction through the perforated section 10" away from the end bearing.
- 2 A 1/3 stress increase is not used.
- 3 Limiting heights are based on continuous lateral support of each flange over the full height of the stud.

- 4 Heights are based on steel properties only.
- 5 End reactions must be checked for web crippling separately.
- 6 Cells having an "f" indicate the limiting height is controlled by stress.
- 7 Cells marked with an " \* " have an  $h/t > 200$  and thus require end stiffeners. Blank cells have an  $h/t > 260$ .

- 8 Capacities are calculated according to the AISI-NASPEC, 2001 with 2004 supplement. A 1-1/2" by 4" knockout spaced no closer than 24" o.c. is assumed. (3/4" for 2-1/2" studs)
- 9 All values are based on  $F_y=33\text{ksi}$ .
- 10 For deflection calculations, interior wall loads have been multiplied by 1.0 per the AISI Standard for Cold-Formed Steel Framing - Wall Stud Design 2004 Edition.

Complies with IBC 2006 & AISI-NASPEC, 2001 with 2004 supplement

The technical content of this literature is effective 2/1/12 and supersedes all previous information.

## INTERIOR WALL HEIGHTS

With structural framing

| Member     | Spacing<br>(in) o.c. | Spsf     |         |         |
|------------|----------------------|----------|---------|---------|
|            |                      | L/120    | L/240   | L/360   |
| 550S137-33 | 12                   | 32' 5"   | 25' 8"  | 22' 5"  |
|            | 16                   | 29' 5"   | 23' 4"  | 20' 5"  |
|            | 24                   | 24' 6" f | 20' 5"  | 17' 10" |
| 550S137-43 | 12                   | 35' 2"   | 27' 11" | 24' 4"  |
|            | 16                   | 31' 11"  | 25' 4"  | 22' 2"  |
|            | 24                   | 27' 11"  | 22' 2"  | 19' 4"  |
| 550S137-54 | 12                   | 37' 8"   | 29' 11" | 26' 2"  |
|            | 16                   | 34' 3"   | 27' 2"  | 23' 9"  |
|            | 24                   | 29' 11"  | 23' 9"  | 20' 9"  |
| 550S137-68 | 12                   | 40' 4"   | 32' 0"  | 28' 0"  |
|            | 16                   | 36' 8"   | 29' 1"  | 25' 5"  |
|            | 24                   | 32' 0"   | 25' 5"  | 22' 2"  |
| 550S137-97 | 12                   | 44' 9"   | 35' 6"  | 31' 0"  |
|            | 16                   | 40' 8"   | 32' 3"  | 28' 2"  |
|            | 24                   | 35' 6"   | 28' 2"  | 24' 7"  |
| 550S162-33 | 12                   | 33' 9"   | 26' 10" | 23' 5"  |
|            | 16                   | 30' 8"   | 24' 4"  | 21' 3"  |
|            | 24                   | 26' 1" f | 21' 3"  | 18' 7"  |
| 550S162-43 | 12                   | 36' 8"   | 29' 1"  | 25' 5"  |
|            | 16                   | 33' 4"   | 26' 5"  | 23' 1"  |
|            | 24                   | 29' 1"   | 23' 1"  | 20' 2"  |
| 550S162-54 | 12                   | 39' 4"   | 31' 3"  | 27' 3"  |
|            | 16                   | 35' 9"   | 28' 5"  | 24' 10" |
|            | 24                   | 31' 3"   | 24' 10" | 21' 8"  |
| 550S162-68 | 12                   | 42' 2"   | 33' 6"  | 29' 3"  |
|            | 16                   | 38' 4"   | 30' 5"  | 26' 7"  |
|            | 24                   | 33' 6"   | 26' 7"  | 23' 2"  |
| 550S162-97 | 12                   | 46' 10"  | 37' 2"  | 32' 6"  |
|            | 16                   | 42' 7"   | 33' 9"  | 29' 6"  |
|            | 24                   | 37' 2"   | 29' 6"  | 25' 9"  |

5-1/2" Structural Framing

| Member     | Spacing<br>(in) o.c. | Spsf     |         |         |
|------------|----------------------|----------|---------|---------|
|            |                      | L/120    | L/240   | L/360   |
| 550S200-33 | 12                   | 35' 4"   | 28' 1"  | 24' 6"  |
|            | 16                   | 32' 1"   | 25' 6"  | 22' 3"  |
|            | 24                   | 27' 1" f | 22' 3"  | 19' 5"  |
| 550S200-43 | 12                   | 38' 7"   | 30' 7"  | 26' 9"  |
|            | 16                   | 35' 1"   | 27' 10" | 24' 4"  |
|            | 24                   | 30' 7"   | 24' 4"  | 21' 3"  |
| 550S200-54 | 12                   | 41' 5"   | 32' 10" | 28' 9"  |
|            | 16                   | 37' 7"   | 29' 10" | 26' 1"  |
|            | 24                   | 32' 10"  | 26' 1"  | 22' 9"  |
| 550S200-68 | 12                   | 44' 5"   | 35' 3"  | 30' 9"  |
|            | 16                   | 40' 4"   | 32' 0"  | 28' 0"  |
|            | 24                   | 35' 3"   | 28' 0"  | 24' 5"  |
| 550S200-97 | 12                   | 49' 5"   | 39' 3"  | 34' 3"  |
|            | 16                   | 44' 11"  | 35' 8"  | 31' 2"  |
|            | 24                   | 39' 3"   | 31' 2"  | 27' 2"  |
| 550S250-43 | 12                   | 40' 5"   | 32' 1"  | 28' 1"  |
|            | 16                   | 36' 9"   | 29' 2"  | 25' 6"  |
|            | 24                   | 32' 1"   | 25' 6"  | 22' 3"  |
| 550S250-54 | 12                   | 43' 5"   | 34' 6"  | 30' 1"  |
|            | 16                   | 39' 6"   | 31' 4"  | 27' 4"  |
|            | 24                   | 34' 6"   | 27' 4"  | 23' 11" |
| 550S250-68 | 12                   | 46' 7"   | 37' 0"  | 32' 4"  |
|            | 16                   | 42' 4"   | 33' 7"  | 29' 4"  |
|            | 24                   | 37' 0"   | 29' 4"  | 25' 8"  |
| 550S250-97 | 12                   | 51' 11"  | 41' 3"  | 36' 0"  |
|            | 16                   | 47' 2"   | 37' 5"  | 32' 9"  |
|            | 24                   | 41' 3"   | 32' 9"  | 28' 7"  |

5-1/2" Structural Framing

**Notes:**

- 1 Studs are checked for simple-span deflection and stress. Stress calculations are made for mid-span fully braced moment, end shear through the unperforated section, and shear moment interaction through the perforated section 10" away from the end bearing.
- 2 A 1/3 stress increase is not used.
- 3 Limiting heights are based on continuous lateral support of each flange over the full height of the stud.

- 4 Heights are based on steel properties only.
- 5 End reactions must be checked for web crippling separately.
- 6 Cells having an "f" indicate the limiting height is controlled by stress.
- 7 Cells marked with an " \* " have an  $h/t > 200$  and thus require end stiffeners. Blank cells have an  $h/t > 260$ .

- 8 Capacities are calculated according to the AISI-NASPEC, 2001 with 2004 supplement. A 1-1/2" by 4" knockout spaced no closer than 24" o.c. is assumed. (3/4" for 2-1/2" studs)
- 9 All values are based on  $F_y=33\text{ksi}$ .
- 10 For deflection calculations, interior wall loads have been multiplied by 1.0 per the AISI Standard for Cold-Formed Steel Framing - Wall Stud Design 2004 Edition.

Complies with IBC 2006 &amp; AISI-NASPEC, 2001 with 2004 supplement

# INTERIOR WALL HEIGHTS

With structural framing

| Member     | Spacing<br>(in) o.c. | Spsf     |         |         |
|------------|----------------------|----------|---------|---------|
|            |                      | L/120    | L/240   | L/360   |
| 600S137-33 | 12                   | 34' 6"   | 27' 4"  | 23' 11" |
|            | 16                   | 30' 0" f | 24' 10" | 21' 8"  |
|            | 24                   | 24' 6" f | 21' 8"  | 19' 0"  |
| 600S137-43 | 12                   | 37' 8"   | 29' 11" | 26' 2"  |
|            | 16                   | 34' 3"   | 27' 2"  | 23' 9"  |
|            | 24                   | 29' 2" f | 23' 9"  | 20' 9"  |
| 600S137-54 | 12                   | 40' 5"   | 32' 1"  | 28' 0"  |
|            | 16                   | 36' 9"   | 29' 2"  | 25' 6"  |
|            | 24                   | 32' 1"   | 25' 6"  | 22' 3"  |
| 600S137-68 | 12                   | 43' 3"   | 34' 4"  | 30' 0"  |
|            | 16                   | 39' 4"   | 31' 3"  | 27' 3"  |
|            | 24                   | 34' 4"   | 27' 3"  | 23' 10" |
| 600S137-97 | 12                   | 48' 1"   | 38' 2"  | 33' 4"  |
|            | 16                   | 43' 8"   | 34' 8"  | 30' 3"  |
|            | 24                   | 38' 2"   | 30' 3"  | 26' 5"  |
| 600S162-33 | 12                   | 36' 2"   | 28' 9"  | 25' 1"  |
|            | 16                   | 32' 11"  | 26' 1"  | 22' 10" |
|            | 24                   | 27' 9" f | 22' 10" | 19' 11" |
| 600S162-43 | 12                   | 39' 4"   | 31' 2"  | 27' 3"  |
|            | 16                   | 35' 9"   | 28' 4"  | 24' 9"  |
|            | 24                   | 31' 2"   | 24' 9"  | 21' 8"  |
| 600S162-54 | 12                   | 42' 2"   | 33' 6"  | 29' 3"  |
|            | 16                   | 38' 4"   | 30' 5"  | 26' 7"  |
|            | 24                   | 33' 6"   | 26' 7"  | 23' 3"  |
| 600S162-68 | 12                   | 45' 2"   | 35' 11" | 31' 4"  |
|            | 16                   | 41' 1"   | 32' 7"  | 28' 6"  |
|            | 24                   | 35' 11"  | 28' 6"  | 24' 11" |
| 600S162-97 | 12                   | 50' 3"   | 39' 11" | 34' 10" |
|            | 16                   | 45' 8"   | 36' 3"  | 31' 8"  |
|            | 24                   | 39' 11"  | 31' 8"  | 27' 8"  |

6" Structural Framing

| Member     | Spacing<br>(in) o.c. | Spsf     |         |         |
|------------|----------------------|----------|---------|---------|
|            |                      | L/120    | L/240   | L/360   |
| 600S200-33 | 12                   | 37' 10"  | 30' 1"  | 26' 3"  |
|            | 16                   | 34' 5"   | 27' 4"  | 23' 10" |
|            | 24                   | 28' 5" f | 23' 10" | 20' 10" |
| 600S200-43 | 12                   | 41' 3"   | 32' 9"  | 28' 7"  |
|            | 16                   | 37' 6"   | 29' 9"  | 26' 0"  |
|            | 24                   | 32' 9"   | 26' 0"  | 22' 9"  |
| 600S200-54 | 12                   | 44' 4"   | 35' 2"  | 30' 9"  |
|            | 16                   | 40' 3"   | 32' 0"  | 27' 11" |
|            | 24                   | 35' 2"   | 27' 11" | 24' 5"  |
| 600S200-68 | 12                   | 47' 7"   | 37' 9"  | 33' 0"  |
|            | 16                   | 43' 2"   | 34' 3"  | 29' 11" |
|            | 24                   | 37' 9"   | 29' 11" | 26' 2"  |
| 600S200-97 | 12                   | 52' 11"  | 42' 0"  | 36' 8"  |
|            | 16                   | 48' 1"   | 38' 2"  | 33' 4"  |
|            | 24                   | 42' 0"   | 33' 4"  | 29' 2"  |
| 600S250-43 | 12                   | 43' 3"   | 34' 4"  | 30' 0"  |
|            | 16                   | 39' 3"   | 31' 2"  | 27' 3"  |
|            | 24                   | 34' 4"   | 27' 3"  | 23' 10" |
| 600S250-54 | 12                   | 46' 5"   | 36' 10" | 32' 2"  |
|            | 16                   | 42' 2"   | 33' 6"  | 29' 3"  |
|            | 24                   | 36' 10"  | 29' 3"  | 25' 7"  |
| 600S250-68 | 12                   | 49' 10"  | 39' 7"  | 34' 7"  |
|            | 16                   | 45' 4"   | 35' 11" | 31' 5"  |
|            | 24                   | 39' 7"   | 31' 5"  | 27' 5"  |
| 600S250-97 | 12                   | 55' 7"   | 44' 1"  | 38' 6"  |
|            | 16                   | 50' 6"   | 40' 1"  | 35' 0"  |
|            | 24                   | 44' 1"   | 35' 0"  | 30' 7"  |

6" Structural Framing

## Notes:

- 1 Studs are checked for simple-span deflection and stress. Stress calculations are made for mid-span fully braced moment, end shear through the unperforated section, and shear moment interaction through the perforated section 10" away from the end bearing.
- 2 A 1/3 stress increase is not used.
- 3 Limiting heights are based on continuous lateral support of each flange over the full height of the stud.

- 4 Heights are based on steel properties only.
- 5 End reactions must be checked for web crippling separately.
- 6 Cells having an "f" indicate the limiting height is controlled by stress.
- 7 Cells marked with an " \* " have an  $h/t > 200$  and thus require end stiffeners. Blank cells have an  $h/t > 260$ .

- 8 Capacities are calculated according to the AISI-NASPEC, 2001 with 2004 supplement. A 1-1/2" by 4" knockout spaced no closer than 24" o.c. is assumed. (3/4" for 2-1/2" studs)
- 9 All values are based on  $F_y=33\text{ksi}$ .
- 10 For deflection calculations, interior wall loads have been multiplied by 1.0 per the AISI Standard for Cold-Formed Steel Framing - Wall Stud Design 2004 Edition.

Complies with IBC 2006 & AISI-NASPEC, 2001 with 2004 supplement

The technical content of this literature is effective 2/1/12 and supersedes all previous information.

## INTERIOR WALL HEIGHTS

With structural framing

| Member     | Spacing<br>(in) o.c. | Spsf      |          |          |
|------------|----------------------|-----------|----------|----------|
|            |                      | L/120     | L/240    | L/360    |
| 800S137-33 | 12                   | 40' 6" f* | 34' 1" * | 29' 9" * |
|            | 16                   | 35' 1" f* | 31' 0" * | 27' 1" * |
|            | 24                   | 28' 8" f* | 27' 1" * | 23' 8" * |
| 800S137-43 | 12                   | 47' 2"    | 37' 5"   | 32' 8"   |
|            | 16                   | 42' 1" f  | 34' 0"   | 29' 9"   |
|            | 24                   | 34' 4" f  | 29' 9"   | 25' 11"  |
| 800S137-54 | 12                   | 51' 1"    | 40' 6"   | 35' 5"   |
|            | 16                   | 46' 5"    | 36' 10"  | 32' 2"   |
|            | 24                   | 39' 5" f  | 32' 2"   | 28' 1"   |
| 800S137-68 | 12                   | 54' 10"   | 43' 7"   | 38' 1"   |
|            | 16                   | 49' 10"   | 39' 7"   | 34' 7"   |
|            | 24                   | 43' 7"    | 34' 7"   | 30' 2"   |
| 800S137-97 | 12                   | 61' 1"    | 48' 5"   | 42' 4"   |
|            | 16                   | 55' 6"    | 44' 0"   | 38' 5"   |
|            | 24                   | 48' 5"    | 38' 5"   | 33' 7"   |
| 800S162-33 | 12                   | 43' 4" f* | 35' 6" * | 31' 0" * |
|            | 16                   | 37' 7" f* | 32' 3" * | 28' 2" * |
|            | 24                   | 30' 8" f* | 28' 2" * | 24' 7" * |
| 800S162-43 | 12                   | 49' 1"    | 38' 11"  | 34' 0"   |
|            | 16                   | 44' 7"    | 35' 4"   | 30' 11"  |
|            | 24                   | 36' 8" f  | 30' 11"  | 27' 0"   |
| 800S162-54 | 12                   | 53' 1"    | 42' 2"   | 36' 10"  |
|            | 16                   | 48' 3"    | 38' 3"   | 33' 5"   |
|            | 24                   | 41' 11" f | 33' 5"   | 29' 3"   |
| 800S162-68 | 12                   | 57' 1"    | 45' 4"   | 39' 7"   |
|            | 16                   | 51' 10"   | 41' 2"   | 35' 11"  |
|            | 24                   | 45' 4"    | 35' 11"  | 31' 5"   |
| 800S162-97 | 12                   | 63' 7"    | 50' 5"   | 44' 1"   |
|            | 16                   | 57' 9"    | 45' 10"  | 40' 0"   |
|            | 24                   | 50' 5"    | 40' 0"   | 35' 0"   |

8" Structural Framing

| Member     | Spacing<br>(in) o.c. | Spsf       |           |          |
|------------|----------------------|------------|-----------|----------|
|            |                      | L/120      | L/240     | L/360    |
| 800S200-33 | 12                   | 46' 1" f*  | 37' 10" * | 33' 0" * |
|            | 16                   | 39' 11" f* | 34' 4" *  | 30' 0" * |
|            | 24                   | 32' 7" f*  | 30' 0" *  | 26' 3" * |
| 800S200-43 | 12                   | 51' 10"    | 41' 1"    | 35' 11"  |
|            | 16                   | 47' 1"     | 37' 4"    | 32' 8"   |
|            | 24                   | 41' 1"     | 32' 8"    | 28' 6"   |
| 800S200-54 | 12                   | 55' 8"     | 44' 2"    | 38' 7"   |
|            | 16                   | 50' 7"     | 40' 2"    | 35' 1"   |
|            | 24                   | 44' 2"     | 35' 1"    | 30' 8"   |
| 800S200-68 | 12                   | 59' 9"     | 47' 5"    | 41' 5"   |
|            | 16                   | 54' 3"     | 43' 1"    | 37' 8"   |
|            | 24                   | 47' 5"     | 37' 8"    | 32' 11"  |
| 800S200-97 | 12                   | 66' 8"     | 52' 11"   | 46' 2"   |
|            | 16                   | 60' 6"     | 48' 1"    | 42' 0"   |
|            | 24                   | 52' 11"    | 42' 0"    | 36' 8"   |
| 800S250-43 | 12                   | 54' 0"     | 42' 11"   | 37' 6"   |
|            | 16                   | 49' 1"     | 39' 0"    | 34' 0"   |
|            | 24                   | 41' 7" f   | 34' 0"    | 29' 9"   |
| 800S250-54 | 12                   | 58' 1"     | 46' 1"    | 40' 3"   |
|            | 16                   | 52' 9"     | 41' 11"   | 36' 7"   |
|            | 24                   | 46' 1"     | 36' 7"    | 32' 0"   |
| 800S250-68 | 12                   | 62' 5"     | 49' 6"    | 43' 3"   |
|            | 16                   | 56' 8"     | 45' 0"    | 39' 4"   |
|            | 24                   | 49' 6"     | 39' 4"    | 34' 4"   |
| 800S250-97 | 12                   | 69' 7"     | 55' 3"    | 48' 3"   |
|            | 16                   | 63' 3"     | 50' 2"    | 43' 10"  |
|            | 24                   | 55' 3"     | 43' 10"   | 38' 4"   |

8" Structural Framing

**Notes:**

- 1 Studs are checked for simple-span deflection and stress. Stress calculations are made for mid-span fully braced moment, end shear through the unperforated section, and shear moment interaction through the perforated section 10" away from the end bearing.
- 2 A 1/3 stress increase is not used.
- 3 Limiting heights are based on continuous lateral support of each flange over the full height of the stud.

- 4 Heights are based on steel properties only.
- 5 End reactions must be checked for web crippling separately.
- 6 Cells having an "f" indicate the limiting height is controlled by stress.
- 7 Cells marked with an "\*" have an  $h/t > 200$  and thus require end stiffeners. Blank cells have an  $h/t > 260$ .

- 8 Capacities are calculated according to the AISI-NASPEC, 2001 with 2004 supplement. A 1-1/2" by 4" knockout spaced no closer than 24" o.c. is assumed. (3/4" for 2-1/2" studs)
- 9 All values are based on  $F_y=33\text{ksi}$ .
- 10 For deflection calculations, interior wall loads have been multiplied by 1.0 per the AISI Standard for Cold-Formed Steel Framing - Wall Stud Design 2004 Edition.

Complies with IBC 2006 &amp; AISI-NASPEC, 2001 with 2004 supplement

## Exterior curtain wall overview

### WIND SPEED TO WIND PRESSURE CONVERSION TABLE

Units listed are pounds per square foot (calculations based on  $I=1.0$ ). IBC 2006 (ASCE 7-05).

| Mean roof height | Condition | 90 MPH<br>Exp. B | 90 MPH<br>Exp. C | 100 MPH<br>Exp. B | 100 MPH<br>Exp. C |
|------------------|-----------|------------------|------------------|-------------------|-------------------|
| 15               | Typical   | 14.4             | 17.5             | 17.8              | 21.6              |
| 15               | Corner    | 17.8             | 21.5             | 22.0              | 26.6              |
| 20               | Typical   | 14.4             | 18.6             | 17.8              | 23.0              |
| 20               | Corner    | 17.8             | 22.9             | 22.0              | 28.3              |
| 25               | Typical   | 14.4             | 19.5             | 17.8              | 24.1              |
| 25               | Corner    | 17.8             | 24.0             | 22.0              | 29.6              |
| 30               | Typical   | 14.4             | 20.3             | 17.8              | 25.0              |
| 30               | Corner    | 17.8             | 24.9             | 22.0              | 30.8              |
| 40               | Typical   | 15.7             | 21.5             | 19.4              | 26.6              |
| 40               | Corner    | 19.3             | 26.5             | 23.8              | 32.7              |
| 50               | Typical   | 16.7             | 22.6             | 20.6              | 27.8              |
| 50               | Corner    | 20.6             | 27.8             | 25.4              | 34.3              |
| 60               | Typical   | 17.6             | 23.4             | 21.7              | 28.9              |
| 60               | Corner    | 21.7             | 28.8             | 26.8              | 35.6              |

### Allowable wall heights—curtain wall framing.

Exterior curtain walls must be designed to withstand the highest winds anticipated for the particular construction location. The table on this page converts wind speeds to wind loads. For wind speeds over 100 MPH, please contact technical services at 888-437-3244.

The tables on the following pages provide allowable height limitations for exterior curtain walls subjected to lateral transverse loads. Members shown vary in depth, flange width and steel thickness. Select the studs that are right for your application, also taking into account the acceptable deflection level.

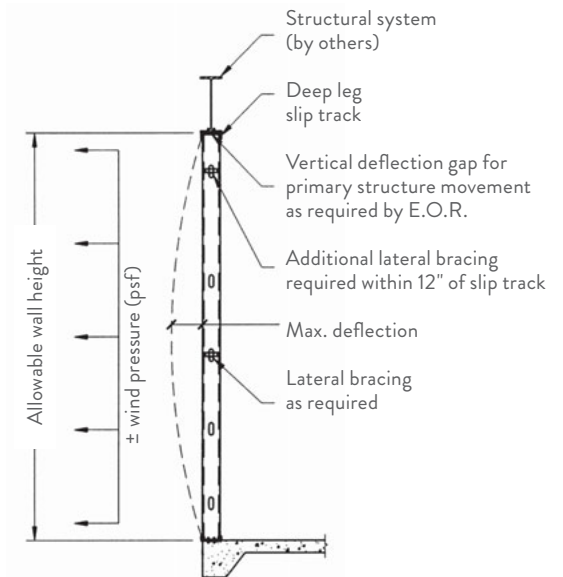
#### Notes:

- 1 Wind loads calculated per the ASCE 7-05 provisions allowed for within the IBC 2006 code.
- 2 Calculations based upon an importance factor of  $I=1.0$ . Essential facilities such as hospitals, fire and police, schools will require higher design wind loads.
- 3 Design wind pressures are based upon a 10 ft<sup>2</sup> tributary area.
- 4 Calculations based upon a directionality factor,  $K_d=0.85$ .
- 5 Calculations based upon roof slope  $\leq 10$  degrees.
- 6 These tables are only to provide a reference for estimating ClarkDietrich members to be used to meet code requirements for non-essential commercial structures. The wind loads have been calculated using the most stringent criteria in the IBC 2006 code.
- 7 Having the steel framing system designed by a professional engineer, in most cases, will result in use of lower wind loads than shown in these tables.

- 8 Typical and corner zones are for zones 4 and 5 respectively per ASCE 7-05 figure 6-5A.
- 9 Lateral loads have not been modified for strength consideration.
- 10 Lateral loads have (or have not, depending on the table) been multiplied by 0.7 for deflection determination per IBC 2006 Table 1604.3.
- 11 The strength increase due to cold work of forming was incorporated for flexural strength as applicable per section A7.2 of AISI-NASPEC, 2001 with 2004 supplement.
- 12 Limiting heights based on continuous support of each flange over the full length of the stud.
- 13 Heights based on steel properties only (i.e., composite wall considerations not included in the deflection calculations).
- 14 Values based on  $F_y=33\text{ksi}$ .
- 15 Check web crippling at supports.
- 16 Adding additional horizontal bridging will not reduce the actual deflection in the wall. To reduce the deflection of a wall stud, either a heavier member is required or an intermediate structural support must be provided.
- 17 Structural bridging (or bracing) recommendations: Bridging of each structural stud flange may be accomplished by mechanical steel bracing or screw attaching a structurally sufficient diaphragm wall panel. Should it be determined the sheathing is not a structurally sufficient diaphragm or that an all-steel solution is required or preferred, horizontal steel bridging is defaulted to be at 4 ft. on center for the purposes of the values shown in this catalog. The actual bridging that is ultimately provided is to be determined by the licensed specialty engineer responsible for the cold-formed steel design for the given project.
- 18 For a top-of-wall application which requires slip track for primary structure movement, mechanical bridging is recommended in the upper most web punchout in the stud (i.e., the punchout nearest the slip track).

### Deflection.

- L/120 Length (height) of stud, in inches, divided by 120 (short interior wall studs)
- L/240 Length (height) of stud, in inches, divided by 240 (interior wall studs, exterior siding or EIFS)
- L/360 Length (height) of stud, in inches, divided by 360 (exterior stucco)
- L/600 Length (height) of stud, in inches, divided by 600 (exterior brick)
- L/720 Length (height) of stud, in inches, divided by 720 (exterior brick)



## CURTAIN WALL HEIGHTS

|                                      | Member     | Spacing<br>(in) o.c. | 15psf    |         |          | 20psf     |         |          | 25psf    |         |          | 30psf    |          |          | 35psf     |          |          | 40psf    |          |        |
|--------------------------------------|------------|----------------------|----------|---------|----------|-----------|---------|----------|----------|---------|----------|----------|----------|----------|-----------|----------|----------|----------|----------|--------|
|                                      |            |                      | L/240    | L/360   | L/600    | L/240     | L/360   | L/600    | L/240    | L/360   | L/600    | L/240    | L/360    | L/600    | L/240     | L/360    | L/600    | L/240    | L/360    | L/600  |
| 3-5/8" Exterior Curtain Wall Framing | 362S137-33 | 12                   | 14' 6"   | 12' 8"  | 10' 8"   | 12' 8" f  | 11' 6"  | 9' 8"    | 11' 4" f | 10' 8"  | 9' 0"    | 10' 4" f | 10' 0"   | 8' 5"    | 9' 7" f   | 9' 6"    | 8' 0"    | 9' 0" f  | 9' 0" f  | 7' 8"  |
|                                      |            | 16                   | 12' 8" f | 11' 6"  | 9' 8"    | 11' 0" f  | 10' 5"  | 8' 10"   | 9' 10" f | 9' 8"   | 8' 2"    | 9' 0" f  | 9' 0" f  | 7' 8"    | 8' 4" f   | 8' 4" f  | 7' 4"    | 7' 9" f  | 7' 9" f  | 7' 0"  |
|                                      |            | 24                   | 10' 4" f | 10' 0"  | 8' 5"    | 9' 0" f   | 9' 0" f | 7' 8"    | 8' 0" f  | 8' 0" f | 7' 2"    | 7' 4" f  | 7' 4" f  | 6' 9"    | 6' 9" f   | 6' 9" f  | 6' 5"    | 6' 4" f  | 6' 4" f  | 6' 1"  |
|                                      | 362S137-43 | 12                   | 15' 8"   | 13' 8"  | 11' 7"   | 14' 3"    | 12' 5"  | 10' 6"   | 13' 3"   | 11' 7"  | 9' 9"    | 12' 5"   | 10' 10"  | 9' 2"    | 11' 10" f | 10' 4"   | 8' 8"    | 11' 1" f | 9' 10"   | 8' 4"  |
|                                      |            | 16                   | 14' 3"   | 12' 5"  | 10' 6"   | 12' 11"   | 11' 4"  | 9' 6"    | 12' 0"   | 10' 6"  | 8' 10"   | 11' 1" f | 9' 10"   | 8' 4"    | 10' 3" f  | 9' 5"    | 7' 11"   | 9' 7" f  | 9' 0"    | 7' 7"  |
|                                      |            | 24                   | 12' 5"   | 10' 10" | 9' 2"    | 11' 1" f  | 9' 10"  | 8' 4"    | 9' 11" f | 9' 2"   | 7' 9"    | 9' 0" f  | 8' 7"    | 7' 3"    | 8' 4" f   | 8' 2"    | 6' 11"   | 7' 10" f | 7' 10" f | 6' 7"  |
|                                      | 362S137-54 | 12                   | 16' 9"   | 14' 8"  | 12' 4"   | 15' 3"    | 13' 4"  | 11' 3"   | 14' 2"   | 12' 4"  | 10' 5"   | 13' 4"   | 11' 8"   | 9' 10"   | 12' 8"    | 11' 1"   | 9' 4"    | 12' 1"   | 10' 7"   | 8' 11" |
|                                      |            | 16                   | 15' 3"   | 13' 4"  | 11' 3"   | 13' 10"   | 12' 1"  | 10' 2"   | 12' 10"  | 11' 3"  | 9' 6"    | 12' 1"   | 10' 7"   | 8' 11"   | 11' 5" f  | 10' 0"   | 8' 6"    | 10' 8" f | 9' 7"    | 8' 1"  |
|                                      |            | 24                   | 13' 4"   | 11' 8"  | 9' 10"   | 12' 1"    | 10' 7"  | 8' 11"   | 11' 0" f | 9' 10"  | 8' 3"    | 10' 1" f | 9' 3"    | 7' 9"    | 9' 4" f   | 8' 9"    | 7' 5"    | 8' 9" f  | 8' 5"    | 7' 1"  |
|                                      | 362S137-68 | 12                   | 17' 11"  | 15' 8"  | 13' 2"   | 16' 3"    | 14' 3"  | 12' 0"   | 15' 1"   | 13' 2"  | 11' 2"   | 14' 3"   | 12' 5"   | 10' 6"   | 13' 6"    | 11' 10"  | 9' 11"   | 12' 11"  | 11' 3"   | 9' 6"  |
|                                      |            | 16                   | 16' 3"   | 14' 3"  | 12' 0"   | 14' 10"   | 12' 11" | 10' 11"  | 13' 9"   | 12' 0"  | 10' 1"   | 12' 11"  | 11' 3"   | 9' 6"    | 12' 3"    | 10' 9"   | 9' 1"    | 11' 9"   | 10' 3"   | 8' 8"  |
|                                      |            | 24                   | 14' 3"   | 12' 5"  | 10' 6"   | 12' 11"   | 11' 3"  | 9' 6"    | 12' 0"   | 10' 6"  | 8' 10"   | 11' 3" f | 9' 10"   | 8' 4"    | 10' 5" f  | 9' 4"    | 7' 11"   | 9' 9" f  | 9' 0"    | 7' 7"  |
|                                      | 362S137-97 | 12                   | 19' 10"  | 17' 4"  | 14' 7"   | 18' 0"    | 15' 9"  | 13' 3"   | 16' 9"   | 14' 7"  | 12' 4"   | 15' 9"   | 13' 9"   | 11' 7"   | 14' 11"   | 13' 1"   | 11' 0"   | 14' 3"   | 12' 6"   | 10' 6" |
|                                      |            | 16                   | 18' 0"   | 15' 9"  | 13' 3"   | 16' 4"    | 14' 3"  | 12' 1"   | 15' 2"   | 13' 3"  | 11' 2"   | 14' 3"   | 12' 6"   | 10' 6"   | 13' 7"    | 11' 10"  | 10' 0"   | 13' 0"   | 11' 4"   | 9' 7"  |
|                                      |            | 24                   | 15' 9"   | 13' 9"  | 11' 7"   | 14' 3"    | 12' 6"  | 10' 6"   | 13' 3"   | 11' 7"  | 9' 9"    | 12' 6"   | 10' 11"  | 9' 2"    | 11' 10"   | 10' 4"   | 8' 9"    | 11' 4"   | 9' 11"   | 8' 4"  |
|                                      | 362S162-33 | 12                   | 15' 2"   | 13' 3"  | 11' 2"   | 13' 7" f  | 12' 0"  | 10' 2"   | 12' 2" f | 11' 2"  | 9' 5"    | 11' 1" f | 10' 6"   | 8' 10"   | 10' 4" f  | 10' 0"   | 8' 5"    | 9' 8" f  | 9' 6"    | 8' 1"  |
|                                      |            | 16                   | 13' 7" f | 12' 0"  | 10' 2"   | 11' 10" f | 10' 11" | 9' 3"    | 10' 7" f | 10' 2"  | 8' 7"    | 9' 8" f  | 9' 6"    | 8' 1"    | 8' 11" f  | 8' 11" f | 7' 8"    | 8' 4" f  | 8' 4" f  | 7' 4"  |
|                                      |            | 24                   | 11' 1" f | 10' 6"  | 8' 10"   | 9' 8" f   | 9' 6"   | 8' 1"    | 8' 7" f  | 8' 7" f | 7' 6"    | 7' 10" f | 7' 10" f | 7' 0"    | 7' 3" f   | 7' 3" f  | 6' 8"    | 6' 10" f | 6' 10" f | 6' 5"  |
|                                      | 362S162-43 | 12                   | 16' 5"   | 14' 4"  | 12' 1"   | 14' 11"   | 13' 0"  | 11' 0"   | 13' 10"  | 12' 1"  | 10' 3"   | 13' 0"   | 11' 5"   | 9' 7"    | 12' 5"    | 10' 10"  | 9' 2"    | 11' 9" f | 10' 4"   | 8' 9"  |
|                                      |            | 16                   | 14' 11"  | 13' 0"  | 11' 0"   | 13' 7"    | 11' 10" | 10' 0"   | 12' 7"   | 11' 0"  | 9' 3"    | 11' 9" f | 10' 4"   | 8' 9"    | 10' 11" f | 9' 10"   | 8' 3"    | 10' 2" f | 9' 5"    | 7' 11" |
| 24                                   |            | 13' 0"               | 11' 5"   | 9' 7"   | 11' 9" f | 10' 4"    | 8' 9"   | 10' 6" f | 9' 7"    | 8' 1"   | 9' 7" f  | 9' 0"    | 7' 7"    | 8' 11" f | 8' 7"     | 7' 3"    | 8' 4" f  | 8' 3"    | 6' 11"   |        |
| 362S162-54                           | 12         | 17' 7"               | 15' 5"   | 13' 0"  | 16' 0"   | 14' 0"    | 11' 9"  | 14' 10"  | 13' 0"   | 10' 11" | 14' 0"   | 12' 2"   | 10' 4"   | 13' 3"   | 11' 7"    | 9' 9"    | 12' 8"   | 11' 1"   | 9' 4"    |        |
|                                      | 16         | 16' 0"               | 14' 0"   | 11' 9"  | 14' 6"   | 12' 8"    | 10' 8"  | 13' 6"   | 11' 9"   | 9' 11"  | 12' 8"   | 11' 1"   | 9' 4"    | 12' 1"   | 10' 6"    | 8' 11"   | 11' 5" f | 10' 1"   | 8' 6"    |        |
|                                      | 24         | 14' 0"               | 12' 2"   | 10' 4"  | 12' 8"   | 11' 1"    | 9' 4"   | 11' 9" f | 10' 4"   | 8' 8"   | 10' 9" f | 9' 8"    | 8' 2"    | 9' 11" f | 9' 2"     | 7' 9"    | 9' 4" f  | 8' 10"   | 7' 5"    |        |
| 362S162-68                           | 12         | 18' 10"              | 16' 5"   | 13' 10" | 17' 1"   | 14' 11"   | 12' 7"  | 15' 11"  | 13' 10"  | 11' 8"  | 14' 11"  | 13' 1"   | 11' 0"   | 14' 2"   | 12' 5"    | 10' 5"   | 13' 7"   | 11' 10"  | 10' 0"   |        |
|                                      | 16         | 17' 1"               | 14' 11"  | 12' 7"  | 15' 6"   | 13' 7"    | 11' 5"  | 14' 5"   | 12' 7"   | 10' 8"  | 13' 7"   | 11' 10"  | 10' 0"   | 12' 11"  | 11' 3"    | 9' 6"    | 12' 4"   | 10' 9"   | 9' 1"    |        |
|                                      | 24         | 14' 11"              | 13' 1"   | 11' 0"  | 13' 7"   | 11' 10"   | 10' 0"  | 12' 7"   | 11' 0"   | 9' 3"   | 11' 10"  | 10' 4"   | 8' 9"    | 11' 1" f | 9' 10"    | 8' 4"    | 10' 5" f | 9' 5"    | 7' 11"   |        |
| 362S162-97                           | 12         | 20' 10"              | 18' 3"   | 15' 4"  | 18' 11"  | 16' 7"    | 13' 11" | 17' 7"   | 15' 4"   | 12' 11" | 16' 7"   | 14' 5"   | 12' 2"   | 15' 9"   | 13' 9"    | 11' 7"   | 15' 0"   | 13' 2"   | 11' 1"   |        |
|                                      | 16         | 18' 11"              | 16' 7"   | 13' 11" | 17' 3"   | 15' 0"    | 12' 8"  | 16' 0"   | 13' 11"  | 11' 9"  | 15' 0"   | 13' 2"   | 11' 1"   | 14' 3"   | 12' 6"    | 10' 6"   | 13' 8"   | 11' 11"  | 10' 1"   |        |
|                                      | 24         | 16' 7"               | 14' 5"   | 12' 2"  | 15' 0"   | 13' 2"    | 11' 1"  | 13' 11"  | 12' 2"   | 10' 3"  | 13' 2"   | 11' 6"   | 9' 8"    | 12' 6"   | 10' 11"   | 9' 2"    | 11' 11"  | 10' 5"   | 8' 10"   |        |

## Notes:

- 1 Studs are checked for simple-span deflection and stress. Stress calculations are made for mid-span fully braced moment, end shear through the unperforated section, and shear moment interaction through the perforated section 10" away from the end bearing.
- 2 A 1/3 stress increase is not used.
- 3 Limiting heights are based on continuous lateral support of each flange over the full height of the stud.
- 4 Heights are based on steel properties only.
- 5 End reactions must be checked for web crippling separately.
- 6 Cells having an "f" indicate the limiting height is controlled by stress.
- 7 Cells marked with an " \* " have an  $h/t > 200$  and thus require end stiffeners. Blank cells have an  $h/t > 260$ .
- 8 Capacities are calculated according to the AISI-NASPEC, 2001 with 2004 supplement. A 1-1/2" by 4" knockout spaced no closer than 24" o.c. is assumed. (3/4" for 2-1/2" studs)
- 9 All values are based on  $F_y=33\text{ksi}$ .
- 10 For deflection calculations, wind loads have been multiplied by 0.7 per the AISI Standard for Cold-Formed Steel Framing - Wall Stud Design 2004 Edition except for the 5psf load which is considered an interior wall load.

Complies with IBC 2006 &amp; AISI-NASPEC, 2001 with 2004 supplement

## CURTAIN WALL HEIGHTS

|                                              | Member     | Spacing<br>(in) o.c. | 15psf    |         |         | 20psf    |          |         | 25psf     |          |         | 30psf    |          |         | 35psf     |         |         | 40psf    |          |        |
|----------------------------------------------|------------|----------------------|----------|---------|---------|----------|----------|---------|-----------|----------|---------|----------|----------|---------|-----------|---------|---------|----------|----------|--------|
|                                              |            |                      | L/240    | L/360   | L/600   | L/240    | L/360    | L/600   | L/240     | L/360    | L/600   | L/240    | L/360    | L/600   | L/240     | L/360   | L/600   | L/240    | L/360    | L/600  |
| 3-5/8" Exterior Curtain Wall Framing (cont.) | 362S200-33 | 12                   | 15' 11"  | 13' 11" | 11' 9"  | 14' 2" f | 12' 8"   | 10' 8"  | 12' 8" f  | 11' 9"   | 9' 11"  | 11' 7" f | 11' 0"   | 9' 4"   | 10' 8" f  | 10' 6"  | 8' 10"  | 10' 0" f | 10' 0" f | 8' 5"  |
|                                              |            | 16                   | 14' 2" f | 12' 8"  | 10' 8"  | 12' 3" f | 11' 6"   | 9' 8"   | 10' 11" f | 10' 8"   | 9' 0"   | 10' 0" f | 10' 0" f | 8' 5"   | 9' 3" f   | 9' 3" f | 8' 0"   | 8' 8" f  | 8' 8" f  | 7' 8"  |
|                                              |            | 24                   | 11' 7" f | 11' 0"  | 9' 4"   | 10' 0" f | 10' 0" f | 8' 5"   | 8' 11" f  | 8' 11" f | 7' 10"  | 8' 2" f  | 8' 2" f  | 7' 5"   | 7' 7" f   | 7' 7" f | 7' 0"   | 7' 1" f  | 7' 1" f  | 6' 9"  |
|                                              | 362S200-43 | 12                   | 17' 4"   | 15' 2"  | 12' 9"  | 15' 9"   | 13' 9"   | 11' 7"  | 14' 8"    | 12' 9"   | 10' 9"  | 13' 9"   | 12' 0"   | 10' 2"  | 12' 11" f | 11' 5"  | 9' 8"   | 12' 1" f | 10' 11"  | 9' 3"  |
|                                              |            | 16                   | 15' 9"   | 13' 9"  | 11' 7"  | 14' 4"   | 12' 6"   | 10' 7"  | 13' 3" f  | 11' 7"   | 9' 10"  | 12' 1" f | 10' 11"  | 9' 3"   | 11' 2" f  | 10' 5"  | 8' 9"   | 10' 6" f | 9' 11"   | 8' 4"  |
|                                              |            | 24                   | 13' 9"   | 12' 0"  | 10' 2"  | 12' 1" f | 10' 11"  | 9' 3"   | 10' 10" f | 10' 2"   | 8' 7"   | 9' 10" f | 9' 7"    | 8' 1"   | 9' 2" f   | 9' 1"   | 7' 8"   | 8' 7" f  | 8' 7" f  | 7' 4"  |
|                                              | 362S200-54 | 12                   | 18' 7"   | 16' 3"  | 13' 8"  | 16' 11"  | 14' 9"   | 12' 5"  | 15' 8"    | 13' 8"   | 11' 7"  | 14' 9"   | 12' 11"  | 10' 11" | 14' 0"    | 12' 3"  | 10' 4"  | 13' 5"   | 11' 9"   | 9' 11" |
|                                              |            | 16                   | 16' 11"  | 14' 9"  | 12' 5"  | 15' 4"   | 13' 5"   | 11' 4"  | 14' 3"    | 12' 5"   | 10' 6"  | 13' 5"   | 11' 9"   | 9' 11"  | 12' 9"    | 11' 2"  | 9' 5"   | 12' 2"   | 10' 8"   | 9' 0"  |
|                                              |            | 24                   | 14' 9"   | 12' 11" | 10' 11" | 13' 5"   | 11' 9"   | 9' 11"  | 12' 5"    | 10' 11"  | 9' 2"   | 11' 7" f | 10' 3"   | 8' 8"   | 10' 9" f  | 9' 9"   | 8' 2"   | 10' 0" f | 9' 4"    | 7' 10" |
|                                              | 362S200-68 | 12                   | 19' 11"  | 17' 5"  | 14' 8"  | 18' 1"   | 15' 10"  | 13' 4"  | 16' 10"   | 14' 8"   | 12' 5"  | 15' 10"  | 13' 10"  | 11' 8"  | 15' 0"    | 13' 1"  | 11' 1"  | 14' 4"   | 12' 7"   | 10' 7" |
|                                              |            | 16                   | 18' 1"   | 15' 10" | 13' 4"  | 16' 5"   | 14' 4"   | 12' 1"  | 15' 3"    | 13' 4"   | 11' 3"  | 14' 4"   | 12' 7"   | 10' 7"  | 13' 8"    | 11' 11" | 10' 1"  | 13' 1"   | 11' 5"   | 9' 7"  |
|                                              |            | 24                   | 15' 10"  | 13' 10" | 11' 8"  | 14' 4"   | 12' 7"   | 10' 7"  | 13' 4"    | 11' 8"   | 9' 10"  | 12' 7"   | 11' 0"   | 9' 3"   | 11' 11"   | 10' 5"  | 8' 9"   | 11' 3" f | 9' 11"   | 8' 5"  |
|                                              | 362S200-97 | 12                   | 22' 1"   | 19' 4"  | 16' 3"  | 20' 1"   | 17' 6"   | 14' 9"  | 18' 8"    | 16' 3"   | 13' 9"  | 17' 6"   | 15' 4"   | 12' 11" | 16' 8"    | 14' 7"  | 12' 3"  | 15' 11"  | 13' 11"  | 11' 9" |
|                                              |            | 16                   | 20' 1"   | 17' 6"  | 14' 9"  | 18' 3"   | 15' 11"  | 13' 5"  | 16' 11"   | 14' 9"   | 12' 6"  | 15' 11"  | 13' 11"  | 11' 9"  | 15' 2"    | 13' 3"  | 11' 2"  | 14' 6"   | 12' 8"   | 10' 8" |
|                                              |            | 24                   | 17' 6"   | 15' 4"  | 12' 11" | 15' 11"  | 13' 11"  | 11' 9"  | 14' 9"    | 12' 11"  | 10' 11" | 13' 11"  | 12' 2"   | 10' 3"  | 13' 3"    | 11' 7"  | 9' 9"   | 12' 8"   | 11' 1"   | 9' 4"  |
|                                              | 362S250-43 | 12                   | 18' 4"   | 16' 0"  | 13' 6"  | 16' 7"   | 14' 6"   | 12' 3"  | 15' 5"    | 13' 6"   | 11' 4"  | 14' 4" f | 12' 8"   | 10' 8"  | 13' 3" f  | 12' 1"  | 10' 2"  | 12' 5" f | 11' 6"   | 9' 9"  |
|                                              |            | 16                   | 16' 7"   | 14' 6"  | 12' 3"  | 15' 1"   | 13' 2"   | 11' 2"  | 13' 7" f  | 12' 3"   | 10' 4"  | 12' 5" f | 11' 6"   | 9' 9"   | 11' 6" f  | 10' 11" | 9' 3"   | 10' 9" f | 10' 6"   | 8' 10" |
|                                              |            | 24                   | 14' 4" f | 12' 8"  | 10' 8"  | 12' 5" f | 11' 6"   | 9' 9"   | 11' 1" f  | 10' 8"   | 9' 0"   | 10' 1" f | 10' 1"   | 8' 6"   | 9' 4" f   | 9' 4" f | 8' 1"   | 8' 9" f  | 8' 9" f  | 7' 9"  |
|                                              | 362S250-54 | 12                   | 19' 8"   | 17' 2"  | 14' 6"  | 17' 10"  | 15' 7"   | 13' 2"  | 16' 7"    | 14' 6"   | 12' 2"  | 15' 7"   | 13' 7"   | 11' 6"  | 14' 10"   | 12' 11" | 10' 11" | 14' 1" f | 12' 4"   | 10' 5" |
|                                              |            | 16                   | 17' 10"  | 15' 7"  | 13' 2"  | 16' 2"   | 14' 2"   | 11' 11" | 15' 0"    | 13' 2"   | 11' 1"  | 14' 1" f | 12' 4"   | 10' 5"  | 13' 1" f  | 11' 9"  | 9' 11"  | 12' 2" f | 11' 3"   | 9' 6"  |
|                                              |            | 24                   | 15' 7"   | 13' 7"  | 11' 6"  | 14' 1" f | 12' 4"   | 10' 5"  | 12' 7" f  | 11' 6"   | 9' 8"   | 11' 6" f | 10' 10"  | 9' 1"   | 10' 8" f  | 10' 3"  | 8' 8"   | 10' 0" f | 9' 10"   | 8' 3"  |
|                                              | 362S250-68 | 12                   | 21' 0"   | 18' 4"  | 15' 6"  | 19' 1"   | 16' 8"   | 14' 1"  | 17' 9"    | 15' 6"   | 13' 1"  | 16' 8"   | 14' 7"   | 12' 4"  | 15' 10"   | 13' 10" | 11' 8"  | 15' 2"   | 13' 3"   | 11' 2" |
|                                              |            | 16                   | 19' 1"   | 16' 8"  | 14' 1"  | 17' 4"   | 15' 2"   | 12' 10" | 16' 1"    | 14' 1"   | 11' 10" | 15' 2"   | 13' 3"   | 11' 2"  | 14' 5"    | 12' 7"  | 10' 7"  | 13' 9"   | 12' 0"   | 10' 2" |
|                                              |            | 24                   | 16' 8"   | 14' 7"  | 12' 4"  | 15' 2"   | 13' 3"   | 11' 2"  | 14' 1"    | 12' 4"   | 10' 4"  | 13' 3"   | 11' 7"   | 9' 9"   | 12' 7"    | 11' 0"  | 9' 3"   | 12' 0"   | 10' 6"   | 8' 10" |
|                                              | 362S250-97 | 12                   | 23' 4"   | 20' 5"  | 17' 3"  | 21' 3"   | 18' 7"   | 15' 8"  | 19' 8"    | 17' 3"   | 14' 6"  | 18' 7"   | 16' 2"   | 13' 8"  | 17' 7"    | 15' 5"  | 13' 0"  | 16' 10"  | 14' 9"   | 12' 5" |
|                                              |            | 16                   | 21' 3"   | 18' 7"  | 15' 8"  | 19' 3"   | 16' 10"  | 14' 3"  | 17' 11"   | 15' 8"   | 13' 2"  | 16' 10"  | 14' 9"   | 12' 5"  | 16' 0"    | 14' 0"  | 11' 10" | 15' 4"   | 13' 4"   | 11' 3" |
|                                              |            | 24                   | 18' 7"   | 16' 2"  | 13' 8"  | 16' 10"  | 14' 9"   | 12' 5"  | 15' 8"    | 13' 8"   | 11' 6"  | 14' 9"   | 12' 10"  | 10' 10" | 14' 0"    | 12' 3"  | 10' 4"  | 13' 4"   | 11' 8"   | 9' 10" |

### Notes:

- Studs are checked for simple-span deflection and stress. Stress calculations are made for mid-span fully braced moment, end shear through the unperforated section, and shear moment interaction through the perforated section 10" away from the end bearing.
- A 1/3 stress increase is not used.
- Limiting heights are based on continuous lateral support of each flange over the full height of the stud.
- Heights are based on steel properties only.
- End reactions must be checked for web crippling separately.
- Cells having an "f" indicate the limiting height is controlled by stress.
- Cells marked with an " \* " have an  $h/t > 200$  and thus require end stiffeners. Blank cells have an  $h/t > 260$ .
- Capacities are calculated according to the AISI-NASPEC, 2001 with 2004 supplement. A 1-1/2" by 4" knockout spaced no closer than 24" o.c. is assumed. (3/4" for 2-1/2" studs)
- All values are based on  $F_y = 33 \text{ ksi}$ .
- For deflection calculations, wind loads have been multiplied by 0.7 per the AISI Standard for Cold-Formed Steel Framing - Wall Stud Design 2004 Edition except for the 5psf load which is considered an interior wall load.

Complies with IBC 2006 & AISI-NASPEC, 2001 with 2004 supplement

Pub. No. CD-STR-TechGuide 2/12

The technical content of this literature is effective 2/1/12 and supersedes all previous information.

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## CURTAIN WALL HEIGHTS

|                                  | Member     | Spacing<br>(in) o.c. | 15psf     |         |          | 20psf    |          |          | 25psf     |          |          | 30psf     |          |           | 35psf     |          |          | 40psf    |          |        |
|----------------------------------|------------|----------------------|-----------|---------|----------|----------|----------|----------|-----------|----------|----------|-----------|----------|-----------|-----------|----------|----------|----------|----------|--------|
|                                  |            |                      | L/240     | L/360   | L/600    | L/240    | L/360    | L/600    | L/240     | L/360    | L/600    | L/240     | L/360    | L/600     | L/240     | L/360    | L/600    | L/240    | L/360    | L/600  |
| 4" Exterior Curtain Wall Framing | 400S137-33 | 12                   | 15' 6" f  | 13' 8"  | 11' 6"   | 13' 5" f | 12' 5"   | 10' 5"   | 12' 0" f  | 11' 6"   | 9' 8"    | 11' 0" f  | 10' 10"  | 9' 2"     | 10' 2" f  | 10' 2" f | 8' 8"    | 9' 6" f  | 9' 6" f  | 8' 4"  |
|                                  |            | 16                   | 13' 5" f  | 12' 5"  | 10' 5"   | 11' 8" f | 11' 3"   | 9' 6"    | 10' 5" f  | 10' 5" f | 8' 10"   | 9' 6" f   | 9' 6" f  | 8' 4"     | 8' 10" f  | 8' 10" f | 7' 11"   | 8' 3" f  | 8' 3" f  | 7' 6"  |
|                                  |            | 24                   | 11' 0" f  | 10' 10" | 9' 2"    | 9' 6" f  | 9' 6" f  | 8' 4"    | 8' 6" f   | 8' 6" f  | 7' 8"    | 7' 9" f   | 7' 9" f  | 7' 3"     | 7' 2" f   | 7' 2" f  | 6' 11"   | 6' 9" f  | 6' 9" f  | 6' 7"  |
|                                  | 400S137-43 | 12                   | 16' 11"   | 14' 9"  | 12' 6"   | 15' 5"   | 13' 5"   | 11' 4"   | 14' 1" f  | 12' 6"   | 10' 6"   | 12' 11" f | 11' 9"   | 9' 11"    | 11' 11" f | 11' 2"   | 9' 5"    | 11' 2" f | 10' 8"   | 9' 0"  |
|                                  |            | 16                   | 15' 5"    | 13' 5"  | 11' 4"   | 13' 8" f | 12' 2"   | 10' 4"   | 12' 3" f  | 11' 4"   | 9' 7"    | 11' 2" f  | 10' 8"   | 9' 0"     | 10' 4" f  | 10' 2"   | 8' 7"    | 9' 8" f  | 9' 8" f  | 8' 2"  |
|                                  |            | 24                   | 12' 11" f | 11' 9"  | 9' 11"   | 11' 2" f | 10' 8"   | 9' 0"    | 10' 0" f  | 9' 11"   | 8' 4"    | 9' 1" f   | 9' 1" f  | 7' 10"    | 8' 5" f   | 8' 5" f  | 7' 6"    | 7' 11" f | 7' 11" f | 7' 2"  |
|                                  | 400S137-54 | 12                   | 18' 1"    | 15' 10" | 13' 4"   | 16' 6"   | 14' 5"   | 12' 2"   | 15' 3"    | 13' 4"   | 11' 3"   | 14' 5"    | 12' 7"   | 10' 7"    | 13' 8"    | 11' 11"  | 10' 1"   | 13' 1"   | 11' 5"   | 9' 8"  |
|                                  |            | 16                   | 16' 6"    | 14' 5"  | 12' 2"   | 15' 0"   | 13' 1"   | 11' 0"   | 13' 11"   | 12' 2"   | 10' 3"   | 13' 1"    | 11' 5"   | 9' 8"     | 12' 3" f  | 10' 10"  | 9' 2"    | 11' 6" f | 10' 4"   | 8' 9"  |
|                                  |            | 24                   | 14' 5"    | 12' 7"  | 10' 7"   | 13' 1"   | 11' 5"   | 9' 8"    | 11' 10" f | 10' 7"   | 8' 11"   | 10' 10" f | 10' 0"   | 8' 5"     | 10' 0" f  | 9' 6"    | 8' 0"    | 9' 4" f  | 9' 1"    | 7' 8"  |
|                                  | 400S137-68 | 12                   | 19' 4"    | 16' 11" | 14' 3"   | 17' 7"   | 15' 5"   | 13' 0"   | 16' 4"    | 14' 3"   | 12' 0"   | 15' 5"    | 13' 5"   | 11' 4"    | 14' 7"    | 12' 9"   | 10' 9"   | 14' 0"   | 12' 2"   | 10' 4" |
|                                  |            | 16                   | 17' 7"    | 15' 5"  | 13' 0"   | 16' 0"   | 14' 0"   | 11' 9"   | 14' 10"   | 13' 0"   | 10' 11"  | 14' 0"    | 12' 2"   | 10' 4"    | 13' 3"    | 11' 7"   | 9' 9"    | 12' 8"   | 11' 1"   | 9' 4"  |
|                                  |            | 24                   | 15' 5"    | 13' 5"  | 11' 4"   | 14' 0"   | 12' 2"   | 10' 4"   | 13' 0"    | 11' 4"   | 9' 7"    | 12' 1" f  | 10' 8"   | 9' 0"     | 11' 2" f  | 10' 2"   | 8' 7"    | 10' 6" f | 9' 8"    | 8' 2"  |
|                                  | 400S137-97 | 12                   | 21' 5"    | 18' 9"  | 15' 10"  | 19' 6"   | 17' 0"   | 14' 4"   | 18' 1"    | 15' 10"  | 13' 4"   | 17' 0"    | 14' 10"  | 12' 6"    | 16' 2"    | 14' 1"   | 11' 11"  | 15' 5"   | 13' 6"   | 11' 5" |
|                                  |            | 16                   | 19' 6"    | 17' 0"  | 14' 4"   | 17' 8"   | 15' 5"   | 13' 0"   | 16' 5"    | 14' 4"   | 12' 1"   | 15' 5"    | 13' 6"   | 11' 5"    | 14' 8"    | 12' 10"  | 10' 10"  | 14' 1"   | 12' 3"   | 10' 4" |
|                                  |            | 24                   | 17' 0"    | 14' 10" | 12' 6"   | 15' 5"   | 13' 6"   | 11' 5"   | 14' 4"    | 12' 6"   | 10' 7"   | 13' 6"    | 11' 10"  | 9' 11"    | 12' 10"   | 11' 2"   | 9' 5"    | 12' 3"   | 10' 9"   | 9' 0"  |
|                                  | 400S162-33 | 12                   | 16' 4"    | 14' 3"  | 12' 0"   | 14' 5" f | 13' 0"   | 10' 11"  | 12' 11" f | 12' 0"   | 10' 2"   | 11' 9" f  | 11' 4"   | 9' 7"     | 10' 11" f | 10' 9"   | 9' 1"    | 10' 2" f | 10' 2" f | 8' 8"  |
|                                  |            | 16                   | 14' 5" f  | 13' 0"  | 10' 11"  | 12' 6" f | 11' 9"   | 9' 11"   | 11' 2" f  | 10' 11"  | 9' 3"    | 10' 2" f  | 10' 2" f | 8' 8"     | 9' 5" f   | 9' 5" f  | 8' 3"    | 8' 10" f | 8' 10" f | 7' 11" |
|                                  |            | 24                   | 11' 9" f  | 11' 4"  | 9' 7"    | 10' 2" f | 10' 2" f | 8' 8"    | 9' 1" f   | 9' 1" f  | 8' 1"    | 8' 4" f   | 8' 4" f  | 7' 7"     | 7' 8" f   | 7' 8" f  | 7' 2"    | 7' 2" f  | 7' 2" f  | 6' 11" |
|                                  |            | 12                   | 17' 9"    | 15' 6"  | 13' 1"   | 16' 1"   | 14' 1"   | 11' 10"  | 14' 11"   | 13' 1"   | 11' 0"   | 13' 10" f | 12' 3"   | 10' 4"    | 12' 10" f | 11' 8"   | 9' 10"   | 12' 0" f | 11' 2"   | 9' 5"  |
|                                  |            | 16                   | 16' 1"    | 14' 1"  | 11' 10"  | 14' 8"   | 12' 9"   | 10' 9"   | 13' 2" f  | 11' 10"  | 10' 0"   | 12' 0" f  | 11' 2"   | 9' 5"     | 11' 1" f  | 10' 7"   | 8' 11"   | 10' 5" f | 10' 2"   | 8' 7"  |
| 24                               |            | 13' 10" f            | 12' 3"    | 10' 4"  | 12' 0" f | 11' 2"   | 9' 5"    | 10' 9" f | 10' 4"    | 8' 9"    | 9' 9" f  | 9' 9"     | 8' 3"    | 9' 1" f   | 9' 1" f   | 7' 10"   | 8' 6" f  | 8' 6" f  | 7' 6"    |        |
| 12                               |            | 19' 0"               | 16' 7"    | 14' 0"  | 17' 3"   | 15' 1"   | 12' 9"   | 16' 0"   | 14' 0"    | 11' 10"  | 15' 1"   | 13' 2"    | 11' 1"   | 14' 4"    | 12' 6"    | 10' 7"   | 13' 8"   | 12' 0"   | 10' 1"   |        |
| 16                               |            | 17' 3"               | 15' 1"    | 12' 9"  | 15' 8"   | 13' 8"   | 11' 7"   | 14' 7"   | 12' 9"    | 10' 9"   | 13' 8"   | 12' 0"    | 10' 1"   | 13' 0"    | 11' 4"    | 9' 7"    | 12' 3" f | 10' 10"  | 9' 2"    |        |
| 24                               |            | 15' 1"               | 13' 2"    | 11' 1"  | 13' 8"   | 12' 0"   | 10' 1"   | 12' 7" f | 11' 1"    | 9' 4"    | 11' 6" f | 10' 5"    | 8' 10"   | 10' 8" f  | 9' 11"    | 8' 5"    | 10' 0" f | 9' 6"    | 8' 0"    |        |
| 12                               |            | 20' 4"               | 17' 9"    | 15' 0"  | 18' 6"   | 16' 2"   | 13' 7"   | 17' 2"   | 15' 0"    | 12' 8"   | 16' 2"   | 14' 1"    | 11' 11"  | 15' 4"    | 13' 5"    | 11' 4"   | 14' 8"   | 12' 10"  | 10' 10"  |        |
| 16                               |            | 18' 6"               | 16' 2"    | 13' 7"  | 16' 9"   | 14' 8"   | 12' 4"   | 15' 7"   | 13' 7"    | 11' 6"   | 14' 8"   | 12' 10"   | 10' 10"  | 13' 11"   | 12' 2"    | 10' 3"   | 13' 4"   | 11' 8"   | 9' 10"   |        |
| 24                               |            | 16' 2"               | 14' 1"    | 11' 11" | 14' 8"   | 12' 10"  | 10' 10"  | 13' 7"   | 11' 11"   | 10' 0"   | 12' 10"  | 11' 2"    | 9' 5"    | 11' 11" f | 10' 8"    | 9' 0"    | 11' 2" f | 10' 2"   | 8' 7"    |        |
| 400S162-97                       | 12         | 22' 6"               | 19' 8"    | 16' 7"  | 20' 6"   | 17' 11"  | 15' 1"   | 19' 0"   | 16' 7"    | 14' 0"   | 17' 11"  | 15' 7"    | 13' 2"   | 17' 0"    | 14' 10"   | 12' 6"   | 16' 3"   | 14' 2"   | 12' 0"   |        |
|                                  | 16         | 20' 6"               | 17' 11"   | 15' 1"  | 18' 7"   | 16' 3"   | 13' 8"   | 17' 3"   | 15' 1"    | 12' 9"   | 16' 3"   | 14' 2"    | 12' 0"   | 15' 5"    | 13' 6"    | 11' 4"   | 14' 9"   | 12' 11"  | 10' 11"  |        |
|                                  | 24         | 17' 11"              | 15' 7"    | 13' 2"  | 16' 3"   | 14' 2"   | 12' 0"   | 15' 1"   | 13' 2"    | 11' 1"   | 14' 2"   | 12' 5"    | 10' 6"   | 13' 6"    | 11' 9"    | 9' 11"   | 12' 11"  | 11' 3"   | 9' 6"    |        |

## Notes:

- 1 Studs are checked for simple-span deflection and stress. Stress calculations are made for mid-span fully braced moment, end shear through the unperforated section, and shear moment interaction through the perforated section 10" away from the end bearing.
- 2 A 1/3 stress increase is not used.
- 3 Limiting heights are based on continuous lateral support of each flange over the full height of the stud.

- 4 Heights are based on steel properties only.
- 5 End reactions must be checked for web crippling separately.
- 6 Cells having an "f" indicate the limiting height is controlled by stress.
- 7 Cells marked with an " \* " have an  $h/t > 200$  and thus require end stiffeners. Blank cells have an  $h/t > 260$ .

- 8 Capacities are calculated according to the AISI-NASPEC, 2001 with 2004 supplement. A 1-1/2" by 4" knockout spaced no closer than 24" o.c. is assumed. (3/4" for 2-1/2" studs)
- 9 All values are based on  $F_y=33\text{ksi}$ .
- 10 For deflection calculations, wind loads have been multiplied by 0.7 per the AISI Standard for Cold-Formed Steel Framing - Wall Stud Design 2004 Edition except for the 5psf load which is considered an interior wall load.

Complies with IBC 2006 &amp; AISI-NASPEC, 2001 with 2004 supplement

## CURTAIN WALL HEIGHTS

| Member     | Spacing<br>(in) o.c. | 15psf     |         |         | 20psf     |          |         | 25psf    |         |         | 30psf     |          |         | 35psf     |          |         | 40psf     |          |         |
|------------|----------------------|-----------|---------|---------|-----------|----------|---------|----------|---------|---------|-----------|----------|---------|-----------|----------|---------|-----------|----------|---------|
|            |                      | L/240     | L/360   | L/600   | L/240     | L/360    | L/600   | L/240    | L/360   | L/600   | L/240     | L/360    | L/600   | L/240     | L/360    | L/600   | L/240     | L/360    | L/600   |
| 400S200-33 | 12                   | 17' 2"    | 15' 0"  | 12' 8"  | 15' 0" f  | 13' 7"   | 11' 6"  | 13' 5" f | 12' 8"  | 10' 8"  | 12' 3" f  | 11' 11"  | 10' 0"  | 11' 4" f  | 11' 4"   | 9' 6"   | 10' 7" f  | 10' 7" f | 9' 1"   |
|            | 16                   | 15' 0" f  | 13' 7"  | 11' 6"  | 12' 11" f | 12' 4"   | 10' 5"  | 11' 7" f | 11' 6"  | 9' 8"   | 10' 7" f  | 10' 7" f | 9' 1"   | 9' 10" f  | 9' 10" f | 8' 8"   | 9' 2" f   | 9' 2" f  | 8' 3"   |
|            | 24                   | 12' 3" f  | 11' 11" | 10' 0"  | 10' 7" f  | 10' 7" f | 9' 1"   | 9' 6" f  | 9' 6" f | 8' 6"   | 8' 8" f   | 8' 8" f  | 8' 0"   | 8' 10" f  | 8' 10" f | 7' 7"   | 7' 6" f   | 7' 6" f  | 7' 3"   |
| 400S200-43 | 12                   | 18' 8"    | 16' 4"  | 13' 9"  | 17' 0"    | 14' 10"  | 12' 6"  | 15' 9"   | 13' 9"  | 11' 7"  | 14' 10" f | 13' 0"   | 10' 11" | 13' 8" f  | 12' 4"   | 10' 5"  | 12' 10" f | 11' 9"   | 9' 11"  |
|            | 16                   | 17' 0"    | 14' 10" | 12' 6"  | 15' 5"    | 13' 6"   | 11' 4"  | 14' 0" f | 12' 6"  | 10' 7"  | 12' 10" f | 11' 9"   | 9' 11"  | 11' 10" f | 11' 2"   | 9' 5"   | 11' 1" f  | 10' 8"   | 9' 0"   |
|            | 24                   | 14' 10" f | 13' 0"  | 10' 11" | 12' 10" f | 11' 9"   | 9' 11"  | 11' 6" f | 10' 11" | 9' 3"   | 10' 6" f  | 10' 4"   | 8' 8"   | 9' 8" f   | 9' 8" f  | 8' 3"   | 9' 1" f   | 9' 1" f  | 7' 11"  |
| 400S200-54 | 12                   | 20' 1"    | 17' 6"  | 14' 9"  | 18' 3"    | 15' 11"  | 13' 5"  | 16' 11"  | 14' 9"  | 12' 6"  | 15' 11"   | 13' 11"  | 11' 9"  | 15' 1"    | 13' 3"   | 11' 2"  | 14' 6"    | 12' 8"   | 10' 8"  |
|            | 16                   | 18' 3"    | 15' 11" | 13' 5"  | 16' 7"    | 14' 6"   | 12' 2"  | 15' 4"   | 13' 5"  | 11' 4"  | 14' 6"    | 12' 8"   | 10' 8"  | 13' 9"    | 12' 0"   | 10' 1"  | 13' 2"    | 11' 6"   | 9' 8"   |
|            | 24                   | 15' 11"   | 13' 11" | 11' 9"  | 14' 6"    | 12' 8"   | 10' 8"  | 13' 5"   | 11' 9"  | 9' 11"  | 12' 5" f  | 11' 0"   | 9' 4"   | 11' 6" f  | 10' 6"   | 8' 10"  | 10' 9" f  | 10' 0"   | 8' 6"   |
| 400S200-68 | 12                   | 21' 6"    | 18' 9"  | 15' 10" | 19' 6"    | 17' 1"   | 14' 5"  | 18' 1"   | 15' 10" | 13' 4"  | 17' 1"    | 14' 11"  | 12' 7"  | 16' 2"    | 14' 2"   | 11' 11" | 15' 6"    | 13' 6"   | 11' 5"  |
|            | 16                   | 19' 6"    | 17' 1"  | 14' 5"  | 17' 9"    | 15' 6"   | 13' 1"  | 16' 6"   | 14' 5"  | 12' 2"  | 15' 6"    | 13' 6"   | 11' 5"  | 14' 9"    | 12' 10"  | 10' 10" | 14' 1"    | 12' 4"   | 10' 4"  |
|            | 24                   | 17' 1"    | 14' 11" | 12' 7"  | 15' 6"    | 13' 6"   | 11' 5"  | 14' 5"   | 12' 7"  | 10' 7"  | 13' 6"    | 11' 10"  | 10' 0"  | 12' 10" f | 11' 3"   | 9' 6"   | 12' 0" f  | 10' 9"   | 9' 1"   |
| 400S200-97 | 12                   | 23' 10"   | 20' 10" | 17' 7"  | 21' 8"    | 18' 11"  | 16' 0"  | 20' 1"   | 17' 7"  | 14' 10" | 18' 11"   | 16' 6"   | 13' 11" | 18' 0"    | 15' 9"   | 13' 3"  | 17' 2"    | 15' 0"   | 12' 8"  |
|            | 16                   | 21' 8"    | 18' 11" | 16' 0"  | 19' 8"    | 17' 2"   | 14' 6"  | 18' 3"   | 16' 0"  | 13' 6"  | 17' 2"    | 15' 0"   | 12' 8"  | 16' 4"    | 14' 3"   | 12' 0"  | 15' 8"    | 13' 8"   | 11' 6"  |
|            | 24                   | 18' 11"   | 16' 6"  | 13' 11" | 17' 2"    | 15' 0"   | 12' 8"  | 16' 0"   | 13' 11" | 11' 9"  | 15' 0"    | 13' 2"   | 11' 1"  | 14' 3"    | 12' 6"   | 10' 6"  | 13' 8"    | 11' 11"  | 10' 1"  |
| 400S250-43 | 12                   | 19' 8"    | 17' 2"  | 14' 6"  | 17' 11"   | 15' 8"   | 13' 2"  | 16' 7" f | 14' 6"  | 12' 3"  | 15' 2" f  | 13' 8"   | 11' 6"  | 14' 0" f  | 13' 0"   | 10' 11" | 13' 2" f  | 12' 5"   | 10' 6"  |
|            | 16                   | 17' 11"   | 15' 8"  | 13' 2"  | 16' 1" f  | 14' 2"   | 12' 0"  | 14' 5" f | 13' 2"  | 11' 1"  | 13' 2" f  | 12' 5"   | 10' 6"  | 12' 2" f  | 11' 9"   | 9' 11"  | 11' 4" f  | 11' 3"   | 9' 6"   |
|            | 24                   | 15' 2" f  | 13' 8"  | 11' 6"  | 13' 2" f  | 12' 5"   | 10' 6"  | 11' 9" f | 11' 6"  | 9' 9"   | 10' 9" f  | 10' 9" f | 9' 2"   | 9' 11" f  | 9' 11" f | 8' 8"   | 9' 3" f   | 9' 3" f  | 8' 4"   |
| 400S250-54 | 12                   | 21' 2"    | 18' 6"  | 15' 7"  | 19' 2"    | 16' 9"   | 14' 2"  | 17' 10"  | 15' 7"  | 13' 2"  | 16' 9"    | 14' 8"   | 12' 4"  | 15' 11"   | 13' 11"  | 11' 9"  | 14' 11" f | 13' 4"   | 11' 3"  |
|            | 16                   | 19' 2"    | 16' 9"  | 14' 2"  | 17' 5"    | 15' 3"   | 12' 10" | 16' 2"   | 14' 2"  | 11' 11" | 14' 11" f | 13' 4"   | 11' 3"  | 13' 10" f | 12' 8"   | 10' 8"  | 12' 11" f | 12' 1"   | 10' 2"  |
|            | 24                   | 16' 9"    | 14' 8"  | 12' 4"  | 14' 11" f | 13' 4"   | 11' 3"  | 13' 4" f | 12' 4"  | 10' 5"  | 12' 2" f  | 11' 8"   | 9' 10"  | 11' 4" f  | 11' 1"   | 9' 4"   | 10' 7" f  | 10' 7" f | 8' 11"  |
| 400S250-68 | 12                   | 22' 8"    | 19' 10" | 16' 8"  | 20' 7"    | 18' 0"   | 15' 2"  | 19' 1"   | 16' 8"  | 14' 1"  | 18' 0"    | 15' 9"   | 13' 3"  | 17' 1"    | 14' 11"  | 12' 7"  | 16' 4"    | 14' 3"   | 12' 0"  |
|            | 16                   | 20' 7"    | 18' 0"  | 15' 2"  | 18' 8"    | 16' 4"   | 13' 9"  | 17' 4"   | 15' 2"  | 12' 10" | 16' 4"    | 14' 3"   | 12' 0"  | 15' 6"    | 13' 7"   | 11' 5"  | 14' 10"   | 13' 0"   | 10' 11" |
|            | 24                   | 18' 0"    | 15' 9"  | 13' 3"  | 16' 4"    | 14' 3"   | 12' 0"  | 15' 2"   | 13' 3"  | 11' 2"  | 14' 3"    | 12' 6"   | 10' 6"  | 13' 7"    | 11' 10"  | 10' 0"  | 12' 10" f | 11' 4"   | 9' 7"   |
| 400S250-97 | 12                   | 25' 2"    | 22' 0"  | 18' 7"  | 22' 11"   | 20' 0"   | 16' 10" | 21' 3"   | 18' 7"  | 15' 8"  | 20' 0"    | 17' 6"   | 14' 9"  | 19' 0"    | 16' 7"   | 14' 0"  | 18' 2"    | 15' 10"  | 13' 5"  |
|            | 16                   | 22' 11"   | 20' 0"  | 16' 10" | 20' 10"   | 18' 2"   | 15' 4"  | 19' 4"   | 16' 10" | 14' 3"  | 18' 2"    | 15' 10"  | 13' 5"  | 17' 3"    | 15' 1"   | 12' 9"  | 16' 6"    | 14' 5"   | 12' 2"  |
|            | 24                   | 20' 0"    | 17' 6"  | 14' 9"  | 18' 2"    | 15' 10"  | 13' 5"  | 16' 10"  | 14' 9"  | 12' 5"  | 15' 10"   | 13' 10"  | 11' 8"  | 15' 1"    | 13' 2"   | 11' 1"  | 14' 5"    | 12' 7"   | 10' 7"  |

### Notes:

- 1 Studs are checked for simple-span deflection and stress. Stress calculations are made for mid-span fully braced moment, end shear through the unperforated section, and shear moment interaction through the perforated section 10" away from the end bearing.
- 2 A 1/3 stress increase is not used.
- 3 Limiting heights are based on continuous lateral support of each flange over the full height of the stud.
- 4 Heights are based on steel properties only.
- 5 End reactions must be checked for web crippling separately.
- 6 Cells having an "f" indicate the limiting height is controlled by stress.
- 7 Cells marked with an " \* " have an  $h/t > 200$  and thus require end stiffeners. Blank cells have an  $h/t > 260$ .
- 8 Capacities are calculated according to the AISI-NASPEC, 2001 with 2004 supplement. A 1-1/2" by 4" knockout spaced no closer than 24" o.c. is assumed. (3/4" for 2-1/2" studs)
- 9 All values are based on  $F_y=33\text{ksi}$ .
- 10 For deflection calculations, wind loads have been multiplied by 0.7 per the AISI Standard for Cold-Formed Steel Framing - Wall Stud Design 2004 Edition except for the 5psf load which is considered an interior wall load.

Complies with IBC 2006 & AISI-NASPEC, 2001 with 2004 supplement

Pub. No. CD-STR-TechGuide 2/12

The technical content of this literature is effective 2/1/12 and supersedes all previous information.

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## CURTAIN WALL HEIGHTS

|                                  | Member     | Spacing<br>(in) o.c. | 15psf     |          |         | 20psf     |           |         | 25psf     |           |          | 30psf     |           |          | 35psf     |           |           | 40psf     |           |         |
|----------------------------------|------------|----------------------|-----------|----------|---------|-----------|-----------|---------|-----------|-----------|----------|-----------|-----------|----------|-----------|-----------|-----------|-----------|-----------|---------|
|                                  |            |                      | L/240     | L/360    | L/600   | L/240     | L/360     | L/600   | L/240     | L/360     | L/600    | L/240     | L/360     | L/600    | L/240     | L/360     | L/600     | L/240     | L/360     | L/600   |
| 6" Exterior Curtain Wall Framing | 600S137-33 | 12                   | 20' 0" f  | 18' 8"   | 15' 9"  | 17' 4" f  | 16' 11"   | 14' 4"  | 15' 6" f  | 15' 6" f  | 13' 3"   | 14' 2" f  | 14' 2" f  | 12' 6"   | 13' 1" f  | 13' 1" f  | 11' 10"   | 12' 3" f  | 12' 3" f  | 11' 4"  |
|                                  |            | 16                   | 17' 4" f  | 16' 11"  | 14' 4"  | 15' 0" f  | 15' 0" f  | 13' 0"  | 13' 5" f  | 13' 5" f  | 12' 1"   | 12' 3" f  | 12' 3" f  | 11' 4"   | 11' 4" f  | 11' 4" f  | 10' 9"    | 10' 7" f  | 10' 7" f  | 10' 4"  |
|                                  |            | 24                   | 14' 2" f  | 14' 2" f | 12' 6"  | 12' 3" f  | 12' 3" f  | 11' 4"  | 10' 11" f | 10' 11" f | 10' 6"   | 10' 0" f  | 10' 0" f  | 9' 11"   | 9' 3" f   | 9' 3" f   | 9' 3" f   | 8' 8" f   | 8' 8" f   | 8' 8" f |
|                                  | 600S137-43 | 12                   | 23' 4"    | 20' 5"   | 17' 3"  | 20' 7" f  | 18' 6"    | 15' 8"  | 18' 5" f  | 17' 3"    | 14' 6"   | 16' 10" f | 16' 2"    | 13' 8"   | 15' 7" f  | 15' 5"    | 13' 0"    | 14' 7" f  | 14' 7" f  | 12' 5"  |
|                                  |            | 16                   | 20' 7" f  | 18' 6"   | 15' 8"  | 17' 10" f | 16' 10"   | 14' 2"  | 15' 11" f | 15' 8"    | 13' 2"   | 14' 7" f  | 14' 7" f  | 12' 5"   | 13' 6" f  | 13' 6" f  | 11' 9"    | 12' 7" f  | 12' 7" f  | 11' 3"  |
|                                  |            | 24                   | 16' 10" f | 16' 2"   | 13' 8"  | 14' 7" f  | 14' 7" f  | 12' 5"  | 13' 0" f  | 13' 0" f  | 11' 6"   | 11' 11" f | 11' 11" f | 10' 10"  | 11' 0" f  | 11' 0" f  | 10' 4"    | 10' 4" f  | 10' 4" f  | 9' 10"  |
|                                  | 600S137-54 | 12                   | 25' 1"    | 21' 11"  | 18' 6"  | 22' 9"    | 19' 11"   | 16' 9"  | 20' 11" f | 18' 6"    | 15' 7"   | 19' 1" f  | 17' 4"    | 14' 8"   | 17' 8" f  | 16' 6"    | 13' 11"   | 16' 7" f  | 15' 9"    | 13' 4"  |
|                                  |            | 16                   | 22' 9"    | 19' 11"  | 16' 9"  | 20' 3" f  | 18' 1"    | 15' 3"  | 18' 2" f  | 16' 9"    | 14' 2"   | 16' 7" f  | 15' 9"    | 13' 4"   | 15' 4" f  | 15' 0"    | 12' 8"    | 14' 4" f  | 14' 4"    | 12' 1"  |
|                                  |            | 24                   | 19' 1" f  | 17' 4"   | 14' 8"  | 16' 7" f  | 15' 9"    | 13' 4"  | 14' 10" f | 14' 8"    | 12' 4"   | 13' 6" f  | 13' 6" f  | 11' 8"   | 12' 6" f  | 12' 6" f  | 11' 1"    | 11' 9" f  | 11' 9" f  | 10' 7"  |
|                                  | 600S137-68 | 12                   | 26' 10"   | 23' 5"   | 19' 9"  | 24' 5"    | 21' 4"    | 18' 0"  | 22' 8"    | 19' 9"    | 16' 8"   | 21' 4"    | 18' 7"    | 15' 8"   | 20' 3"    | 17' 8"    | 14' 11"   | 19' 4"    | 16' 11"   | 14' 3"  |
|                                  |            | 16                   | 24' 5"    | 21' 4"   | 18' 0"  | 22' 2"    | 19' 4"    | 16' 4"  | 20' 7"    | 18' 0"    | 15' 2"   | 19' 4"    | 16' 11"   | 14' 3"   | 18' 5"    | 16' 1"    | 13' 6"    | 17' 4" f  | 15' 4"    | 12' 11" |
|                                  |            | 24                   | 21' 4"    | 18' 7"   | 15' 8"  | 19' 4"    | 16' 11"   | 14' 3"  | 17' 11" f | 15' 8"    | 13' 3"   | 16' 4" f  | 14' 9"    | 12' 5"   | 15' 2" f  | 14' 0"    | 11' 10"   | 14' 2" f  | 13' 5"    | 11' 4"  |
|                                  | 600S137-97 | 12                   | 29' 9"    | 26' 0"   | 21' 11" | 27' 1"    | 23' 8"    | 19' 11" | 25' 1"    | 21' 11"   | 18' 6"   | 23' 8"    | 20' 8"    | 17' 5"   | 22' 5"    | 19' 7"    | 16' 7"    | 21' 6"    | 18' 9"    | 15' 10" |
|                                  |            | 16                   | 27' 1"    | 23' 8"   | 19' 11" | 24' 7"    | 21' 6"    | 18' 1"  | 22' 10"   | 19' 11"   | 16' 10"  | 21' 6"    | 18' 9"    | 15' 10"  | 20' 5"    | 17' 10"   | 15' 0"    | 19' 6"    | 17' 1"    | 14' 5"  |
|                                  |            | 24                   | 23' 8"    | 20' 8"   | 17' 5"  | 21' 6"    | 18' 9"    | 15' 10" | 19' 11"   | 17' 5"    | 14' 8"   | 18' 9"    | 16' 5"    | 13' 10"  | 17' 10"   | 15' 7"    | 13' 2"    | 17' 0" f  | 14' 11"   | 12' 7"  |
|                                  | 600S162-33 | 12                   | 22' 5"    | 19' 7"   | 16' 6"  | 19' 7" f  | 17' 10"   | 15' 0"  | 17' 6" f  | 16' 6"    | 13' 11"  | 16' 0" f  | 15' 7"    | 13' 1"   | 14' 10" f | 14' 9"    | 12' 6"    | 13' 10" f | 13' 10" f | 11' 11" |
|                                  |            | 16                   | 19' 7" f  | 17' 10"  | 15' 0"  | 17' 0" f  | 16' 2"    | 13' 8"  | 15' 2" f  | 15' 0"    | 12' 8"   | 13' 10" f | 13' 10" f | 11' 11"  | 12' 10" f | 12' 10" f | 11' 4"    | 12' 0" f  | 12' 0" f  | 10' 10" |
|                                  |            | 24                   | 16' 0" f  | 15' 7"   | 13' 1"  | 13' 10" f | 13' 10" f | 11' 11" | 12' 5" f  | 12' 5" f  | 11' 1"   | 11' 4" f  | 11' 4" f  | 10' 5"   | 10' 6" f  | 10' 6" f  | 9' 11"    | 9' 10" f  | 9' 10" f  | 9' 6"   |
|                                  |            | 12                   | 24' 4"    | 21' 3"   | 17' 11" | 22' 2"    | 19' 4"    | 16' 4"  | 20' 7"    | 17' 11"   | 15' 2"   | 19' 4" f  | 16' 11"   | 14' 3"   | 17' 10" f | 16' 1"    | 13' 6"    | 16' 9" f  | 15' 4"    | 12' 11" |
|                                  |            | 16                   | 22' 2"    | 19' 4"   | 16' 4"  | 20' 1"    | 17' 7"    | 14' 10" | 18' 4" f  | 16' 4"    | 13' 9"   | 16' 9" f  | 15' 4"    | 12' 11"  | 15' 6" f  | 14' 7"    | 12' 4"    | 14' 6" f  | 13' 11"   | 11' 9"  |
|                                  |            | 24                   | 19' 4" f  | 16' 11"  | 14' 3"  | 16' 9" f  | 15' 4"    | 12' 11" | 14' 11" f | 14' 3"    | 12' 0"   | 13' 8" f  | 13' 5"    | 11' 4"   | 12' 8" f  | 12' 8" f  | 10' 9"    | 11' 10" f | 11' 10" f | 10' 3"  |
|                                  |            | 12                   | 26' 2"    | 22' 10"  | 19' 3"  | 23' 9"    | 20' 9"    | 17' 6"  | 22' 1"    | 19' 3"    | 16' 3"   | 20' 9"    | 18' 2"    | 15' 3"   | 19' 9"    | 17' 3"    | 14' 6"    | 18' 9" f  | 16' 6"    | 13' 11" |
|                                  |            | 16                   | 23' 9"    | 20' 9"   | 17' 6"  | 21' 7"    | 18' 10"   | 15' 11" | 20' 0"    | 17' 6"    | 14' 9"   | 18' 9" f  | 16' 6"    | 13' 11"  | 17' 5" f  | 15' 8"    | 13' 2"    | 16' 3" f  | 15' 0"    | 12' 7"  |
|                                  |            | 24                   | 20' 9"    | 18' 2"   | 15' 3"  | 18' 9" f  | 16' 6"    | 13' 11" | 16' 10" f | 15' 3"    | 12' 11"  | 15' 4" f  | 14' 5"    | 12' 2"   | 14' 2" f  | 13' 8"    | 11' 6"    | 13' 3" f  | 13' 1"    | 11' 0"  |
| 12                               |            | 28' 0"               | 24' 6"    | 20' 8"   | 25' 5"  | 22' 3"    | 18' 9"    | 23' 8"  | 20' 8"    | 17' 5"    | 22' 3"   | 19' 5"    | 16' 5"    | 21' 1"   | 18' 5"    | 15' 7"    | 20' 2"    | 17' 8"    | 14' 11"   |         |
| 16                               |            | 25' 5"               | 22' 3"    | 18' 9"   | 23' 2"  | 20' 2"    | 17' 1"    | 21' 6"  | 18' 9"    | 15' 10"   | 20' 2"   | 17' 8"    | 14' 11"   | 19' 2"   | 16' 9"    | 14' 2"    | 18' 4" f  | 16' 0"    | 13' 6"    |         |
| 24                               |            | 22' 3"               | 19' 5"    | 16' 5"   | 20' 2"  | 17' 8"    | 14' 11"   | 18' 9"  | 16' 5"    | 13' 10"   | 17' 3" f | 15' 5"    | 13' 0"    | 16' 0" f | 14' 8"    | 12' 4"    | 14' 11" f | 14' 0"    | 11' 10"   |         |
| 600S162-97                       | 12         | 31' 2"               | 27' 3"    | 22' 11"  | 28' 4"  | 24' 9"    | 20' 10"   | 26' 3"  | 22' 11"   | 19' 4"    | 24' 9"   | 21' 7"    | 18' 3"    | 23' 6"   | 20' 6"    | 17' 4"    | 22' 6"    | 19' 7"    | 16' 7"    |         |
|                                  | 16         | 28' 4"               | 24' 9"    | 20' 10"  | 25' 9"  | 22' 6"    | 18' 11"   | 23' 10" | 20' 10"   | 17' 7"    | 22' 6"   | 19' 7"    | 16' 7"    | 21' 4"   | 18' 8"    | 15' 9"    | 20' 5"    | 17' 10"   | 15' 0"    |         |
|                                  | 24         | 24' 9"               | 21' 7"    | 18' 3"   | 22' 6"  | 19' 7"    | 16' 7"    | 20' 10" | 18' 3"    | 15' 4"    | 19' 7"   | 17' 2"    | 14' 5"    | 18' 8"   | 16' 3"    | 13' 9"    | 17' 10"   | 15' 7"    | 13' 2"    |         |

## Notes:

- 1 Studs are checked for simple-span deflection and stress. Stress calculations are made for mid-span fully braced moment, end shear through the unperforated section, and shear moment interaction through the perforated section 10" away from the end bearing.
- 2 A 1/3 stress increase is not used.
- 3 Limiting heights are based on continuous lateral support of each flange over the full height of the stud.
- 4 Heights are based on steel properties only.
- 5 End reactions must be checked for web crippling separately.
- 6 Cells having an "f" indicate the limiting height is controlled by stress.
- 7 Cells marked with an " \* " have an  $h/t > 200$  and thus require end stiffeners. Blank cells have an  $h/t > 260$ .
- 8 Capacities are calculated according to the AISI-NASPEC, 2001 with 2004 supplement. A 1-1/2" by 4" knockout spaced no closer than 24" o.c. is assumed. (3/4" for 2-1/2" studs)
- 9 All values are based on  $F_y=33\text{ksi}$ .
- 10 For deflection calculations, wind loads have been multiplied by 0.7 per the AISI Standard for Cold-Formed Steel Framing - Wall Stud Design 2004 Edition except for the 5psf load which is considered an interior wall load.

Complies with IBC 2006 &amp; AISI-NASPEC, 2001 with 2004 supplement

## CURTAIN WALL HEIGHTS

| Member     | Spacing<br>(in) o.c. | 15psf    |         |         | 20psf     |          |         | 25psf     |          |         | 30psf     |           |         | 35psf     |           |         | 40psf     |           |         |
|------------|----------------------|----------|---------|---------|-----------|----------|---------|-----------|----------|---------|-----------|-----------|---------|-----------|-----------|---------|-----------|-----------|---------|
|            |                      | L/240    | L/360   | L/600   | L/240     | L/360    | L/600   | L/240     | L/360    | L/600   | L/240     | L/360     | L/600   | L/240     | L/360     | L/600   | L/240     | L/360     | L/600   |
| 600S200-33 | 12                   | 23' 3" f | 20' 6"  | 17' 3"  | 20' 1" f  | 18' 7"   | 15' 8"  | 18' 0" f  | 17' 3"   | 14' 7"  | 16' 5" f  | 16' 3"    | 13' 9"  | 15' 2" f  | 15' 2" f  | 13' 0"  | 14' 3" f  | 14' 3" f  | 12' 6"  |
|            | 16                   | 20' 1" f | 18' 7"  | 15' 8"  | 17' 5" f  | 16' 11"  | 14' 3"  | 15' 7" f  | 15' 7" f | 13' 3"  | 14' 3" f  | 14' 3" f  | 12' 6"  | 13' 2" f  | 13' 2" f  | 11' 10" | 12' 4" f  | 12' 4" f  | 11' 4"  |
|            | 24                   | 16' 5" f | 16' 3"  | 13' 9"  | 14' 3" f  | 14' 3" f | 12' 6"  | 12' 9" f  | 12' 9" f | 11' 7"  | 11' 7" f  | 11' 7" f  | 10' 11" | 10' 9" f  | 10' 9" f  | 10' 4"  | 10' 1" f  | 10' 1" f  | 9' 11"  |
| 600S200-43 | 12                   | 25' 7"   | 22' 4"  | 18' 10" | 23' 3"    | 20' 4"   | 17' 2"  | 21' 5" f  | 18' 10"  | 15' 11" | 19' 7" f  | 17' 9"    | 15' 0"  | 18' 2" f  | 16' 10"   | 14' 3"  | 17' 0" f  | 16' 1"    | 13' 7"  |
|            | 16                   | 23' 3"   | 20' 4"  | 17' 2"  | 20' 9" f  | 18' 5"   | 15' 7"  | 18' 7" f  | 17' 2"   | 14' 5"  | 17' 0" f  | 16' 1"    | 13' 7"  | 15' 8" f  | 15' 4"    | 12' 11" | 14' 8" f  | 14' 8"    | 12' 4"  |
|            | 24                   | 19' 7" f | 17' 9"  | 15' 0"  | 17' 0" f  | 16' 1"   | 13' 7"  | 15' 2" f  | 15' 0"   | 12' 7"  | 13' 10" f | 13' 10" f | 11' 11" | 12' 10" f | 12' 10" f | 11' 3"  | 12' 0" f  | 12' 0" f  | 10' 9"  |
| 600S200-54 | 12                   | 27' 6"   | 24' 0"  | 20' 3"  | 25' 0"    | 21' 10"  | 18' 5"  | 23' 2"    | 20' 3"   | 17' 1"  | 21' 10"   | 19' 1"    | 16' 1"  | 20' 9"    | 18' 1"    | 15' 3"  | 19' 10"   | 17' 4"    | 14' 7"  |
|            | 16                   | 25' 0"   | 21' 10" | 18' 5"  | 22' 8"    | 19' 10"  | 16' 9"  | 21' 1"    | 18' 5"   | 15' 6"  | 19' 10"   | 17' 4"    | 14' 7"  | 18' 7" f  | 16' 5"    | 13' 10" | 17' 4" f  | 15' 9"    | 13' 3"  |
|            | 24                   | 21' 10"  | 19' 1"  | 16' 1"  | 19' 10"   | 17' 4"   | 14' 7"  | 17' 11" f | 16' 1"   | 13' 7"  | 16' 4" f  | 15' 1"    | 12' 9"  | 15' 2" f  | 14' 4"    | 12' 1"  | 14' 2" f  | 13' 9"    | 11' 7"  |
| 600S200-68 | 12                   | 29' 6"   | 25' 9"  | 21' 9"  | 26' 9"    | 23' 5"   | 19' 9"  | 24' 10"   | 21' 9"   | 18' 4"  | 23' 5"    | 20' 5"    | 17' 3"  | 22' 3"    | 19' 5"    | 16' 4"  | 21' 3"    | 18' 7"    | 15' 8"  |
|            | 16                   | 26' 9"   | 23' 5"  | 19' 9"  | 24' 4"    | 21' 3"   | 17' 11" | 22' 7"    | 19' 9"   | 16' 8"  | 21' 3"    | 18' 7"    | 15' 8"  | 20' 2"    | 17' 8"    | 14' 10" | 19' 4"    | 16' 10"   | 14' 3"  |
|            | 24                   | 23' 5"   | 20' 5"  | 17' 3"  | 21' 3"    | 18' 7"   | 15' 8"  | 19' 9"    | 17' 3"   | 14' 6"  | 18' 5" f  | 16' 3"    | 13' 8"  | 17' 0" f  | 15' 5"    | 13' 0"  | 15' 11" f | 14' 9"    | 12' 5"  |
| 600S200-97 | 12                   | 32' 10"  | 28' 8"  | 24' 2"  | 29' 10"   | 26' 0"   | 22' 0"  | 27' 8"    | 24' 2"   | 20' 5"  | 26' 0"    | 22' 9"    | 19' 2"  | 24' 9"    | 21' 7"    | 18' 3"  | 23' 8"    | 20' 8"    | 17' 5"  |
|            | 16                   | 29' 10"  | 26' 0"  | 22' 0"  | 27' 1"    | 23' 8"   | 19' 11" | 25' 2"    | 22' 0"   | 18' 6"  | 20' 8"    | 17' 5"    | 12' 6"  | 19' 8"    | 16' 7"    | 21' 6"  | 18' 9"    | 15' 10"   |         |
|            | 24                   | 26' 0"   | 22' 9"  | 19' 2"  | 23' 8"    | 20' 8"   | 17' 5"  | 22' 0"    | 19' 2"   | 16' 2"  | 20' 8"    | 18' 1"    | 15' 3"  | 19' 8"    | 17' 2"    | 14' 6"  | 18' 9"    | 16' 5"    | 13' 10" |
| 600S250-43 | 12                   | 26' 10"  | 23' 5"  | 19' 9"  | 24' 4"    | 21' 3"   | 17' 11" | 22' 0" f  | 19' 9"   | 16' 8"  | 20' 1" f  | 18' 7"    | 15' 8"  | 18' 7" f  | 17' 8"    | 14' 11" | 17' 5" f  | 16' 11"   | 14' 3"  |
|            | 16                   | 24' 4"   | 21' 3"  | 17' 11" | 21' 4" f  | 19' 4"   | 16' 4"  | 19' 1" f  | 17' 11"  | 15' 2"  | 17' 5" f  | 16' 11"   | 14' 3"  | 16' 1" f  | 16' 0"    | 13' 6"  | 15' 1" f  | 15' 1" f  | 12' 11" |
|            | 24                   | 20' 1" f | 18' 7"  | 15' 8"  | 17' 5" f  | 16' 11"  | 14' 3"  | 15' 7" f  | 15' 7" f | 13' 3"  | 14' 2" f  | 14' 2" f  | 12' 5"  | 13' 2" f  | 13' 2" f  | 11' 10" | 12' 4" f  | 12' 4" f  | 11' 4"  |
| 600S250-54 | 12                   | 28' 9"   | 25' 2"  | 21' 3"  | 26' 2"    | 22' 10"  | 19' 3"  | 24' 3"    | 21' 3"   | 17' 11" | 22' 7" f  | 20' 0"    | 16' 10" | 20' 11" f | 19' 0"    | 16' 0"  | 19' 6" f  | 18' 2"    | 15' 4"  |
|            | 16                   | 26' 2"   | 22' 10" | 19' 3"  | 23' 9"    | 20' 9"   | 17' 6"  | 21' 5" f  | 19' 3"   | 16' 3"  | 19' 6" f  | 18' 2"    | 15' 4"  | 18' 1" f  | 17' 3"    | 14' 6"  | 16' 11" f | 16' 6"    | 13' 11" |
|            | 24                   | 22' 7" f | 20' 0"  | 16' 10" | 19' 6" f  | 18' 2"   | 15' 4"  | 17' 6" f  | 16' 10"  | 14' 2"  | 15' 11" f | 15' 10"   | 13' 4"  | 14' 9" f  | 14' 9" f  | 12' 8"  | 13' 10" f | 13' 10" f | 12' 2"  |
| 600S250-68 | 12                   | 30' 11"  | 27' 0"  | 22' 9"  | 28' 1"    | 24' 6"   | 20' 8"  | 26' 1"    | 22' 9"   | 19' 2"  | 24' 6"    | 21' 5"    | 18' 1"  | 23' 4"    | 20' 4"    | 17' 2"  | 22' 3"    | 19' 6"    | 16' 5"  |
|            | 16                   | 28' 1"   | 24' 6"  | 20' 8"  | 25' 6"    | 22' 3"   | 18' 10" | 23' 8"    | 20' 8"   | 17' 5"  | 22' 3"    | 19' 6"    | 16' 5"  | 21' 2"    | 18' 6"    | 15' 7"  | 20' 3"    | 17' 8"    | 14' 11" |
|            | 24                   | 24' 6"   | 21' 5"  | 18' 1"  | 22' 3"    | 19' 6"   | 16' 5"  | 20' 8"    | 18' 1"   | 15' 3"  | 19' 2" f  | 17' 0"    | 14' 4"  | 17' 9" f  | 16' 2"    | 13' 7"  | 16' 7" f  | 15' 5"    | 13' 0"  |
| 600S250-97 | 12                   | 34' 5"   | 30' 1"  | 25' 4"  | 31' 3"    | 27' 4"   | 23' 1"  | 29' 1"    | 25' 4"   | 21' 5"  | 27' 4"    | 23' 11"   | 20' 2"  | 26' 0"    | 22' 8"    | 19' 2"  | 24' 10"   | 21' 8"    | 18' 4"  |
|            | 16                   | 31' 3"   | 27' 4"  | 23' 1"  | 28' 5"    | 24' 10"  | 20' 11" | 26' 5"    | 23' 1"   | 19' 5"  | 24' 10"   | 21' 8"    | 18' 4"  | 23' 7"    | 20' 7"    | 17' 5"  | 22' 7"    | 19' 9"    | 16' 7"  |
|            | 24                   | 27' 4"   | 23' 11" | 20' 2"  | 24' 10"   | 21' 8"   | 18' 4"  | 23' 1"    | 20' 2"   | 17' 0"  | 21' 8"    | 18' 11"   | 16' 0"  | 20' 7"    | 18' 0"    | 15' 2"  | 19' 9"    | 17' 3"    | 14' 6"  |
| 600S300-54 | 12                   | 29' 11"  | 26' 1"  | 22' 0"  | 27' 2"    | 23' 9"   | 20' 0"  | 25' 2"    | 22' 0"   | 18' 7"  | 23' 1" f  | 20' 9"    | 17' 6"  | 21' 4" f  | 19' 8"    | 16' 7"  | 20' 0" f  | 18' 10"   | 15' 10" |
|            | 16                   | 27' 2"   | 23' 9"  | 20' 0"  | 24' 6" f  | 21' 7"   | 18' 2"  | 21' 11" f | 20' 0"   | 16' 10" | 20' 0" f  | 18' 10"   | 15' 10" | 18' 6" f  | 17' 11"   | 15' 1"  | 17' 4" f  | 17' 1"    | 14' 5"  |
|            | 24                   | 23' 1" f | 20' 9"  | 17' 6"  | 20' 0" f  | 18' 10"  | 15' 10" | 17' 10" f | 17' 6"   | 14' 9"  | 16' 4" f  | 16' 4" f  | 13' 10" | 15' 1" f  | 14' 2" f  | 13' 2"  | 14' 2" f  | 12' 2" f  | 12' 7"  |
| 600S300-68 | 12                   | 32' 2"   | 28' 1"  | 23' 9"  | 29' 3"    | 25' 7"   | 21' 7"  | 27' 2"    | 23' 9"   | 20' 0"  | 25' 7"    | 22' 4"    | 18' 10" | 24' 3"    | 21' 2"    | 17' 11" | 22' 10" f | 20' 3"    | 17' 1"  |
|            | 16                   | 29' 3"   | 25' 7"  | 21' 7"  | 26' 7"    | 23' 3"   | 19' 7"  | 24' 8"    | 21' 7"   | 18' 2"  | 22' 10" f | 20' 3"    | 17' 1"  | 21' 1" f  | 19' 3"    | 16' 3"  | 19' 9" f  | 18' 5"    | 15' 6"  |
|            | 24                   | 25' 7"   | 22' 4"  | 18' 10" | 22' 10" f | 20' 3"   | 17' 1"  | 20' 5" f  | 18' 10"  | 15' 11" | 18' 7" f  | 17' 9"    | 14' 11" | 17' 3" f  | 16' 10"   | 14' 2"  | 16' 2" f  | 16' 1"    | 13' 7"  |
| 600S300-97 | 12                   | 35' 11"  | 31' 5"  | 26' 6"  | 32' 8"    | 28' 6"   | 24' 1"  | 30' 4"    | 26' 6"   | 22' 4"  | 28' 6"    | 24' 11"   | 21' 0"  | 27' 1"    | 23' 8"    | 19' 11" | 25' 11"   | 22' 8"    | 19' 1"  |
|            | 16                   | 32' 8"   | 28' 6"  | 24' 1"  | 29' 8"    | 25' 11"  | 21' 10" | 27' 6"    | 24' 1"   | 20' 3"  | 25' 11"   | 22' 8"    | 19' 1"  | 24' 7"    | 21' 6"    | 18' 2"  | 23' 6"    | 20' 7"    | 17' 4"  |
|            | 24                   | 28' 6"   | 24' 11" | 21' 0"  | 25' 11"   | 22' 8"   | 19' 1"  | 24' 1"    | 21' 0"   | 17' 9"  | 22' 8"    | 19' 9"    | 16' 8"  | 21' 6"    | 18' 9"    | 15' 10" | 20' 7"    | 18' 0"    | 15' 2"  |

### Notes:

- Studs are checked for simple-span deflection and stress. Stress calculations are made for mid-span fully braced moment, end shear through the unperforated section, and shear moment interaction through the perforated section 10" away from the end bearing.
- A 1/3 stress increase is not used.
- Limiting heights are based on continuous lateral support of each flange over the full height of the stud.
- Heights are based on steel properties only.
- End reactions must be checked for web crippling separately.
- Cells having an "f" indicate the limiting height is controlled by stress.
- Cells marked with an " \* " have an h/t > 200 and thus require end stiffeners. Blank cells have an h/t > 260.
- Capacities are calculated according to the AISI-NASPEC, 2001 with 2004 supplement. A 1-1/2" by 4" knockout spaced no closer than 24" o.c. is assumed. (3/4" for 2-1/2" studs)
- All values are based on Fy=33ksi.
- For deflection calculations, wind loads have been multiplied by 0.7 per the AISI Standard for Cold-Formed Steel Framing - Wall Stud Design 2004 Edition except for the 5psf load which is considered an interior wall load.

Complies with IBC 2006 & AISI-NASPEC, 2001 with 2004 supplement

## CURTAIN WALL HEIGHTS

|                                  | Member     | Spacing<br>(in) o.c. | 15psf     |           |           | 20psf     |           |           | 25psf      |            |            | 30psf     |           |           | 35psf      |            |            | 40psf      |            |            |
|----------------------------------|------------|----------------------|-----------|-----------|-----------|-----------|-----------|-----------|------------|------------|------------|-----------|-----------|-----------|------------|------------|------------|------------|------------|------------|
|                                  |            |                      | L/240     | L/360     | L/600     | L/240     | L/360     | L/600     | L/240      | L/360      | L/600      | L/240     | L/360     | L/600     | L/240      | L/360      | L/600      | L/240      | L/360      | L/600      |
| 8" Exterior Curtain Wall Framing | 800S137-33 | 12                   | 23' 5" f* | 23' 3" *  | 19' 7" *  | 20' 3" f* | 20' 3" f* | 17' 10" * | 18' 1" f*  | 18' 1" f*  | 16' 6" *   | 16' 6" f* | 16' 6" f* | 15' 7" *  | 15' 4" f*  | 15' 4" f*  | 14' 9" *   | 14' 4" f*  | 14' 4" f*  | 14' 2" *   |
|                                  |            | 16                   | 20' 3" f* | 20' 3" f* | 17' 10" * | 17' 6" f* | 17' 6" f* | 16' 2" *  | 15' 8" f*  | 15' 8" f*  | 15' 0" *   | 14' 4" f* | 14' 4" f* | 14' 2" *  | 13' 3" f*  | 13' 3" f*  | 13' 3" f*  | 12' 5" f*  | 12' 5" f*  | 12' 5" f*  |
|                                  |            | 24                   | 16' 6" f* | 16' 6" f* | 15' 7" *  | 14' 4" f* | 14' 4" f* | 14' 2" *  | 12' 10" f* | 12' 10" f* | 12' 10" f* | 11' 8" f* | 11' 8" f* | 11' 8" f* | 10' 10" f* | 10' 10" f* | 10' 10" f* | 10' 1" f*  | 10' 1" f*  | 10' 1" f*  |
|                                  | 800S137-43 | 12                   | 28' 0" f  | 25' 6"    | 21' 6"    | 24' 3" f  | 23' 2"    | 19' 7"    | 21' 9" f   | 21' 6"     | 18' 2"     | 19' 10" f | 19' 10" f | 17' 1"    | 18' 4" f   | 18' 4" f   | 16' 3"     | 17' 2" f   | 17' 2" f   | 15' 6"     |
|                                  |            | 16                   | 24' 3" f  | 23' 2"    | 19' 7"    | 21' 0" f  | 21' 0" f  | 17' 9"    | 18' 10" f  | 18' 10" f  | 16' 6"     | 17' 2" f  | 17' 2" f  | 15' 6"    | 15' 11" f  | 15' 11" f  | 14' 9"     | 14' 10" f  | 14' 10" f  | 14' 1" f   |
|                                  |            | 24                   | 19' 10" f | 19' 10" f | 17' 1"    | 17' 2" f  | 17' 2" f  | 15' 6"    | 15' 4" f   | 15' 4" f   | 14' 5"     | 14' 0" f  | 14' 0" f  | 13' 7"    | 13' 0" f   | 13' 0" f   | 12' 11"    | 12' 2" f   | 12' 2" f   | 12' 2" f   |
|                                  | 800S137-54 | 12                   | 31' 8"    | 27' 8"    | 23' 4"    | 27' 10" f | 25' 1"    | 21' 2"    | 24' 11" f  | 23' 4"     | 19' 8"     | 22' 9" f  | 21' 11"   | 18' 6"    | 21' 1" f   | 20' 10"    | 17' 7"     | 19' 9" f   | 19' 9" f   | 16' 10"    |
|                                  |            | 16                   | 27' 10" f | 25' 1"    | 21' 2"    | 24' 2" f  | 22' 10"   | 19' 3"    | 21' 7" f   | 21' 2"     | 17' 10"    | 19' 9" f  | 19' 9" f  | 16' 10"   | 18' 3" f   | 18' 3" f   | 16' 0"     | 17' 1" f   | 17' 1" f   | 15' 3"     |
|                                  |            | 24                   | 22' 9" f  | 21' 11"   | 18' 6"    | 19' 9" f  | 19' 9" f  | 16' 10"   | 17' 8" f   | 17' 8" f   | 15' 7"     | 16' 1" f  | 16' 1" f  | 14' 8"    | 14' 11" f  | 14' 11" f  | 13' 11"    | 13' 11" f  | 13' 11" f  | 13' 4"     |
|                                  | 800S137-68 | 12                   | 34' 0"    | 29' 9"    | 25' 1"    | 30' 11"   | 27' 0"    | 22' 9"    | 28' 6" f   | 25' 1"     | 21' 2"     | 26' 0" f  | 23' 7"    | 19' 11"   | 24' 1" f   | 22' 5"     | 18' 11"    | 22' 6" f   | 21' 5"     | 18' 1"     |
|                                  |            | 16                   | 30' 11"   | 27' 0"    | 22' 9"    | 27' 7" f  | 24' 6"    | 20' 8"    | 24' 8" f   | 22' 9"     | 19' 2"     | 22' 6" f  | 21' 5"    | 18' 1"    | 20' 10" f  | 20' 4"     | 17' 2"     | 19' 6" f   | 19' 6" f   | 16' 5"     |
|                                  |            | 24                   | 26' 0" f  | 23' 7"    | 19' 11"   | 22' 6" f  | 21' 5"    | 18' 1"    | 20' 2" f   | 19' 11"    | 16' 9"     | 18' 5" f  | 18' 5" f  | 15' 9"    | 17' 0" f   | 17' 0" f   | 15' 0"     | 15' 11" f  | 15' 11" f  | 14' 4"     |
|                                  | 800S137-97 | 12                   | 37' 10"   | 33' 1"    | 27' 11"   | 34' 4"    | 30' 0"    | 25' 4"    | 31' 11"    | 27' 11"    | 23' 6"     | 30' 0"    | 26' 3"    | 22' 2"    | 28' 6"     | 24' 11"    | 21' 0"     | 27' 3"     | 23' 10"    | 20' 1"     |
|                                  |            | 16                   | 34' 4"    | 30' 0"    | 25' 4"    | 31' 3"    | 27' 3"    | 23' 0"    | 29' 0"     | 25' 4"     | 21' 4"     | 27' 3"    | 23' 10"   | 20' 1"    | 25' 11"    | 22' 8"     | 19' 1"     | 24' 9"     | 21' 8"     | 18' 3"     |
|                                  |            | 24                   | 30' 0"    | 26' 3"    | 22' 2"    | 27' 3"    | 23' 10"   | 20' 1"    | 25' 4"     | 22' 2"     | 18' 8"     | 23' 10"   | 20' 10"   | 17' 7"    | 22' 6" f   | 19' 9"     | 16' 8"     | 21' 1" f   | 18' 11"    | 15' 11"    |
|                                  | 800S162-33 | 12                   | 25' 0" f* | 24' 2" *  | 20' 5" *  | 21' 8" f* | 21' 8" f* | 18' 7" *  | 19' 5" f*  | 19' 5" f*  | 17' 3" *   | 17' 8" f* | 17' 8" f* | 16' 2" *  | 16' 5" f*  | 16' 5" f*  | 15' 5" *   | 15' 4" f*  | 15' 4" f*  | 14' 9" *   |
|                                  |            | 16                   | 21' 8" f* | 21' 8" f* | 18' 7" *  | 18' 9" f* | 18' 9" f* | 16' 10" * | 16' 10" f* | 16' 10" f* | 15' 8" *   | 15' 4" f* | 15' 4" f* | 14' 9" *  | 14' 2" f*  | 14' 2" f*  | 14' 0" *   | 13' 3" f*  | 13' 3" f*  | 13' 3" f*  |
|                                  |            | 24                   | 17' 8" f* | 17' 8" f* | 16' 2" *  | 15' 4" f* | 15' 4" f* | 14' 9" *  | 13' 9" f*  | 13' 9" f*  | 13' 8" *   | 12' 6" f* | 12' 6" f* | 12' 6" f* | 11' 7" f*  | 11' 7" f*  | 11' 7" f*  | 10' 10" f* | 10' 10" f* | 10' 10" f* |
|                                  |            | 12                   | 29' 11" f | 26' 7"    | 22' 5"    | 25' 11" f | 24' 2"    | 20' 4"    | 23' 2" f   | 22' 5"     | 18' 11"    | 21' 2" f  | 21' 1"    | 17' 9"    | 19' 7" f   | 19' 7" f   | 16' 11"    | 18' 4" f   | 18' 4" f   | 16' 2"     |
|                                  |            | 16                   | 25' 11" f | 24' 2"    | 20' 4"    | 22' 5" f  | 21' 11"   | 18' 6"    | 20' 1" f   | 20' 1" f   | 17' 2"     | 18' 4" f  | 18' 4" f  | 16' 2"    | 16' 11" f  | 16' 11" f  | 15' 4"     | 15' 10" f  | 15' 10" f  | 14' 8"     |
| 24                               |            | 21' 2" f             | 21' 1"    | 17' 9"    | 18' 4" f  | 18' 4" f  | 16' 2"    | 16' 5" f  | 16' 5" f   | 15' 0"     | 14' 11" f  | 14' 11" f | 14' 1"    | 13' 10" f | 13' 10" f  | 13' 5"     | 12' 11" f  | 12' 11" f  | 12' 10"    |            |
| 12                               |            | 32' 11"              | 28' 9"    | 24' 3"    | 29' 8" f  | 26' 1"    | 22' 0"    | 26' 6" f  | 24' 3"     | 20' 5"     | 24' 3" f   | 22' 10"   | 19' 3"    | 22' 5" f  | 21' 8"     | 18' 3"     | 21' 0" f   | 20' 9"     | 17' 6"     |            |
| 16                               |            | 29' 8" f             | 26' 1"    | 22' 0"    | 25' 8" f  | 23' 9"    | 20' 0"    | 23' 0" f  | 22' 0"     | 18' 7"     | 21' 0" f   | 20' 9"    | 17' 6"    | 19' 5" f  | 19' 5" f   | 16' 7"     | 18' 2" f   | 18' 2" f   | 15' 11"    |            |
| 24                               |            | 24' 3" f             | 22' 10"   | 19' 3"    | 21' 0" f  | 20' 9"    | 17' 6"    | 18' 9" f  | 18' 9" f   | 16' 3"     | 17' 1" f   | 17' 1" f  | 15' 3"    | 15' 10" f | 15' 10" f  | 14' 6"     | 14' 10" f  | 14' 10" f  | 13' 11"    |            |
| 12                               |            | 35' 4"               | 30' 11"   | 26' 1"    | 32' 2"    | 28' 1"    | 23' 8"    | 29' 10"   | 26' 1"     | 22' 0"     | 27' 7" f   | 24' 6"    | 20' 8"    | 25' 7" f  | 23' 4"     | 19' 8"     | 23' 11" f  | 22' 3"     | 18' 10"    |            |
| 16                               |            | 32' 2"               | 28' 1"    | 23' 8"    | 29' 2"    | 25' 6"    | 21' 6"    | 26' 2" f  | 23' 8"     | 20' 0"     | 23' 11" f  | 22' 3"    | 18' 10"   | 22' 2" f  | 21' 2"     | 17' 10"    | 20' 8" f   | 20' 3"     | 17' 1"     |            |
| 24                               |            | 27' 7" f             | 24' 6"    | 20' 8"    | 23' 11" f | 22' 3"    | 18' 10"   | 21' 5" f  | 20' 8"     | 17' 5"     | 19' 6" f   | 19' 6"    | 16' 5"    | 18' 1" f  | 18' 1" f   | 15' 7"     | 16' 11" f  | 16' 11" f  | 14' 11"    |            |
| 12                               | 39' 5"     | 34' 5"               | 29' 0"    | 35' 9"    | 31' 3"    | 26' 4"    | 33' 3"    | 29' 0"    | 24' 6"     | 31' 3"     | 27' 4"     | 23' 0"    | 29' 8"    | 25' 11"   | 21' 11"    | 28' 5"     | 24' 10"    | 20' 11"    |            |            |
| 16                               | 35' 9"     | 31' 3"               | 26' 4"    | 32' 6"    | 28' 5"    | 24' 0"    | 30' 2"    | 26' 4"    | 22' 3"     | 28' 5"     | 24' 10"    | 20' 11"   | 27' 0"    | 23' 7"    | 19' 11"    | 25' 10"    | 22' 7"     | 19' 0"     |            |            |
| 24                               | 31' 3"     | 27' 4"               | 23' 0"    | 28' 5"    | 24' 10"   | 20' 11"   | 26' 4"    | 23' 0"    | 19' 5"     | 24' 10"    | 21' 8"     | 18' 3"    | 23' 7"    | 20' 7"    | 17' 4"     | 22' 1" f   | 19' 8"     | 16' 7"     |            |            |

## Notes:

- 1 Studs are checked for simple-span deflection and stress. Stress calculations are made for mid-span fully braced moment, end shear through the unperforated section, and shear moment interaction through the perforated section 10" away from the end bearing.
- 2 A 1/3 stress increase is not used.
- 3 Limiting heights are based on continuous lateral support of each flange over the full height of the stud.
- 4 Heights are based on steel properties only.
- 5 End reactions must be checked for web crippling separately.
- 6 Cells having an "f" indicate the limiting height is controlled by stress.
- 7 Cells marked with an " \* " have an h/t > 200 and thus require end stiffeners. Blank cells have an h/t > 260.
- 8 Capacities are calculated according to the AISI-NASPEC, 2001 with 2004 supplement. A 1-1/2" by 4" knockout spaced no closer than 24" o.c. is assumed. (3/4" for 2-1/2" studs)
- 9 All values are based on Fy=33ksi.
- 10 For deflection calculations, wind loads have been multiplied by 0.7 per the AISI Standard for Cold-Formed Steel Framing - Wall Stud Design 2004 Edition except for the 5psf load which is considered an interior wall load.

Complies with IBC 2006 &amp; AISI-NASPEC, 2001 with 2004 supplement

## CURTAIN WALL HEIGHTS

| Member     | Spacing<br>(in) o.c. | 15psf      |            |           | 20psf      |            |           | 25psf      |            |           | 30psf      |            |           | 35psf     |           |           | 40psf     |           |           |
|------------|----------------------|------------|------------|-----------|------------|------------|-----------|------------|------------|-----------|------------|------------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|
|            |                      | L/240      | L/360      | L/600     | L/240      | L/360      | L/600     | L/240      | L/360      | L/600     | L/240      | L/360      | L/600     | L/240     | L/360     | L/600     | L/240     | L/360     | L/600     |
| 800S200-33 | 12                   | 26' 7" f*  | 25' 9" *   | 21' 9" *  | 23' 1" f*  | 23' 1" f*  | 19' 9" *  | 20' 7" f*  | 20' 7" f*  | 18' 4" *  | 18' 10" f* | 18' 10" f* | 17' 3" *  | 17' 5" f* | 17' 5" f* | 16' 5" *  | 16' 4" f* | 16' 4" f* | 15' 8" *  |
|            | 16                   | 23' 1" f*  | 23' 1" f*  | 19' 9" *  | 19' 11" f* | 19' 11" f* | 17' 11" * | 17' 10" f* | 17' 10" f* | 16' 8" *  | 16' 4" f*  | 16' 4" f*  | 15' 8" *  | 15' 1" f* | 15' 1" f* | 14' 11" * | 14' 1" f* | 14' 1" f* | 14' 1" f* |
|            | 24                   | 18' 10" f* | 18' 10" f* | 17' 3" *  | 16' 4" f*  | 16' 4" f*  | 15' 8" *  | 14' 7" f*  | 14' 7" f*  | 13' 4" *  | 13' 4" f*  | 13' 4" f*  | 12' 4" f* | 12' 4" f* | 12' 4" f* | 11' 6" f* | 11' 6" f* | 11' 6" f* | 11' 6" f* |
| 800S200-43 | 12                   | 32' 1" *   | 28' 1" *   | 23' 8" *  | 29' 2" *   | 25' 6" *   | 21' 6" *  | 26' 1" f   | 23' 8" *   | 19' 11" * | 23' 10" f  | 22' 3" *   | 18' 9" *  | 22' 1" f  | 21' 2" *  | 17' 10" * | 20' 8" f  | 20' 3" *  | 17' 1" *  |
|            | 16                   | 29' 2" *   | 25' 6" *   | 21' 6" *  | 25' 3" f   | 23' 2" *   | 19' 6" *  | 22' 7" f   | 21' 6" *   | 18' 2" *  | 20' 8" f   | 20' 3" *   | 17' 1" *  | 19' 1" f  | 19' 1" f  | 16' 2" *  | 17' 10" f | 17' 10" f | 15' 6" *  |
|            | 24                   | 23' 10" f  | 22' 3" *   | 18' 9" *  | 20' 8" f   | 20' 3" *   | 17' 1" *  | 18' 6" f   | 18' 6" f   | 15' 10" * | 16' 10" f  | 16' 10" f  | 14' 11" * | 15' 7" f  | 15' 7" f  | 14' 2" *  | 14' 7" f  | 14' 7" f  | 13' 6" *  |
| 800S200-54 | 12                   | 34' 6" *   | 30' 2" *   | 25' 5" *  | 31' 4" *   | 27' 5" *   | 23' 1" *  | 29' 1" *   | 25' 5" *   | 21' 5" *  | 27' 5" *   | 23' 11" *  | 20' 2" *  | 26' 0" *  | 22' 9" *  | 19' 2" *  | 24' 5" f  | 21' 9" *  | 18' 4" *  |
|            | 16                   | 31' 4" *   | 27' 5" *   | 23' 1" *  | 28' 6" *   | 24' 11" *  | 21' 0" *  | 26' 5" *   | 23' 1" *   | 19' 6" *  | 24' 5" f   | 21' 9" *   | 18' 4" *  | 22' 7" f  | 20' 8" *  | 17' 5" *  | 21' 2" f  | 19' 9" *  | 16' 8" *  |
|            | 24                   | 27' 5" *   | 23' 11" *  | 20' 2" *  | 24' 5" f   | 21' 9" *   | 18' 4" *  | 21' 10" f  | 20' 2" *   | 17' 0" *  | 19' 11" f  | 19' 0" *   | 16' 0" *  | 18' 5" f  | 18' 0" *  | 15' 3" *  | 17' 3" f  | 17' 3" *  | 14' 7" *  |
| 800S200-68 | 12                   | 37' 0" *   | 32' 4" *   | 27' 3" *  | 33' 8" *   | 29' 5" *   | 24' 10" * | 31' 3" *   | 27' 3" *   | 23' 0" *  | 29' 5" *   | 25' 8" *   | 21' 8" *  | 27' 11" * | 24' 5" *  | 20' 7" *  | 26' 8" *  | 23' 4" *  | 19' 8" *  |
|            | 16                   | 33' 8" *   | 29' 5" *   | 24' 10" * | 30' 7" *   | 26' 8" *   | 22' 6" *  | 28' 5" *   | 24' 10" *  | 20' 11" * | 26' 8" *   | 23' 4" *   | 19' 8" *  | 25' 4" *  | 22' 2" *  | 18' 8" *  | 23' 9" f  | 21' 2" *  | 17' 11" * |
|            | 24                   | 29' 5" *   | 25' 8" *   | 21' 8" *  | 26' 8" *   | 23' 4" *   | 19' 8" *  | 24' 7" f   | 21' 8" *   | 18' 3" *  | 22' 5" f   | 20' 5" *   | 17' 2" *  | 20' 9" f  | 19' 4" *  | 16' 4" *  | 19' 5" f  | 18' 6" *  | 15' 7" *  |
| 800S200-97 | 12                   | 41' 4" *   | 36' 1" *   | 30' 5" *  | 37' 6" *   | 32' 9" *   | 27' 8" *  | 34' 10" *  | 30' 5" *   | 25' 8" *  | 32' 9" *   | 28' 8" *   | 24' 2" *  | 31' 2" *  | 27' 2" *  | 22' 11" * | 29' 9" *  | 26' 0" *  | 21' 11" * |
|            | 16                   | 37' 6" *   | 32' 9" *   | 27' 8" *  | 34' 1" *   | 29' 9" *   | 25' 1" *  | 31' 8" *   | 27' 8" *   | 23' 4" *  | 29' 9" *   | 26' 0" *   | 21' 11" * | 28' 3" *  | 24' 9" *  | 20' 10" * | 27' 1" *  | 23' 8" *  | 19' 11" * |
|            | 24                   | 32' 9" *   | 28' 8" *   | 24' 2" *  | 29' 9" *   | 26' 0" *   | 21' 11" * | 27' 8" *   | 24' 2" *   | 20' 4" *  | 26' 0" *   | 22' 9" *   | 19' 2" *  | 24' 9" *  | 21' 7" *  | 18' 2" *  | 23' 4" f  | 20' 8" *  | 17' 5" *  |
| 800S250-43 | 12                   | 33' 6" *   | 29' 3" *   | 24' 8" *  | 29' 5" f   | 26' 7" *   | 22' 5" *  | 26' 4" f   | 24' 8" *   | 20' 10" * | 24' 0" f   | 23' 3" *   | 19' 7" *  | 22' 3" f  | 22' 1" *  | 18' 7" *  | 20' 10" f | 20' 10" f | 17' 10" * |
|            | 16                   | 29' 5" f   | 26' 7" *   | 22' 5" *  | 25' 6" f   | 24' 2" *   | 20' 4" *  | 22' 9" f   | 22' 5" *   | 18' 11" * | 20' 10" f  | 20' 10" f  | 17' 10" * | 19' 3" f  | 19' 3" f  | 16' 11" * | 18' 0" f  | 18' 0" f  | 16' 2" *  |
|            | 24                   | 24' 0" f   | 23' 3" *   | 19' 7" *  | 20' 10" f  | 20' 10" f  | 17' 10" * | 18' 7" f   | 18' 7" f   | 16' 6" *  | 17' 0" f   | 17' 0" f   | 15' 7" *  | 15' 9" f  | 15' 9" f  | 14' 9" *  | 14' 8" f  | 14' 8" f  | 14' 1" *  |
| 800S250-54 | 12                   | 36' 0" *   | 31' 5" *   | 26' 6" *  | 32' 8" *   | 28' 7" *   | 24' 1" *  | 30' 0" f   | 26' 6" *   | 22' 4" *  | 27' 5" f   | 24' 11" *  | 21' 1" *  | 25' 5" f  | 23' 8" *  | 20' 0" *  | 23' 9" f  | 22' 8" *  | 19' 1" *  |
|            | 16                   | 32' 8" *   | 28' 7" *   | 24' 1" *  | 29' 1" f   | 25' 11" *  | 21' 11" * | 26' 0" f   | 24' 1" *   | 20' 4" *  | 23' 9" f   | 22' 8" *   | 19' 1" *  | 22' 0" f  | 21' 6" *  | 18' 2" *  | 20' 7" f  | 20' 7" f  | 17' 5" *  |
|            | 24                   | 27' 5" f   | 24' 11" *  | 21' 1" *  | 23' 9" f   | 22' 8" *   | 19' 1" *  | 21' 3" f   | 21' 1" *   | 17' 9" *  | 19' 5" f   | 19' 5" f   | 16' 8" *  | 17' 11" f | 17' 11" f | 15' 10" * | 16' 10" f | 16' 10" f | 15' 2" *  |
| 800S250-68 | 12                   | 38' 8" *   | 33' 9" *   | 28' 6" *  | 35' 2" *   | 30' 8" *   | 25' 11" * | 32' 7" *   | 28' 6" *   | 24' 0" *  | 30' 8" *   | 26' 10" *  | 22' 7" *  | 29' 2" *  | 25' 6" *  | 21' 6" *  | 27' 11" * | 24' 4" *  | 20' 7" *  |
|            | 16                   | 35' 2" *   | 30' 8" *   | 25' 11" * | 31' 11" *  | 27' 11" *  | 23' 6" *  | 29' 8" *   | 25' 11" *  | 21' 10" * | 27' 11" *  | 24' 4" *   | 20' 7" *  | 26' 5" f  | 23' 2" *  | 19' 6" *  | 24' 8" f  | 22' 2" *  | 18' 8" *  |
|            | 24                   | 30' 8" *   | 26' 10" *  | 22' 7" *  | 27' 11" *  | 24' 4" *   | 20' 7" *  | 25' 6" f   | 22' 7" *   | 19' 1" *  | 23' 3" f   | 21' 3" *   | 17' 11" * | 21' 7" f  | 20' 3" *  | 17' 1" *  | 20' 2" f  | 19' 4" *  | 16' 4" *  |
| 800S250-97 | 12                   | 43' 2" *   | 37' 8" *   | 31' 9" *  | 39' 2" *   | 34' 3" *   | 28' 11" * | 36' 5" *   | 31' 9" *   | 26' 10" * | 34' 3" *   | 29' 11" *  | 25' 3" *  | 32' 6" *  | 28' 5" *  | 24' 0" *  | 31' 1" *  | 27' 2" *  | 22' 11" * |
|            | 16                   | 39' 2" *   | 34' 3" *   | 28' 11" * | 35' 7" *   | 31' 1" *   | 26' 3" *  | 33' 1" *   | 28' 11" *  | 24' 4" *  | 31' 1" *   | 27' 2" *   | 22' 11" * | 29' 7" *  | 25' 10" * | 21' 9" *  | 28' 3" *  | 24' 8" *  | 20' 10" * |
|            | 24                   | 34' 3" *   | 29' 11" *  | 25' 3" *  | 31' 1" *   | 27' 2" *   | 22' 11" * | 28' 11" *  | 25' 3" *   | 21' 3" *  | 27' 2" *   | 23' 9" *   | 20' 0" *  | 25' 10" * | 22' 7" *  | 19' 0" *  | 24' 7" f  | 21' 7" *  | 18' 2" *  |
| 800S300-54 | 12                   | 37' 3" *   | 32' 6" *   | 27' 5" *  | 33' 10" *  | 29' 6" *   | 24' 11" * | 30' 8" f   | 27' 5" *   | 23' 2" *  | 28' 0" f   | 25' 10" *  | 21' 9" *  | 25' 11" f | 24' 6" *  | 20' 8" *  | 24' 3" f  | 23' 5" *  | 19' 9" *  |
|            | 16                   | 33' 10" *  | 29' 6" *   | 24' 11" * | 29' 8" f   | 26' 10" *  | 22' 8" *  | 26' 7" f   | 24' 11" *  | 21' 0" *  | 24' 3" f   | 23' 5" *   | 19' 9" *  | 22' 5" f  | 22' 3" *  | 18' 9" *  | 21' 0" f  | 21' 0" f  | 18' 0" *  |
|            | 24                   | 28' 0" f   | 25' 10" *  | 21' 9" *  | 24' 3" f   | 23' 5" *   | 19' 9" *  | 21' 8" f   | 21' 8" f   | 18' 4" *  | 19' 10" f  | 19' 10" f  | 17' 3" *  | 18' 4" f  | 18' 4" f  | 16' 5" *  | 17' 2" f  | 17' 2" f  | 15' 8" *  |
| 800S300-68 | 12                   | 40' 1" *   | 35' 1" *   | 29' 7" *  | 36' 5" *   | 31' 10" *  | 26' 10" * | 33' 10" *  | 29' 7" *   | 24' 11" * | 31' 10" *  | 27' 10" *  | 23' 6" *  | 29' 7" f  | 26' 5" *  | 22' 3" *  | 27' 8" f  | 25' 3" *  | 21' 4" *  |
|            | 16                   | 36' 5" *   | 31' 10" *  | 26' 10" * | 33' 1" *   | 28' 11" *  | 24' 5" *  | 30' 3" f   | 26' 10" *  | 22' 8" *  | 27' 8" f   | 25' 3" *   | 21' 4" *  | 25' 7" f  | 24' 0" *  | 20' 3" *  | 23' 11" f | 23' 0" *  | 19' 4" *  |
|            | 24                   | 31' 10" *  | 27' 10" *  | 23' 6" *  | 27' 8" f   | 25' 3" *   | 21' 4" *  | 24' 9" f   | 23' 6" *   | 19' 9" *  | 22' 7" f   | 22' 1" *   | 18' 7" *  | 20' 11" f | 20' 11" f | 17' 8" *  | 19' 7" f  | 19' 7" f  | 16' 11" * |
| 800S300-97 | 12                   | 44' 10" *  | 39' 2" *   | 33' 1" *  | 40' 9" *   | 35' 7" *   | 30' 0" *  | 37' 10" *  | 33' 1" *   | 27' 10" * | 35' 7" *   | 31' 1" *   | 26' 3" *  | 33' 10" * | 29' 6" *  | 24' 11" * | 32' 4" *  | 28' 3" *  | 23' 10" * |
|            | 16                   | 40' 9" *   | 35' 7" *   | 30' 0" *  | 37' 0" *   | 32' 4" *   | 27' 3" *  | 34' 4" *   | 30' 0" *   | 25' 4" *  | 32' 4" *   | 28' 3" *   | 23' 10" * | 30' 9" *  | 26' 10" * | 22' 8" *  | 29' 5" *  | 25' 8" *  | 21' 8" *  |
|            | 24                   | 35' 7" *   | 31' 1" *   | 26' 3" *  | 32' 4" *   | 28' 3" *   | 23' 10" * | 30' 0" *   | 26' 3" *   | 22' 1" *  | 28' 3" *   | 24' 8" *   | 20' 10" * | 26' 10" * | 23' 5" *  | 19' 9" *  | 25' 3" f  | 22' 5" *  | 18' 11" * |

### Notes:

- 1 Studs are checked for simple-span deflection and stress. Stress calculations are made for mid-span fully braced moment, end shear through the unperforated section, and shear moment interaction through the perforated section 10" away from the end bearing.
- 2 A 1/3 stress increase is not used.
- 3 Limiting heights are based on continuous lateral support of each flange over the full height of the stud.
- 4 Heights are based on steel properties only.
- 5 End reactions must be checked for web crippling separately.
- 6 Cells having an "f" indicate the limiting height is controlled by stress.
- 7 Cells marked with an " \* " have an h/t > 200 and thus require end stiffeners. Blank cells have an h/t > 260.
- 8 Capacities are calculated according to the AISI-NASPEC, 2001 with 2004 supplement. A 1-1/2" by 4" knockout spaced no closer than 24" o.c. is assumed. (3/4" for 2-1/2" studs)
- 9 All values are based on Fy=33ksi.
- 10 For deflection calculations, wind loads have been multiplied by 0.7 per the AISI Standard for Cold-Formed Steel Framing - Wall Stud Design 2004 Edition except for the 5psf load which is considered an interior wall load.

Complies with IBC 2006 & AISI-NASPEC, 2001 with 2004 supplement

Pub. No. CD-STR-TechGuide 2/12

The technical content of this literature is effective 2/1/12 and supersedes all previous information.

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## CURTAIN WALL HEIGHTS

|                                   | Member      | Spacing<br>(in) o.c. | 15psf      |            |           | 20psf     |           |           | 25psf      |           |           | 30psf      |            |           | 35psf     |           |           | 40psf      |            |           |
|-----------------------------------|-------------|----------------------|------------|------------|-----------|-----------|-----------|-----------|------------|-----------|-----------|------------|------------|-----------|-----------|-----------|-----------|------------|------------|-----------|
|                                   |             |                      | L/240      | L/360      | L/600     | L/240     | L/360     | L/600     | L/240      | L/360     | L/600     | L/240      | L/360      | L/600     | L/240     | L/360     | L/600     | L/240      | L/360      | L/600     |
| 10" Exterior Curtain Wall Framing | 1000S162-43 | 12                   | 33' 10" f* | 31' 6" *   | 26' 7" *  | 29' 3" f* | 28' 8" *  | 24' 2" *  | 26' 2" f*  | 26' 2" f* | 22' 5" *  | 23' 11" f* | 23' 11" f* | 21' 1" *  | 22' 2" f* | 22' 2" f* | 20' 0" *  | 20' 8" f*  | 20' 8" f*  | 19' 2" *  |
|                                   |             | 16                   | 29' 3" f*  | 28' 8" *   | 24' 2" *  | 25' 4" f* | 25' 4" f* | 21' 11" * | 22' 8" f*  | 22' 8" f* | 20' 4" *  | 20' 8" f*  | 20' 8" f*  | 19' 2" *  | 19' 2" f* | 19' 2" f* | 18' 2" *  | 17' 11" f* | 17' 11" f* | 17' 5" *  |
|                                   |             | 24                   | 23' 11" f* | 23' 11" f* | 21' 1" *  | 20' 8" f* | 20' 8" f* | 19' 2" *  | 18' 6" f*  | 18' 6" f* | 17' 10" * | 16' 11" f* | 16' 11" f* | 16' 9" *  | 15' 8" f* | 15' 8" f* | 15' 8" f* | 14' 8" f*  | 14' 8" f*  | 14' 8" f* |
|                                   | 1000S162-54 | 12                   | 38' 11" f  | 34' 3" *   | 28' 10" * | 33' 8" f  | 31' 1" *  | 26' 3" *  | 30' 2" f   | 28' 10" * | 24' 4" *  | 27' 6" f   | 27' 2" *   | 22' 11" * | 25' 6" f  | 25' 6" f  | 21' 9" *  | 23' 10" f  | 23' 10" f  | 20' 10" * |
|                                   |             | 16                   | 33' 8" f   | 31' 1" *   | 26' 3" *  | 29' 2" f  | 28' 3" *  | 23' 10" * | 26' 1" f   | 26' 1" f  | 22' 1" *  | 23' 10" f  | 23' 10" f  | 20' 10" * | 22' 1" f  | 22' 1" f  | 19' 9" *  | 20' 8" f   | 20' 8" f   | 18' 11" * |
|                                   |             | 24                   | 27' 6" f   | 27' 2" *   | 22' 11" * | 23' 10" f | 23' 10" f | 20' 10" * | 21' 4" f   | 21' 4" f  | 19' 4" *  | 19' 5" f   | 19' 5" f   | 18' 2" *  | 18' 0" f  | 18' 0" f  | 17' 3" *  | 16' 10" f  | 16' 10" f  | 16' 6" *  |
|                                   | 1000S162-68 | 12                   | 42' 5" *   | 37' 1" *   | 31' 3" *  | 38' 7" *  | 33' 8" *  | 28' 5" *  | 34' 7" f   | 31' 3" *  | 26' 5" *  | 31' 7" f   | 29' 5" *   | 24' 10" * | 29' 3" f  | 27' 11" * | 23' 7" *  | 27' 4" f   | 26' 9" *   | 22' 7" *  |
|                                   |             | 16                   | 38' 7" *   | 33' 8" *   | 28' 5" *  | 33' 6" f  | 30' 7" *  | 25' 10" * | 30' 0" f   | 28' 5" *  | 24' 0" *  | 27' 4" f   | 26' 9" *   | 22' 7" *  | 25' 4" f  | 25' 4" f  | 21' 5" *  | 23' 8" f   | 23' 8" f   | 20' 6" *  |
|                                   |             | 24                   | 31' 7" f   | 29' 5" *   | 24' 10" * | 27' 4" f  | 26' 9" *  | 22' 7" *  | 24' 6" f   | 24' 6" f  | 20' 11" * | 22' 4" f   | 22' 4" f   | 19' 8" *  | 20' 8" f  | 20' 8" f  | 18' 9" *  | 19' 4" f   | 19' 4" f   | 17' 11" * |
|                                   | 1000S162-97 | 12                   | 47' 5" *   | 41' 5" *   | 34' 11" * | 43' 1" *  | 37' 8" *  | 31' 9" *  | 40' 0" *   | 34' 11" * | 29' 6" *  | 37' 8" *   | 32' 11" *  | 27' 9" *  | 35' 9" *  | 31' 3" *  | 26' 4" *  | 34' 2" *   | 29' 11" *  | 25' 2" *  |
|                                   |             | 16                   | 43' 1" *   | 37' 8" *   | 31' 9" *  | 39' 2" *  | 34' 2" *  | 28' 10" * | 36' 4" *   | 31' 9" *  | 26' 9" *  | 34' 2" *   | 29' 11" *  | 25' 2" *  | 32' 6" *  | 28' 5" *  | 23' 11" * | 31' 1" *   | 27' 2" *   | 22' 11" * |
|                                   |             | 24                   | 37' 8" *   | 32' 11" *  | 27' 9" *  | 34' 2" *  | 29' 11" * | 25' 2" *  | 31' 9" *   | 27' 9" *  | 23' 5" *  | 29' 11" *  | 26' 1" *   | 22' 0" *  | 27' 11" f | 24' 10" * | 20' 11" * | 26' 1" f   | 23' 9" *   | 20' 0" *  |
|                                   | 1000S200-43 | 12                   | 35' 11" f* | 32' 11" *  | 27' 10" * | 31' 2" f* | 29' 11" * | 25' 3" *  | 27' 10" f* | 27' 10" * | 23' 5" *  | 25' 5" f*  | 25' 5" f*  | 22' 1" *  | 23' 6" f* | 23' 6" f* | 20' 11" * | 22' 0" f*  | 22' 0" f*  | 20' 1" *  |
|                                   |             | 16                   | 31' 2" f*  | 29' 11" *  | 25' 3" *  | 27' 0" f* | 27' 0" f* | 22' 11" * | 24' 1" f*  | 24' 1" f* | 21' 4" *  | 22' 0" f*  | 22' 0" f*  | 20' 1" *  | 20' 5" f* | 20' 5" f* | 19' 0" *  | 19' 1" f*  | 19' 1" f*  | 18' 3" *  |
|                                   |             | 24                   | 25' 5" f*  | 25' 5" f*  | 22' 1" *  | 22' 0" f* | 22' 0" f* | 20' 1" *  | 19' 8" f*  | 19' 8" f* | 18' 7" *  | 18' 0" f*  | 18' 0" f*  | 17' 6" *  | 16' 8" f* | 16' 8" f* | 16' 8" *  | 15' 7" f*  | 15' 7" f*  | 15' 7" f* |
|                                   | 1000S200-54 | 12                   | 40' 11" *  | 35' 9" *   | 30' 2" *  | 36' 2" f  | 32' 6" *  | 27' 5" *  | 32' 4" f   | 30' 2" *  | 25' 5" *  | 29' 6" f   | 28' 4" *   | 23' 11" * | 27' 4" f  | 26' 11" * | 22' 9" *  | 25' 7" f   | 25' 7" f   | 21' 9" *  |
|                                   |             | 16                   | 36' 2" f   | 32' 6" *   | 27' 5" *  | 31' 4" f  | 29' 6" *  | 24' 11" * | 28' 0" f   | 27' 5" *  | 23' 1" *  | 25' 7" f   | 25' 7" f   | 21' 9" *  | 23' 8" f  | 23' 8" f  | 20' 8" *  | 22' 2" f   | 22' 2" f   | 19' 9" *  |
|                                   |             | 24                   | 29' 6" f   | 28' 4" *   | 23' 11" * | 25' 7" f  | 25' 7" f  | 21' 9" *  | 22' 10" f  | 22' 10" f | 20' 2" *  | 20' 11" f  | 20' 11" f  | 19' 0" *  | 19' 4" f  | 19' 4" f  | 18' 0" *  | 18' 1" f   | 18' 1" f   | 17' 3" *  |
|                                   | 1000S200-68 | 12                   | 44' 3" *   | 38' 8" *   | 32' 8" *  | 40' 3" *  | 35' 2" *  | 29' 8" *  | 37' 1" f   | 32' 8" *  | 27' 6" *  | 33' 10" f  | 30' 8" *   | 25' 11" * | 31' 4" f  | 29' 2" *  | 24' 7" *  | 29' 4" f   | 27' 11" *  | 23' 6" *  |
|                                   |             | 16                   | 40' 3" *   | 35' 2" *   | 29' 8" *  | 35' 11" f | 31' 11" * | 26' 11" * | 32' 1" f   | 29' 8" *  | 25' 0" *  | 29' 4" f   | 27' 11" *  | 23' 6" *  | 27' 1" f  | 26' 6" *  | 22' 4" *  | 25' 4" f   | 25' 4" *   | 21' 5" *  |
|                                   |             | 24                   | 33' 10" f  | 30' 8" *   | 25' 11" * | 29' 4" f  | 27' 11" * | 23' 6" *  | 26' 2" f   | 25' 11" * | 21' 10" * | 23' 11" f  | 23' 11" f  | 20' 7" *  | 22' 2" f  | 22' 2" f  | 19' 6" *  | 20' 9" f   | 20' 9" f   | 18' 8" *  |
|                                   | 1000S200-97 | 12                   | 49' 6" *   | 43' 3" *   | 36' 6" *  | 45' 0" *  | 39' 4" *  | 33' 2" *  | 41' 9" *   | 36' 6" *  | 30' 9" *  | 39' 4" *   | 34' 4" *   | 29' 0" *  | 37' 4" *  | 32' 7" *  | 27' 6" *  | 35' 9" *   | 31' 2" *   | 26' 4" *  |
|                                   |             | 16                   | 45' 0" *   | 39' 4" *   | 33' 2" *  | 40' 11" * | 35' 9" *  | 30' 1" *  | 37' 11" *  | 33' 2" *  | 28' 0" *  | 35' 9" *   | 31' 2" *   | 26' 4" *  | 33' 11" * | 29' 8" *  | 25' 0" *  | 32' 5" *   | 28' 4" *   | 23' 11" * |
|                                   |             | 24                   | 39' 4" *   | 34' 4" *   | 29' 0" *  | 35' 9" *  | 31' 2" *  | 26' 4" *  | 33' 2" *   | 29' 0" *  | 24' 5" *  | 31' 2" *   | 27' 3" *   | 23' 0" *  | 29' 3" f  | 25' 11" * | 21' 10" * | 27' 5" f   | 24' 9" *   | 20' 11" * |

## Notes:

- 1 Studs are checked for simple-span deflection and stress. Stress calculations are made for mid-span fully braced moment, end shear through the unperforated section, and shear moment interaction through the perforated section 10" away from the end bearing.
- 2 A 1/3 stress increase is not used.
- 3 Limiting heights are based on continuous lateral support of each flange over the full height of the stud.
- 4 Heights are based on steel properties only.
- 5 End reactions must be checked for web crippling separately.
- 6 Cells having an "f" indicate the limiting height is controlled by stress.
- 7 Cells marked with an " \* " have an  $h/t > 200$  and thus require end stiffeners. Blank cells have an  $h/t > 260$ .
- 8 Capacities are calculated according to the AISI-NASPEC, 2001 with 2004 supplement. A 1-1/2" by 4" knockout spaced no closer than 24" o.c. is assumed. (3/4" for 2-1/2" studs)
- 9 All values are based on  $F_y=33\text{ksi}$ .
- 10 For deflection calculations, wind loads have been multiplied by 0.7 per the AISI Standard for Cold-Formed Steel Framing - Wall Stud Design 2004 Edition except for the 5psf load which is considered an interior wall load.

Complies with IBC 2006 &amp; AISI-NASPEC, 2001 with 2004 supplement

## CURTAIN WALL HEIGHTS

|                                           | Member      | Spacing<br>(in) o.c. | 15psf     |           |          | 20psf     |           |          | 25psf     |           |           | 30psf      |            |          | 35psf     |           |           | 40psf     |           |           |
|-------------------------------------------|-------------|----------------------|-----------|-----------|----------|-----------|-----------|----------|-----------|-----------|-----------|------------|------------|----------|-----------|-----------|-----------|-----------|-----------|-----------|
|                                           |             |                      | L/240     | L/360     | L/600    | L/240     | L/360     | L/600    | L/240     | L/360     | L/600     | L/240      | L/360      | L/600    | L/240     | L/360     | L/600     | L/240     | L/360     | L/600     |
| 10" Exterior Curtain Wall Framing (cont.) | 1000S250-43 | 12                   | 37' 8" f* | 34' 11" * | 29' 5" * | 32' 8" f* | 31' 8" *  | 26' 9" * | 29' 2" f* | 29' 2" f* | 24' 10" * | 26' 8" f*  | 26' 8" f*  | 23' 4" * | 24' 8" f* | 24' 8" f* | 22' 2" *  | 23' 1" f* | 23' 1" f* | 21' 3" *  |
|                                           |             | 16                   | 32' 8" f* | 31' 8" *  | 26' 9" * | 28' 3" f* | 28' 3" f* | 24' 3" * | 25' 3" f* | 25' 3" f* | 22' 7" *  | 23' 1" f*  | 23' 1" f*  | 21' 3" * | 21' 4" f* | 21' 4" f* | 20' 2" *  | 20' 0" f* | 20' 0" f* | 19' 3" *  |
|                                           |             | 24                   | 26' 8" f* | 26' 8" f* | 23' 4" * | 23' 1" f* | 23' 1" f* | 21' 3" * | 20' 8" f* | 20' 8" f* | 19' 8" *  | 18' 10" f* | 18' 10" f* | 18' 6" * | 17' 5" f* | 17' 5" f* | 17' 5" f* | 16' 4" f* | 16' 4" f* | 16' 4" f* |
|                                           | 1000S250-54 | 12                   | 42' 11"   | 37' 6"    | 31' 8"   | 38' 9" f  | 34' 1"    | 28' 9"   | 34' 8" f  | 31' 8"    | 26' 8"    | 31' 8" f   | 29' 9"     | 25' 1"   | 29' 3" f  | 28' 3"    | 23' 10"   | 27' 5" f  | 27' 1"    | 22' 10"   |
|                                           |             | 16                   | 38' 9" f  | 34' 1"    | 28' 9"   | 33' 7" f  | 31' 0"    | 26' 1"   | 30' 0" f  | 28' 9"    | 24' 3"    | 27' 5" f   | 27' 1"     | 22' 10"  | 25' 4" f  | 25' 4" f  | 21' 8"    | 23' 9" f  | 23' 9" f  | 20' 9"    |
|                                           |             | 24                   | 31' 8" f  | 29' 9"    | 25' 1"   | 27' 5" f  | 27' 1"    | 22' 10"  | 24' 6" f  | 24' 6" f  | 21' 2"    | 22' 4" f   | 22' 4" f   | 19' 11"  | 20' 9" f  | 20' 9" f  | 18' 11"   | 19' 4" f  | 19' 4" f  | 18' 1"    |
|                                           | 1000S250-68 | 12                   | 46' 2"    | 40' 4"    | 34' 0"   | 41' 11"   | 36' 8"    | 30' 11"  | 38' 11"   | 34' 0"    | 28' 8"    | 36' 8"     | 32' 0"     | 27' 0"   | 34' 10"   | 30' 5"    | 25' 8"    | 33' 3" f  | 29' 1"    | 24' 6"    |
|                                           |             | 16                   | 41' 11"   | 36' 8"    | 30' 11"  | 38' 1"    | 33' 3"    | 28' 1"   | 35' 4"    | 30' 11"   | 26' 1"    | 33' 3" f   | 29' 1"     | 24' 6"   | 30' 10" f | 27' 7"    | 23' 4"    | 28' 10" f | 26' 5"    | 22' 3"    |
|                                           |             | 24                   | 36' 8"    | 32' 0"    | 27' 0"   | 33' 3" f  | 29' 1"    | 24' 6"   | 29' 9" f  | 27' 0"    | 22' 9"    | 27' 2" f   | 25' 5"     | 21' 5"   | 25' 2" f  | 24' 2"    | 20' 4"    | 23' 6" f  | 23' 1"    | 19' 6"    |
|                                           | 1000S250-97 | 12                   | 51' 7"    | 45' 0"    | 38' 0"   | 46' 10"   | 40' 11"   | 34' 6"   | 43' 6"    | 38' 0"    | 32' 0"    | 40' 11"    | 35' 9"     | 30' 2"   | 38' 10"   | 33' 11"   | 28' 8"    | 37' 2"    | 32' 6"    | 27' 5"    |
|                                           |             | 16                   | 46' 10"   | 40' 11"   | 34' 6"   | 42' 7"    | 37' 2"    | 31' 4"   | 39' 6"    | 34' 6"    | 29' 1"    | 37' 2"     | 32' 6"     | 27' 5"   | 35' 4"    | 30' 10"   | 26' 0"    | 33' 9"    | 29' 6"    | 24' 11"   |
|                                           |             | 24                   | 40' 11"   | 35' 9"    | 30' 2"   | 37' 2"    | 32' 6"    | 27' 5"   | 34' 6"    | 30' 2"    | 25' 5"    | 32' 6"     | 28' 4"     | 23' 11"  | 30' 8" f  | 26' 11"   | 22' 9"    | 28' 8" f  | 25' 9"    | 21' 9"    |
|                                           | 1000S300-54 | 12                   | 44' 4"    | 38' 9"    | 32' 8"   | 39' 1" f  | 35' 2"    | 29' 8"   | 34' 11" f | 32' 8"    | 27' 7"    | 31' 11" f  | 30' 9"     | 25' 11"  | 29' 6" f  | 29' 2"    | 24' 7"    | 27' 7" f  | 27' 7" f  | 23' 7"    |
|                                           |             | 16                   | 39' 1" f  | 35' 2"    | 29' 8"   | 33' 10" f | 32' 0"    | 26' 11"  | 30' 3" f  | 29' 8"    | 25' 0"    | 27' 7" f   | 27' 7" f   | 23' 7"   | 25' 7" f  | 25' 7" f  | 22' 4"    | 23' 11" f | 23' 11" f | 21' 5"    |
|                                           |             | 24                   | 31' 11" f | 30' 9"    | 25' 11"  | 27' 7" f  | 27' 7" f  | 23' 7"   | 24' 8" f  | 24' 8" f  | 21' 10"   | 22' 7" f   | 22' 7" f   | 20' 7"   | 20' 10" f | 20' 10" f | 19' 7"    | 19' 6" f  | 19' 6" f  | 18' 8"    |
|                                           | 1000S300-68 | 12                   | 47' 9"    | 41' 9"    | 35' 2"   | 43' 5"    | 37' 11"   | 32' 0"   | 40' 3"    | 35' 2"    | 29' 8"    | 37' 3" f   | 33' 1"     | 27' 11"  | 34' 6" f  | 31' 5"    | 26' 6"    | 32' 3" f  | 30' 1"    | 25' 4"    |
|                                           |             | 16                   | 43' 5"    | 37' 11"   | 32' 0"   | 39' 5"    | 34' 5"    | 29' 0"   | 35' 4" f  | 32' 0"    | 26' 11"   | 32' 3" f   | 30' 1"     | 25' 4"   | 29' 10" f | 28' 7"    | 24' 1"    | 27' 11" f | 27' 4"    | 23' 1"    |
|                                           |             | 24                   | 37' 3" f  | 33' 1"    | 27' 11"  | 32' 3" f  | 30' 1"    | 25' 4"   | 28' 10" f | 27' 11"   | 23' 7"    | 26' 4" f   | 26' 3"     | 22' 2"   | 24' 4" f  | 24' 4" f  | 21' 1"    | 22' 10" f | 22' 10" f | 20' 2"    |
| 1000S300-97                               | 12          | 53' 5"               | 46' 8"    | 39' 4"    | 48' 7"   | 42' 5"    | 35' 9"    | 45' 1"   | 39' 4"    | 33' 2"    | 42' 5"    | 37' 1"     | 31' 3"     | 40' 3"   | 35' 2"    | 29' 8"    | 38' 6"    | 33' 8"    | 28' 5"    |           |
|                                           | 16          | 48' 7"               | 42' 5"    | 35' 9"    | 44' 1"   | 38' 6"    | 32' 6"    | 40' 11"  | 35' 9"    | 30' 2"    | 38' 6"    | 33' 8"     | 28' 5"     | 36' 7"   | 32' 0"    | 27' 0"    | 35' 0"    | 30' 7"    | 25' 10"   |           |
|                                           | 24          | 42' 5"               | 37' 1"    | 31' 3"    | 38' 6"   | 33' 8"    | 28' 5"    | 35' 9"   | 31' 3"    | 26' 4"    | 33' 8"    | 29' 5"     | 24' 10"    | 31' 6" f | 27' 11"   | 23' 7"    | 29' 5" f  | 26' 9"    | 22' 6"    |           |

### Notes:

- 1 Studs are checked for simple-span deflection and stress. Stress calculations are made for mid-span fully braced moment, end shear through the unperforated section, and shear moment interaction through the perforated section 10" away from the end bearing.
- 2 A 1/3 stress increase is not used.
- 3 Limiting heights are based on continuous lateral support of each flange over the full height of the stud.
- 4 Heights are based on steel properties only.
- 5 End reactions must be checked for web crippling separately.
- 6 Cells having an "f" indicate the limiting height is controlled by stress.
- 7 Cells marked with an " \* " have an  $h/t > 200$  and thus require end stiffeners. Blank cells have an  $h/t > 260$ .
- 8 Capacities are calculated according to the AISI-NASPEC, 2001 with 2004 supplement. A 1-1/2" by 4" knockout spaced no closer than 24" o.c. is assumed. (3/4" for 2-1/2" studs)
- 9 All values are based on  $F_y = 33 \text{ ksi}$ .
- 10 For deflection calculations, wind loads have been multiplied by 0.7 per the AISI Standard for Cold-Formed Steel Framing - Wall Stud Design 2004 Edition except for the 5psf load which is considered an interior wall load.

Complies with IBC 2006 & AISI-NASPEC, 2001 with 2004 supplement

## CURTAIN WALL HEIGHTS

| Member      | Spacing<br>(in) o.c. | 15psf     |           |           | 20psf     |           |           | 25psf      |            |           | 30psf     |           |           | 35psf      |            |           | 40psf      |            |           |
|-------------|----------------------|-----------|-----------|-----------|-----------|-----------|-----------|------------|------------|-----------|-----------|-----------|-----------|------------|------------|-----------|------------|------------|-----------|
|             |                      | L/240     | L/360     | L/600     | L/240     | L/360     | L/600     | L/240      | L/360      | L/600     | L/240     | L/360     | L/600     | L/240      | L/360      | L/600     | L/240      | L/360      | L/600     |
| 1200S162-54 | 12                   | 43' 1" f* | 39' 5" *  | 33' 3" *  | 37' 3" f* | 35' 10" * | 30' 3" *  | 33' 4" f*  | 33' 3" *   | 28' 1" *  | 30' 5" f* | 30' 5" f* | 26' 5" *  | 28' 2" f*  | 28' 2" f*  | 25' 1" *  | 26' 4" f*  | 26' 4" f*  | 24' 0" *  |
|             | 16                   | 37' 3" f* | 35' 10" * | 30' 3" *  | 32' 3" f* | 32' 3" f* | 27' 6" *  | 28' 11" f* | 28' 11" f* | 25' 6" *  | 26' 4" f* | 26' 4" f* | 24' 0" *  | 24' 5" f*  | 24' 5" f*  | 22' 10" * | 22' 10" f* | 22' 10" f* | 21' 10" * |
|             | 24                   | 30' 5" f* | 30' 5" f* | 26' 5" *  | 26' 4" f* | 26' 4" f* | 24' 0" *  | 23' 7" f*  | 23' 7" f*  | 22' 3" *  | 21' 6" f* | 21' 6" f* | 21' 0" *  | 19' 11" f* | 19' 11" f* | 19' 11" * | 18' 8" f*  | 18' 8" f*  | 18' 8" f* |
| 1200S162-68 | 12                   | 49' 1" f  | 42' 11" f | 36' 2" f  | 43' 1" f  | 39' 0" f  | 32' 10" f | 38' 6" f   | 36' 2" f   | 30' 6" f  | 35' 2" f  | 34' 0" f  | 28' 8" f  | 32' 7" f   | 32' 4" f   | 27' 3" f  | 30' 5" f   | 30' 5" f   | 26' 1" f  |
|             | 16                   | 43' 1" f  | 39' 0" f  | 32' 10" f | 37' 3" f  | 35' 5" f  | 29' 10" f | 33' 4" f   | 32' 10" f  | 27' 9" f  | 30' 5" f  | 30' 5" f  | 26' 1" f  | 28' 2" f   | 28' 2" f   | 24' 9" f  | 26' 4" f   | 26' 4" f   | 23' 8" f  |
|             | 24                   | 35' 2" f  | 34' 0" f  | 28' 8" f  | 30' 5" f  | 30' 5" f  | 26' 1" f  | 27' 3" f   | 27' 3" f   | 24' 3" f  | 24' 10" f | 24' 10" f | 22' 9" f  | 23' 0" f   | 23' 0" f   | 21' 8" f  | 21' 6" f   | 21' 6" f   | 20' 8" f  |
| 1200S162-97 | 12                   | 55' 4" f  | 48' 4" f  | 40' 9" f  | 50' 3" f  | 43' 11" f | 37' 1" f  | 46' 8" f   | 40' 9" f   | 34' 5" f  | 43' 8" f  | 38' 4" f  | 32' 4" f  | 40' 5" f   | 36' 5" f   | 30' 9" f  | 37' 10" f  | 34' 10" f  | 29' 5" f  |
|             | 16                   | 50' 3" f  | 43' 11" f | 37' 1" f  | 45' 8" f  | 39' 11" f | 33' 8" f  | 41' 5" f   | 37' 1" f   | 31' 3" f  | 37' 10" f | 34' 10" f | 29' 5" f  | 35' 0" f   | 33' 1" f   | 27' 11" f | 32' 9" f   | 31' 8" f   | 26' 9" f  |
|             | 24                   | 43' 8" f  | 38' 4" f  | 32' 4" f  | 37' 10" f | 34' 10" f | 29' 5" f  | 33' 10" f  | 32' 4" f   | 27' 4" f  | 30' 11" f | 30' 5" f  | 25' 8" f  | 28' 7" f   | 28' 7" f   | 24' 5" f  | 26' 9" f   | 26' 9" f   | 23' 4" f  |
| 1200S200-54 | 12                   | 46' 2" f* | 41' 1" *  | 34' 8" *  | 40' 0" f* | 37' 4" *  | 31' 6" *  | 35' 9" f*  | 34' 8" *   | 29' 3" *  | 32' 8" f* | 32' 8" *  | 27' 6" *  | 30' 3" f*  | 30' 3" f*  | 26' 2" *  | 28' 3" f*  | 28' 3" f*  | 25' 0" *  |
|             | 16                   | 40' 0" f* | 37' 4" *  | 31' 6" *  | 34' 8" f* | 33' 11" * | 28' 7" *  | 31' 0" f*  | 31' 0" f*  | 26' 7" *  | 28' 3" f* | 28' 3" f* | 25' 0" *  | 26' 2" f*  | 26' 2" f*  | 23' 9" *  | 24' 6" f*  | 24' 6" f*  | 22' 9" *  |
|             | 24                   | 32' 8" f* | 32' 8" *  | 27' 6" *  | 28' 3" f* | 28' 3" f* | 25' 0" *  | 25' 3" f*  | 25' 3" f*  | 23' 3" *  | 23' 1" f* | 23' 1" f* | 21' 10" * | 21' 4" f*  | 21' 4" f*  | 20' 9" *  | 20' 0" f*  | 20' 0" f*  | 19' 10" * |
| 1200S200-68 | 12                   | 51' 1" f  | 44' 8" f  | 37' 8" f  | 46' 0" f  | 40' 7" f  | 34' 2" f  | 41' 2" f   | 37' 8" f   | 31' 9" f  | 37' 7" f  | 35' 5" f  | 29' 11" f | 34' 9" f   | 33' 8" f   | 28' 5" f  | 32' 6" f   | 32' 2" f   | 27' 2" f  |
|             | 16                   | 46' 0" f  | 40' 7" f  | 34' 2" f  | 39' 10" f | 36' 10" f | 31' 1" f  | 35' 8" f   | 34' 2" f   | 28' 10" f | 32' 6" f  | 32' 2" f  | 27' 2" f  | 30' 1" f   | 30' 1" f   | 25' 9" f  | 28' 2" f   | 28' 2" f   | 24' 8" f  |
|             | 24                   | 37' 7" f  | 35' 5" f  | 29' 11" f | 32' 6" f  | 32' 2" f  | 27' 2" f  | 29' 1" f   | 29' 1" f   | 25' 2" f  | 26' 7" f  | 26' 7" f  | 23' 9" f  | 24' 7" f   | 24' 7" f   | 22' 6" f  | 23' 0" f   | 23' 0" f   | 21' 7" f  |
| 1200S200-97 | 12                   | 57' 7" f  | 50' 4" f  | 42' 5" f  | 52' 4" f  | 45' 8" f  | 38' 7" f  | 48' 7" f   | 42' 5" f   | 35' 9" f  | 45' 8" f  | 39' 11" f | 33' 8" f  | 43' 0" f   | 37' 11" f  | 32' 0" f  | 40' 3" f   | 36' 3" f   | 30' 7" f  |
|             | 16                   | 52' 4" f  | 45' 8" f  | 38' 7" f  | 47' 6" f  | 41' 6" f  | 35' 0" f  | 44' 1" f   | 38' 7" f   | 32' 6" f  | 40' 3" f  | 36' 3" f  | 30' 7" f  | 37' 3" f   | 34' 6" f   | 29' 1" f  | 34' 10" f  | 33' 0" f   | 27' 10" f |
|             | 24                   | 45' 8" f  | 39' 11" f | 33' 8" f  | 40' 3" f  | 36' 3" f  | 30' 7" f  | 36' 0" f   | 33' 8" f   | 28' 5" f  | 32' 10" f | 31' 8" f  | 26' 9" f  | 30' 5" f   | 30' 1" f   | 25' 5" f  | 28' 5" f   | 28' 5" f   | 24' 3" f  |
| 1200S250-54 | 12                   | 46' 9" f* | 42' 10" * | 36' 1" *  | 40' 5" f* | 38' 11" * | 32' 10" * | 36' 2" f*  | 36' 1" *   | 30' 5" *  | 33' 0" f* | 33' 0" f* | 28' 8" *  | 30' 7" f*  | 30' 7" f*  | 27' 3" *  | 28' 7" f*  | 28' 7" f*  | 26' 0" *  |
|             | 16                   | 40' 5" f* | 38' 11" * | 32' 10" * | 35' 0" f* | 35' 0" f* | 29' 10" * | 31' 4" f*  | 31' 4" f*  | 27' 8" *  | 28' 7" f* | 28' 7" f* | 26' 0" *  | 26' 6" f*  | 26' 6" f*  | 24' 9" *  | 24' 9" f*  | 24' 9" f*  | 23' 8" *  |
|             | 24                   | 33' 0" f* | 33' 0" f* | 28' 8" *  | 28' 7" f* | 28' 7" f* | 26' 0" *  | 25' 7" f*  | 25' 7" f*  | 24' 2" *  | 23' 4" f* | 23' 4" f* | 22' 9" *  | 21' 7" f*  | 21' 7" f*  | 21' 7" *  | 20' 3" f*  | 20' 3" f*  | 20' 3" f* |
| 1200S250-68 | 12                   | 53' 1" f  | 46' 4" f  | 39' 1" f  | 48' 0" f  | 42' 2" f  | 35' 6" f  | 42' 11" f  | 39' 1" f   | 33' 0" f  | 39' 2" f  | 36' 10" f | 31' 0" f  | 36' 3" f   | 35' 0" f   | 29' 6" f  | 33' 11" f  | 33' 5" f   | 28' 2" f  |
|             | 16                   | 48' 0" f  | 42' 2" f  | 35' 6" f  | 41' 7" f  | 38' 3" f  | 32' 3" f  | 37' 2" f   | 35' 6" f   | 30' 0" f  | 33' 11" f | 33' 5" f  | 28' 2" f  | 31' 5" f   | 31' 5" f   | 26' 9" f  | 29' 5" f   | 29' 5" f   | 25' 7" f  |
|             | 24                   | 39' 2" f  | 36' 10" f | 31' 0" f  | 33' 11" f | 33' 5" f  | 28' 2" f  | 30' 4" f   | 30' 4" f   | 26' 2" f  | 27' 8" f  | 27' 8" f  | 24' 8" f  | 25' 8" f   | 25' 8" f   | 23' 5" f  | 24' 0" f   | 24' 0" f   | 22' 5" f  |
| 1200S250-97 | 12                   | 59' 9" f  | 52' 2" f  | 44' 0" f  | 54' 4" f  | 47' 5" f  | 40' 0" f  | 50' 5" f   | 44' 0" f   | 37' 2" f  | 47' 5" f  | 41' 5" f  | 34' 11" f | 45' 1" f   | 39' 4" f   | 33' 2" f  | 42' 7" f   | 37' 8" f   | 31' 9" f  |
|             | 16                   | 54' 4" f  | 47' 5" f  | 40' 0" f  | 49' 4" f  | 43' 1" f  | 36' 4" f  | 45' 10" f  | 40' 0" f   | 33' 9" f  | 42' 7" f  | 37' 8" f  | 31' 9" f  | 39' 5" f   | 35' 9" f   | 29' 1" f  | 36' 11" f  | 34' 2" f   | 28' 10" f |
|             | 24                   | 47' 5" f  | 41' 5" f  | 34' 11" f | 42' 7" f  | 37' 8" f  | 31' 9" f  | 38' 1" f   | 34' 11" f  | 29' 6" f  | 34' 10" f | 32' 11" f | 27' 9" f  | 32' 3" f   | 31' 3" f   | 26' 4" f  | 30' 2" f   | 29' 11" f  | 25' 2" f  |
| 1200S300-54 | 12                   | 49' 0" f* | 44' 10" * | 37' 10" * | 42' 6" f* | 40' 9" *  | 34' 4" *  | 38' 0" f*  | 37' 10" *  | 31' 11" * | 34' 8" f* | 34' 8" f* | 30' 0" *  | 32' 1" f*  | 32' 1" f*  | 28' 6" *  | 30' 0" f*  | 30' 0" f*  | 27' 3" *  |
|             | 16                   | 42' 6" f* | 40' 9" *  | 34' 4" *  | 36' 9" f* | 36' 9" f* | 31' 3" *  | 32' 11" f* | 32' 11" f* | 29' 0" *  | 30' 0" f* | 30' 0" f* | 27' 3" *  | 27' 10" f* | 27' 10" f* | 25' 11" * | 26' 0" f*  | 26' 0" f*  | 24' 9" *  |
|             | 24                   | 34' 8" f* | 34' 8" f* | 30' 0" *  | 30' 0" f* | 30' 0" f* | 27' 3" *  | 26' 10" f* | 26' 10" f* | 25' 4" *  | 24' 6" f* | 24' 6" f* | 23' 10" * | 22' 8" f*  | 22' 8" f*  | 22' 8" *  | 21' 3" f*  | 21' 3" f*  | 21' 3" f* |
| 1200S300-68 | 12                   | 55' 2" f  | 48' 2" f  | 40' 8" f  | 50' 2" f  | 43' 10" f | 36' 11" f | 46' 3" f   | 40' 8" f   | 34' 3" f  | 42' 3" f  | 38' 3" f  | 32' 3" f  | 39' 1" f   | 36' 4" f   | 30' 8" f  | 36' 7" f   | 34' 9" f   | 29' 4" f  |
|             | 16                   | 50' 2" f  | 43' 10" f | 36' 11" f | 44' 9" f  | 39' 9" f  | 33' 7" f  | 40' 1" f   | 36' 11" f  | 31' 2" f  | 36' 7" f  | 34' 9" f  | 29' 4" f  | 33' 10" f  | 33' 0" f   | 27' 10" f | 31' 8" f   | 31' 7" f   | 26' 8" f  |
|             | 24                   | 42' 3" f  | 38' 3" f  | 32' 3" f  | 36' 7" f  | 34' 9" f  | 29' 4" f  | 32' 8" f   | 32' 3" f   | 27' 3" f  | 29' 10" f | 29' 10" f | 25' 7" f  | 27' 8" f   | 27' 8" f   | 24' 4" f  | 25' 10" f  | 25' 10" f  | 23' 3" f  |
| 1200S300-97 | 12                   | 61' 9" f  | 54' 0" f  | 45' 6" f  | 56' 2" f  | 49' 1" f  | 41' 4" f  | 52' 1" f   | 45' 6" f   | 38' 5" f  | 49' 1" f  | 42' 10" f | 36' 2" f  | 46' 7" f   | 40' 8" f   | 34' 4" f  | 44' 7" f   | 38' 11" f  | 32' 10" f |
|             | 16                   | 56' 2" f  | 49' 1" f  | 41' 4" f  | 51' 0" f  | 44' 7" f  | 37' 7" f  | 47' 4" f   | 41' 4" f   | 34' 11" f | 44' 7" f  | 38' 11" f | 32' 10" f | 42' 4" f   | 37' 0" f   | 31' 2" f  | 40' 6" f   | 35' 4" f   | 29' 10" f |
|             | 24                   | 49' 1" f  | 42' 10" f | 36' 2" f  | 44' 7" f  | 38' 11" f | 32' 10" f | 41' 4" f   | 36' 2" f   | 30' 6" f  | 38' 7" f  | 34' 0" f  | 28' 8" f  | 35' 9" f   | 32' 4" f   | 27' 3" f  | 33' 5" f   | 30' 11" f  | 26' 1" f  |

## Notes:

- 1 Studs are checked for simple-span deflection and stress. Stress calculations are made for mid-span fully braced moment, end shear through the unperforated section, and shear moment interaction through the perforated section 10" away from the end bearing.
- 2 A 1/3 stress increase is not used.
- 3 Limiting heights are based on continuous lateral support of each flange over the full height of the stud.
- 4 Heights are based on steel properties only.
- 5 End reactions must be checked for web crippling separately.
- 6 Cells having an "f" indicate the limiting height is controlled by stress.
- 7 Cells marked with an " \* " have an h/t > 200 and thus require end stiffeners. Blank cells have an h/t > 260.
- 8 Capacities are calculated according to the AISI-NASPEC, 2001 with 2004 supplement. A 1-1/2" by 4" knockout spaced no closer than 24" o.c. is assumed. (3/4" for 2-1/2" studs)
- 9 All values are based on Fy=33ksi.
- 10 For deflection calculations, wind loads have been multiplied by 0.7 per the AISI Standard for Cold-Formed Steel Framing - Wall Stud Design 2004 Edition except for the 5psf load which is considered an interior wall load.

Complies with IBC 2006 &amp; AISI-NASPEC, 2001 with 2004 supplement

## CURTAIN WALL HEIGHTS

| Member      | Spacing<br>(in) o.c. | 15psf      |            |           | 20psf      |           |           | 25psf      |            |           | 30psf      |            |           | 35psf      |            |            | 40psf      |            |           |
|-------------|----------------------|------------|------------|-----------|------------|-----------|-----------|------------|------------|-----------|------------|------------|-----------|------------|------------|------------|------------|------------|-----------|
|             |                      | L/240      | L/360      | L/600     | L/240      | L/360     | L/600     | L/240      | L/360      | L/600     | L/240      | L/360      | L/600     | L/240      | L/360      | L/600      | L/240      | L/360      | L/600     |
| 1400S162-54 | 12                   | 46' 10" f* | 44' 6" *   | 37' 6" *  | 40' 7" f*  | 40' 5" *  | 34' 1" *  | 36' 3" f*  | 36' 3" f*  | 31' 8" *  | 33' 1" f*  | 33' 1" f*  | 29' 9" *  | 30' 8" f*  | 30' 8" f*  | 28' 3" *   | 28' 8" f*  | 28' 8" f*  | 27' 1" *  |
|             | 16                   | 40' 7" f*  | 40' 5" *   | 34' 1" *  | 35' 2" f*  | 35' 2" f* | 30' 11" * | 31' 5" f*  | 31' 5" f*  | 28' 9" *  | 28' 8" f*  | 28' 8" f*  | 27' 1" *  | 26' 7" f*  | 26' 7" f*  | 25' 8" *   | 24' 10" f* | 24' 10" f* | 24' 7" *  |
|             | 24                   | 33' 1" f*  | 33' 1" f*  | 29' 9" *  | 28' 8" f*  | 28' 8" f* | 27' 1" *  | 25' 8" f*  | 25' 8" f*  | 25' 1" *  | 23' 5" f*  | 23' 5" f*  | 23' 5" f* | 21' 8" f*  | 21' 8" f*  | 21' 8" f*  | 20' 3" f*  | 20' 3" f*  | 20' 3" f* |
| 1400S162-68 | 12                   | 54' 3" f   | 48' 6" *   | 40' 10" * | 47' 0" f   | 44' 0" *  | 37' 2" *  | 42' 1" f   | 40' 10" *  | 34' 6" *  | 38' 5" f   | 38' 5" f   | 32' 5" *  | 35' 6" f   | 35' 6" f   | 30' 10" *  | 33' 3" f   | 33' 3" f   | 29' 6" *  |
|             | 16                   | 47' 0" f   | 44' 0" *   | 37' 2" *  | 40' 9" f   | 40' 0" *  | 33' 9" *  | 36' 5" f   | 36' 5" f   | 31' 4" *  | 33' 3" f   | 33' 3" f   | 29' 6" *  | 30' 9" f   | 30' 9" f   | 28' 0" *   | 28' 9" f   | 28' 9" f   | 26' 9" *  |
|             | 24                   | 38' 5" f   | 38' 5" f   | 32' 5" *  | 33' 3" f   | 33' 3" f  | 29' 6" *  | 29' 9" f   | 29' 9" f   | 27' 4" *  | 27' 2" f   | 27' 2" f   | 25' 9" *  | 25' 2" f   | 25' 2" f   | 24' 6" *   | 23' 6" f   | 23' 6" f   | 23' 5" *  |
| 1400S162-97 | 12                   | 63' 1" *   | 55' 1" *   | 46' 6" *  | 57' 4" *   | 50' 1" *  | 42' 3" *  | 52' 8" f   | 46' 6" *   | 39' 2" *  | 48' 1" f   | 43' 9" *   | 36' 11" * | 44' 6" f   | 41' 6" *   | 35' 0" *   | 41' 8" f   | 39' 9" *   | 33' 6" *  |
|             | 16                   | 57' 4" *   | 50' 1" *   | 42' 3" *  | 51' 0" f   | 45' 6" *  | 38' 4" *  | 45' 7" f   | 42' 3" *   | 35' 7" *  | 41' 8" f   | 39' 9" *   | 33' 6" *  | 38' 7" f   | 37' 9" *   | 31' 10" *  | 36' 1" f   | 36' 1" f   | 30' 5" *  |
|             | 24                   | 48' 1" f   | 43' 9" *   | 36' 11" * | 41' 8" f   | 39' 9" *  | 33' 6" *  | 37' 3" f   | 36' 11" *  | 31' 1" *  | 34' 0" f   | 34' 0" f   | 29' 3" *  | 31' 6" f   | 31' 6" f   | 27' 10" *  | 29' 5" f   | 29' 5" f   | 26' 7" *  |
| 1400S200-54 | 12                   | 50' 2" f*  | 46' 3" *   | 39' 0" *  | 43' 6" f*  | 42' 0" *  | 35' 5" *  | 38' 10" f* | 38' 10" f* | 32' 11" * | 35' 6" f*  | 35' 6" f*  | 31' 0" *  | 32' 10" f* | 32' 10" f* | 29' 5" *   | 30' 9" f*  | 30' 9" f*  | 28' 2" *  |
|             | 16                   | 43' 6" f*  | 42' 0" *   | 35' 5" *  | 37' 8" f*  | 37' 8" f* | 32' 2" *  | 33' 8" f*  | 33' 8" f*  | 29' 11" * | 30' 9" f*  | 30' 9" f*  | 28' 2" *  | 28' 5" f*  | 28' 5" f*  | 26' 9" *   | 26' 7" f*  | 26' 7" f*  | 25' 7" *  |
|             | 24                   | 35' 6" f*  | 35' 6" f*  | 31' 0" *  | 30' 9" f*  | 30' 9" f* | 28' 2" *  | 27' 6" f*  | 27' 6" f*  | 26' 1" *  | 25' 1" f*  | 25' 1" f*  | 24' 7" *  | 23' 3" f*  | 23' 3" f*  | 23' 3" f*  | 21' 9" f*  | 21' 9" f*  | 21' 9" f* |
| 1400S200-68 | 12                   | 57' 8" *   | 50' 4" *   | 42' 6" *  | 50' 2" f   | 45' 9" *  | 38' 7" *  | 44' 10" f  | 42' 6" *   | 35' 10" * | 41' 0" f   | 40' 0" *   | 33' 8" *  | 37' 11" f  | 37' 11" f  | 32' 0" *   | 35' 6" f   | 35' 6" f   | 30' 7" *  |
|             | 16                   | 50' 2" f   | 45' 9" *   | 38' 7" *  | 43' 5" f   | 41' 7" *  | 35' 1" *  | 38' 10" f  | 38' 7" *   | 32' 7" *  | 35' 6" f   | 35' 6" f   | 30' 7" *  | 32' 10" f  | 32' 10" f  | 29' 1" *   | 30' 9" f   | 30' 9" f   | 27' 10" * |
|             | 24                   | 41' 0" f   | 40' 0" *   | 33' 8" *  | 35' 6" f   | 35' 6" f  | 30' 7" *  | 31' 9" f   | 31' 9" f   | 28' 5" *  | 29' 0" f   | 29' 0" f   | 26' 9" *  | 26' 10" f  | 26' 10" f  | 25' 5" *   | 25' 1" f   | 25' 1" f   | 24' 4" *  |
| 1400S200-97 | 12                   | 65' 5" *   | 57' 2" *   | 48' 3" *  | 59' 5" *   | 51' 11" * | 43' 10" * | 55' 2" *   | 48' 3" *   | 40' 8" *  | 51' 1" f   | 45' 4" *   | 38' 3" *  | 47' 3" f   | 43' 1" *   | 36' 4" *   | 44' 3" f   | 41' 3" *   | 34' 9" *  |
|             | 16                   | 59' 5" *   | 51' 11" *  | 43' 10" * | 54' 0" *   | 47' 2" *  | 39' 10" * | 48' 5" f   | 43' 10" *  | 36' 11" * | 44' 3" f   | 41' 3" *   | 34' 9" *  | 40' 11" f  | 39' 2" *   | 33' 0" *   | 38' 3" f   | 37' 5" *   | 31' 7" *  |
|             | 24                   | 51' 1" f   | 45' 4" *   | 38' 3" *  | 44' 3" f   | 41' 3" *  | 34' 9" *  | 39' 7" f   | 38' 3" *   | 32' 3" *  | 36' 1" f   | 36' 0" *   | 30' 4" *  | 33' 5" f   | 33' 5" f   | 28' 10" *  | 31' 3" f   | 31' 3" f   | 27' 7" *  |
| 1400S250-54 | 12                   | 50' 9" f*  | 48' 1" *   | 40' 7" *  | 43' 11" f* | 43' 9" *  | 36' 11" * | 39' 3" f*  | 39' 3" f*  | 34' 3" *  | 35' 10" f* | 35' 10" f* | 32' 3" *  | 33' 2" f*  | 33' 2" f*  | 30' 7" *   | 31' 1" f*  | 31' 1" f*  | 29' 3" *  |
|             | 16                   | 43' 11" f* | 43' 9" *   | 36' 11" * | 38' 0" f*  | 38' 0" f* | 33' 6" *  | 34' 0" f*  | 34' 0" f*  | 31' 1" *  | 31' 1" f*  | 31' 1" f*  | 29' 3" *  | 28' 9" f*  | 28' 9" f*  | 27' 10" *  | 26' 11" f* | 26' 11" f* | 26' 7" *  |
|             | 24                   | 35' 10" f* | 35' 10" f* | 32' 3" *  | 31' 1" f*  | 31' 1" f* | 29' 3" *  | 27' 9" f*  | 27' 9" f*  | 27' 2" *  | 25' 4" f*  | 25' 4" f*  | 25' 4" f* | 23' 6" f*  | 23' 6" f*  | 23' 6" f*  | 22' 0" f*  | 22' 0" f*  | 22' 0" f* |
| 1400S250-68 | 12                   | 59' 9" *   | 52' 3" *   | 44' 1" *  | 52' 3" f   | 47' 5" *  | 40' 0" *  | 46' 9" f   | 44' 1" *   | 37' 2" *  | 42' 8" f   | 41' 5" *   | 35' 0" *  | 39' 6" f   | 39' 4" *   | 33' 3" *   | 36' 11" f  | 36' 11" f  | 31' 9" *  |
|             | 16                   | 52' 3" f   | 47' 5" *   | 40' 0" *  | 45' 3" f   | 43' 1" *  | 36' 4" *  | 40' 6" f   | 40' 0" *   | 33' 9" *  | 36' 11" f  | 36' 11" f  | 31' 9" *  | 34' 2" f   | 34' 2" f   | 30' 2" *   | 32' 0" f   | 32' 0" f   | 28' 10" * |
|             | 24                   | 42' 8" f   | 41' 5" *   | 35' 0" *  | 36' 11" f  | 36' 11" f | 31' 9" *  | 33' 0" f   | 33' 0" f   | 29' 6" *  | 30' 2" f   | 30' 2" f   | 27' 9" *  | 27' 11" f  | 27' 11" f  | 26' 4" *   | 26' 1" f   | 26' 1" f   | 25' 3" *  |
| 1400S250-97 | 12                   | 67' 9" *   | 59' 2" *   | 49' 11" * | 61' 7" *   | 53' 9" *  | 45' 4" *  | 57' 2" *   | 49' 11" *  | 42' 1" *  | 53' 9" *   | 47' 0" *   | 39' 7" *  | 49' 11" f  | 44' 7" *   | 37' 8" *   | 46' 9" f   | 42' 8" *   | 36' 0" *  |
|             | 16                   | 61' 7" *   | 53' 9" *   | 45' 4" *  | 55' 11" *  | 48' 10" * | 41' 2" *  | 51' 2" f   | 45' 4" *   | 38' 3" *  | 46' 9" f   | 42' 8" *   | 36' 0" *  | 43' 3" f   | 40' 6" *   | 34' 2" *   | 40' 6" f   | 38' 9" *   | 32' 8" *  |
|             | 24                   | 53' 9" *   | 47' 0" *   | 39' 7" *  | 46' 9" f   | 42' 8" *  | 36' 0" *  | 41' 9" f   | 39' 7" *   | 33' 5" *  | 38' 2" f   | 37' 3" *   | 31' 5" *  | 35' 4" f   | 35' 4" f   | 29' 10" *  | 33' 0" f   | 33' 0" f   | 28' 7" *  |
| 1400S300-54 | 12                   | 51' 6" f*  | 49' 9" *   | 42' 0" *  | 44' 7" f*  | 44' 7" f* | 38' 2" *  | 39' 11" f* | 39' 11" f* | 35' 5" *  | 36' 5" f*  | 36' 5" f*  | 33' 4" *  | 33' 9" f*  | 33' 9" f*  | 31' 8" *   | 31' 7" f*  | 31' 7" f*  | 30' 3" *  |
|             | 16                   | 44' 7" f*  | 44' 7" f*  | 38' 2" *  | 38' 8" f*  | 38' 8" f* | 34' 8" *  | 34' 7" f*  | 34' 7" f*  | 32' 2" *  | 31' 7" f*  | 31' 7" f*  | 30' 3" *  | 29' 2" f*  | 29' 2" f*  | 28' 9" *   | 27' 4" f*  | 27' 4" f*  | 27' 4" f* |
|             | 24                   | 36' 5" f*  | 36' 5" f*  | 33' 4" *  | 31' 7" f*  | 31' 7" f* | 30' 3" *  | 28' 3" f*  | 28' 3" f*  | 28' 1" *  | 25' 9" f*  | 25' 9" f*  | 25' 9" f* | 23' 10" f* | 23' 10" f* | 23' 10" f* | 22' 4" f*  | 22' 4" f*  | 22' 4" f* |
| 1400S300-68 | 12                   | 61' 0" f   | 54' 0" *   | 45' 7" *  | 52' 10" f  | 49' 1" *  | 41' 5" *  | 47' 3" f   | 45' 7" *   | 38' 5" *  | 43' 1" f   | 42' 11" *  | 36' 2" *  | 39' 11" f  | 39' 11" f  | 34' 4" *   | 37' 4" f   | 37' 4" f   | 32' 10" * |
|             | 16                   | 52' 10" f  | 49' 1" *   | 41' 5" *  | 45' 9" f   | 44' 7" *  | 37' 7" *  | 40' 11" f  | 40' 11" f  | 34' 11" * | 37' 4" f   | 37' 4" f   | 32' 10" * | 34' 7" f   | 34' 7" f   | 31' 3" *   | 32' 4" f   | 32' 4" f   | 29' 10" * |
|             | 24                   | 43' 1" f   | 42' 11" *  | 36' 2" *  | 37' 4" f   | 37' 4" f  | 32' 10" * | 33' 5" f   | 33' 5" f   | 30' 6" *  | 30' 6" f   | 30' 6" f   | 28' 8" *  | 28' 3" f   | 28' 3" f   | 27' 3" *   | 26' 5" f   | 26' 5" f   | 26' 1" *  |
| 1400S300-97 | 12                   | 69' 11" *  | 61' 1" *   | 51' 6" *  | 63' 6" *   | 55' 6" *  | 46' 10" * | 59' 0" *   | 51' 6" *   | 43' 6" *  | 55' 6" *   | 48' 6" *   | 40' 11" * | 51' 6" f   | 46' 1" *   | 38' 10" *  | 48' 2" f   | 44' 1" *   | 37' 2" *  |
|             | 16                   | 63' 6" *   | 55' 6" *   | 46' 10" * | 57' 9" *   | 50' 5" *  | 42' 6" *  | 52' 9" f   | 46' 10" *  | 39' 6" *  | 48' 2" f   | 44' 1" *   | 37' 2" *  | 44' 7" f   | 41' 10" *  | 35' 4" *   | 41' 9" f   | 40' 0" *   | 33' 9" *  |
|             | 24                   | 55' 6" *   | 48' 6" *   | 40' 11" * | 48' 2" f   | 44' 1" *  | 37' 2" *  | 43' 1" f   | 40' 11" *  | 34' 6" *  | 39' 4" f   | 38' 6" *   | 32' 6" *  | 36' 5" f   | 36' 5" f   | 30' 10" *  | 34' 1" f   | 34' 1" f   | 29' 6" *  |

### Notes:

- Studs are checked for simple-span deflection and stress. Stress calculations are made for mid-span fully braced moment, end shear through the unperforated section, and shear moment interaction through the perforated section 10" away from the end bearing.
- A 1/3 stress increase is not used.
- Limiting heights are based on continuous lateral support of each flange over the full height of the stud.
- Heights are based on steel properties only.
- End reactions must be checked for web crippling separately.
- Cells having an "f" indicate the limiting height is controlled by stress.
- Cells marked with an " \* " have an h/t > 200 and thus require end stiffeners. Blank cells have an h/t > 260.
- Capacities are calculated according to the AISI-NASPEC, 2001 with 2004 supplement. A 1-1/2" by 4" knockout spaced no closer than 24" o.c. is assumed. (3/4" for 2-1/2" studs)
- All values are based on Fy=33ksi.
- For deflection calculations, wind loads have been multiplied by 0.7 per the AISI Standard for Cold-Formed Steel Framing - Wall Stud Design 2004 Edition except for the 5psf load which is considered an interior wall load.

Complies with IBC 2006 & AISI-NASPEC, 2001 with 2004 supplement

Pub. No. CD-STR-TechGuide 2/12

The technical content of this literature is effective 2/1/12 and supersedes all previous information.

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## ALLOWABLE AXIAL & LATERAL LOAD TABLES

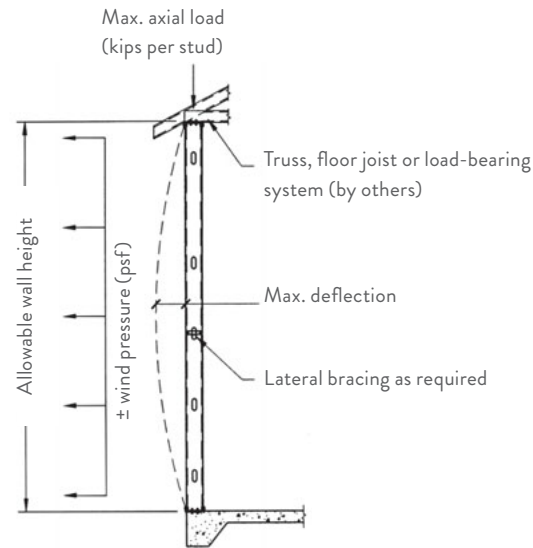
## Overview

### Allowable combined axial & lateral loads.

Load-bearing walls must be capable of handling vertical loads even when subjected to lateral loads from wind or another force. The following tables identify the axial (vertical) load that can be supported by each member under given lateral load conditions.

#### General notes:

- 1 Lateral and axial loads have not been modified for strength interactions.
- 2 For material thickness of 33mil and 43mil,  $F_y=33\text{ksi}$ . For 54mil and thicker steel, both 33ksi and 50ksi values are indicated.
- 3 The strength increase due to cold work of forming was incorporated for flexural strengths as applicable per section A7.2 of AISI-NASPEC, 2001 with 2004 supplement.
- 4 Allowable loads based on weak axis and torsional horizontal mechanical bracing at 48" o.c. maximum for axial load calculations and continuous support of each flange for flexural calculation.
- 5 Allowable axial load is shown in kips/stud (1.00 kip=1000 lbs.).
- 6 Check lateral end reactions for web crippling.
- 7 The allowable axial loads do not include the effects of the gypsum board.
- 8 Deflection calculations are based on  $0.70 \times$  lateral load per IBC 2006 Table 1604.3.



Complies with IBC 2006 & AISI-NASPEC, 2001 with 2004 supplement

The technical content of this literature is effective 2/1/12 and supersedes all previous information.

## ALLOWABLE COMBINED AXIAL &amp; LATERAL LOADS

(Kips/Stud)

| Wind = 5psf        |                   |            | S162 (1-5/8" Flange) |            |            |            |            |            |            |            | S200 (2" Flange) |            |            |            |            |            |            |            | S250 (2-1/2" Flange) |            |            |            |            |            |            |         |
|--------------------|-------------------|------------|----------------------|------------|------------|------------|------------|------------|------------|------------|------------------|------------|------------|------------|------------|------------|------------|------------|----------------------|------------|------------|------------|------------|------------|------------|---------|
| Stud length (feet) | Spacing (in) o.c. | -33 (20ga) | -43 (18ga)           | -54 (16ga) | -54 (16ga) | -68 (14ga) | -68 (14ga) | -97 (12ga) | -97 (12ga) | -33 (20ga) | -43 (18ga)       | -54 (16ga) | -54 (16ga) | -68 (14ga) | -68 (14ga) | -97 (12ga) | -97 (12ga) | -33 (20ga) | -43 (18ga)           | -54 (16ga) | -54 (16ga) | -68 (14ga) | -68 (14ga) | -97 (12ga) | -97 (12ga) |         |
|                    |                   | 33ksi      | 33ksi                | 33ksi      | 50ksi      | 33ksi      | 50ksi      | 33ksi      | 50ksi      | 33ksi      | 33ksi            | 33ksi      | 50ksi      | 33ksi      | 50ksi      | 33ksi      | 50ksi      | 33ksi      | 33ksi                | 33ksi      | 50ksi      | 33ksi      | 50ksi      | 33ksi      | 50ksi      |         |
| 3-5/8" Stud        | 8                 | 12         | 1.88 a               | 2.67 a     | 3.54 a     | 4.18 a     | 4.50 a     | 5.40 a     | 6.53 a     | 7.94 a     | 2.24 a           | 3.29 a     | 4.34 a     | 5.20 a     | 5.49 a     | 6.70 a     | 7.85 a     | 9.61 a     | 2.44 a               | 3.73 a     | 5.02 a     | 5.83 a     | 6.39 a     | 7.77 a     | 9.08 a     | 11.11 a |
|                    |                   | 16         | 1.81 a               | 2.60 a     | 3.47 a     | 4.12 a     | 4.43 a     | 5.34 a     | 6.46 a     | 7.87 a     | 2.16 a           | 3.21 a     | 4.27 a     | 5.12 a     | 5.41 a     | 6.63 a     | 7.77 a     | 9.54 a     | 2.36 a               | 3.64 a     | 4.93 a     | 5.75 a     | 6.31 a     | 7.68 a     | 9.00 a     | 11.04 a |
|                    |                   | 24         | 1.67 a               | 2.47 a     | 3.32 a     | 4.00 a     | 4.28 a     | 5.22 a     | 6.30 a     | 7.74 a     | 2.01 a           | 3.05 a     | 4.11 a     | 4.96 a     | 5.26 a     | 6.50 a     | 7.61 a     | 9.40 a     | 2.20 a               | 3.47 a     | 4.75 a     | 5.59 a     | 6.15 a     | 7.52 a     | 8.84 a     | 10.90 a |
|                    | 9                 | 12         | 1.75 a               | 2.51 a     | 3.34 a     | 3.90 a     | 4.24 a     | 5.01 a     | 6.17 a     | 7.36 a     | 2.10 a           | 3.08 a     | 4.09 a     | 4.81 a     | 5.17 a     | 6.20 a     | 7.41 a     | 8.89 a     | 2.29 a               | 3.53 a     | 4.73 a     | 5.48 a     | 6.03 a     | 7.18 a     | 8.59 a     | 10.29 a |
|                    |                   | 16         | 1.66 a               | 2.42 a     | 3.24 a     | 3.82 a     | 4.15 a     | 4.93 a     | 6.08 a     | 7.27 a     | 2.00 a           | 2.98 a     | 3.99 a     | 4.71 a     | 5.07 a     | 6.11 a     | 7.31 a     | 8.80 a     | 2.19 a               | 3.42 a     | 4.61 a     | 5.37 a     | 5.93 a     | 7.07 a     | 8.49 a     | 10.20 a |
|                    |                   | 24         | 1.49 a               | 2.26 a     | 3.06 a     | 3.67 a     | 3.96 a     | 4.78 a     | 5.88 a     | 7.10 a     | 1.80 a           | 2.78 a     | 3.80 a     | 4.52 a     | 4.88 a     | 5.94 a     | 7.11 a     | 8.62 a     | 1.99 a               | 3.21 a     | 4.39 a     | 5.17 a     | 5.73 a     | 6.87 a     | 8.29 a     | 10.03 a |
|                    | 10                | 12         | 1.60 a               | 2.33 a     | 3.10 a     | 3.58 a     | 3.95 a     | 4.58 a     | 5.77 a     | 6.72 a     | 1.93 a           | 2.85 a     | 3.80 a     | 4.39 a     | 4.82 a     | 5.65 a     | 6.93 a     | 8.11 a     | 2.12 a               | 3.31 a     | 4.40 a     | 5.10 a     | 5.64 a     | 6.55 a     | 8.06 a     | 9.42 a  |
|                    |                   | 16         | 1.49 a               | 2.22 a     | 2.98 a     | 3.48 a     | 3.83 a     | 4.48 a     | 5.64 a     | 6.61 a     | 1.81 a           | 2.72 a     | 3.68 a     | 4.27 a     | 4.70 a     | 5.54 a     | 6.80 a     | 8.00 a     | 2.00 a               | 3.17 a     | 4.26 a     | 4.97 a     | 5.51 a     | 6.42 a     | 7.93 a     | 9.31 a  |
|                    |                   | 24         | 1.29 a               | 2.02 a     | 2.77 a     | 3.30 a     | 3.61 a     | 4.30 a     | 5.41 a     | 6.41 a     | 1.58 a           | 2.49 a     | 3.45 a     | 4.04 a     | 4.46 a     | 5.34 a     | 6.56 a     | 7.79 a     | 1.77 a               | 2.91 a     | 3.99 a     | 4.72 a     | 5.27 a     | 6.17 a     | 7.68 a     | 9.10 a  |
|                    | 12                | 12         | 1.28 a               | 1.92 a     | 2.56 a     | 2.85 a     | 3.29 a     | 3.65 a     | 4.85 a     | 5.33 a     | 1.57 a           | 2.34 a     | 3.16 a     | 3.47 a     | 4.04 a     | 4.49 a     | 5.86 a     | 6.46 a     | 1.75 a               | 2.75 a     | 3.66 a     | 4.09 a     | 4.77 a     | 5.22 a     | 6.88 a     | 7.59 a  |
|                    |                   | 16         | 1.14 a               | 1.78 a     | 2.41 a     | 2.73 a     | 3.14 a     | 3.53 a     | 4.68 a     | 5.20 a     | 1.41 a           | 2.18 a     | 3.00 a     | 3.33 a     | 3.87 a     | 4.36 a     | 5.69 a     | 6.32 a     | 1.60 a               | 2.58 a     | 3.47 a     | 3.92 a     | 4.60 a     | 5.07 a     | 6.70 a     | 7.45 a  |
|                    |                   | 24         | 0.90 c               | 1.54 b     | 2.14 a     | 2.52 a     | 2.85 a     | 3.30 a     | 4.38 a     | 4.96 a     | 1.14 c           | 1.89 a     | 2.70 a     | 3.06 a     | 3.56 a     | 4.12 a     | 5.36 a     | 6.06 a     | 1.31 b               | 2.25 a     | 3.13 a     | 3.62 a     | 4.29 a     | 4.77 a     | 6.37 a     | 7.18 a  |
|                    | 14                | 12         | 0.96 b               | 1.50 a     | 2.01 a     | 2.20 a     | 2.62 a     | 2.83 a     | 3.90 a     | 4.13 a     | 1.20 a           | 1.83 a     | 2.50 a     | 2.66 a     | 3.24 a     | 3.49 a     | 4.75 a     | 5.03 a     | 1.38 a               | 2.17 a     | 2.92 a     | 3.15 a     | 3.88 a     | 4.06 a     | 5.65 a     | 5.97 a  |
|                    |                   | 16         | 0.81 d               | 1.35 b     | 1.84 a     | 2.08 a     | 2.44 a     | 2.70 a     | 3.71 a     | 3.99 a     | 1.03 c           | 1.66 b     | 2.32 a     | 2.50 a     | 3.05 a     | 3.35 a     | 4.55 a     | 4.88 a     | 1.20 b               | 1.98 a     | 2.70 a     | 2.97 a     | 3.68 a     | 3.89 a     | 5.44 a     | 5.81 a  |
|                    |                   | 24         | 0.55 e               | 1.08 d     | 1.55 c     | 1.85 c     | 2.13 b     | 2.46 b     | 3.36 a     | 3.73 a     | 0.73 d           | 1.34 d     | 2.00 c     | 2.23 c     | 2.71 a     | 3.08 a     | 4.18 a     | 4.60 a     | 0.88 d               | 1.62 c     | 2.33 b     | 2.66 b     | 3.32 a     | 3.57 a     | 5.06 a     | 5.52 a  |
| 4" Stud            | 8                 | 12         | 2.04 a               | 2.87 a     | 3.86 a     | 4.63 a     | 5.10 a     | 6.21 a     | 7.36 a     | 9.16 a     | 2.40 a           | 3.56 a     | 4.73 a     | 5.79 a     | 6.19 a     | 7.66 a     | 8.82 a     | 11.11 a    | 2.60 a               | 3.98 a     | 5.42 a     | 6.29 a     | 7.18 a     | 8.68 a     | 10.17 a    | 12.84 a |
|                    |                   | 16         | 1.97 a               | 2.80 a     | 3.79 a     | 4.57 a     | 5.03 a     | 6.15 a     | 7.28 a     | 9.09 a     | 2.33 a           | 3.48 a     | 4.66 a     | 5.71 a     | 6.12 a     | 7.59 a     | 8.74 a     | 11.04 a    | 2.53 a               | 3.90 a     | 5.33 a     | 6.21 a     | 7.10 a     | 8.60 a     | 10.10 a    | 12.77 a |
|                    |                   | 24         | 1.84 a               | 2.67 a     | 3.66 a     | 4.44 a     | 4.89 a     | 6.02 a     | 7.14 a     | 8.96 a     | 2.18 a           | 3.34 a     | 4.51 a     | 5.57 a     | 5.97 a     | 7.46 a     | 8.59 a     | 10.90 a    | 2.38 a               | 3.74 a     | 5.17 a     | 6.06 a     | 6.95 a     | 8.44 a     | 9.95 a     | 12.63 a |
|                    | 9                 | 12         | 1.92 a               | 2.73 a     | 3.69 a     | 4.38 a     | 4.87 a     | 5.89 a     | 7.04 a     | 8.64 a     | 2.27 a           | 3.38 a     | 4.51 a     | 5.45 a     | 5.91 a     | 7.23 a     | 8.43 a     | 10.44 a    | 2.47 a               | 3.81 a     | 5.21 a     | 6.05 a     | 6.85 a     | 8.29 a     | 9.73 a     | 12.08 a |
|                    |                   | 16         | 1.84 a               | 2.65 a     | 3.61 a     | 4.30 a     | 4.78 a     | 5.81 a     | 6.95 a     | 8.56 a     | 2.18 a           | 3.28 a     | 4.42 a     | 5.35 a     | 5.81 a     | 7.14 a     | 8.33 a     | 10.35 a    | 2.38 a               | 3.71 a     | 5.10 a     | 5.95 a     | 6.75 a     | 8.18 a     | 9.64 a     | 11.99 a |
|                    |                   | 24         | 1.67 a               | 2.48 a     | 3.44 a     | 4.14 a     | 4.60 a     | 5.65 a     | 6.76 a     | 8.39 a     | 2.00 a           | 3.10 a     | 4.24 a     | 5.17 a     | 5.62 a     | 6.98 a     | 8.14 a     | 10.18 a    | 2.20 a               | 3.51 a     | 4.89 a     | 5.76 a     | 6.56 a     | 7.98 a     | 9.44 a     | 11.81 a |
|                    | 10                | 12         | 1.79 a               | 2.57 a     | 3.50 a     | 4.09 a     | 4.61 a     | 5.51 a     | 6.68 a     | 8.05 a     | 2.13 a           | 3.17 a     | 4.26 a     | 5.06 a     | 5.58 a     | 6.74 a     | 7.99 a     | 9.70 a     | 2.33 a               | 3.62 a     | 4.92 a     | 5.72 a     | 6.48 a     | 7.79 a     | 9.24 a     | 11.25 a |
|                    |                   | 16         | 1.69 a               | 2.46 a     | 3.39 a     | 3.99 a     | 4.49 a     | 5.41 a     | 6.56 a     | 7.94 a     | 2.02 a           | 3.06 a     | 4.15 a     | 4.95 a     | 5.46 a     | 6.64 a     | 7.86 a     | 9.59 a     | 2.21 a               | 3.49 a     | 4.79 a     | 5.60 a     | 6.36 a     | 7.66 a     | 9.12 a     | 11.13 a |
|                    |                   | 24         | 1.49 a               | 2.26 a     | 3.18 a     | 3.80 a     | 4.27 a     | 5.22 a     | 6.33 a     | 7.74 a     | 1.80 a           | 2.83 a     | 3.93 a     | 4.72 a     | 5.22 a     | 6.43 a     | 7.62 a     | 9.37 a     | 2.00 a               | 3.25 a     | 4.53 a     | 5.36 a     | 6.13 a     | 7.41 a     | 8.88 a     | 10.91 a |
|                    | 12                | 12         | 1.49 a               | 2.19 a     | 3.03 a     | 3.43 a     | 3.98 a     | 4.60 a     | 5.81 a     | 6.70 a     | 1.80 a           | 2.71 a     | 3.70 a     | 4.22 a     | 4.83 a     | 5.63 a     | 6.97 a     | 8.08 a     | 1.99 a               | 3.16 a     | 4.26 a     | 4.94 a     | 5.65 a     | 6.52 a     | 8.12 a     | 9.43 a  |
|                    |                   | 16         | 1.35 a               | 2.04 a     | 2.88 a     | 3.30 a     | 3.82 a     | 4.47 a     | 5.64 a     | 6.56 a     | 1.65 a           | 2.55 a     | 3.54 a     | 4.06 a     | 4.66 a     | 5.49 a     | 6.79 a     | 7.92 a     | 1.84 a               | 2.98 a     | 4.08 a     | 4.77 a     | 5.48 a     | 6.34 a     | 7.94 a     | 9.28 a  |
|                    |                   | 24         | 1.10 b               | 1.78 a     | 2.60 a     | 3.05 a     | 3.52 a     | 4.22 a     | 5.33 a     | 6.28 a     | 1.37 a           | 2.26 a     | 3.24 a     | 3.78 a     | 4.34 a     | 5.22 a     | 6.46 a     | 7.64 a     | 1.55 a               | 2.66 a     | 3.73 a     | 4.45 a     | 5.16 a     | 6.01 a     | 7.61 a     | 8.98 a  |
|                    | 14                | 12         | 1.17 a               | 1.77 a     | 2.50 a     | 2.73 a     | 3.29 a     | 3.64 a     | 4.85 a     | 5.30 a     | 1.44 a           | 2.21 a     | 3.07 a     | 3.35 a     | 4.01 a     | 4.46 a     | 5.86 a     | 6.42 a     | 1.63 a               | 2.61 a     | 3.55 a     | 3.95 a     | 4.75 a     | 5.17 a     | 6.90 a     | 7.57 a  |
|                    |                   | 16         | 1.02 b               | 1.61 a     | 2.33 a     | 2.58 a     | 3.10 a     | 3.49 a     | 4.64 a     | 5.14 a     | 1.27 b           | 2.02 a     | 2.89 a     | 3.18 a     | 3.81 a     | 4.30 a     | 5.64 a     | 6.25 a     | 1.44 a               | 2.40 a     | 3.32 a     | 3.75 a     | 4.54 a     | 4.98 a     | 6.67 a     | 7.39 a  |
|                    |                   | 24         | 0.74 d               | 1.30 c     | 2.01 b     | 2.31 b     | 2.75 a     | 3.22 a     | 4.27 a     | 4.84 a     | 0.95 d           | 1.69 b     | 2.54 a     | 2.86 a     | 3.44 a     | 4.00 a     | 5.24 a     | 5.93 a     | 1.11 c               | 2.02 b     | 2.92 a     | 3.40 a     | 4.15 a     | 4.61 a     | 6.26 a     | 7.06 a  |

## Notes:

- 1 Studs are assumed to be simple span.
- 2 Axial loads are assumed to pass through the geometric centroid of the section.
- 3 Use 5psf tables for interior loads.
- 4 Cells marked with an a, b, c, d, e, or f meet L/720, L/600, L/480, L/360, L/240 or L/120 respectively. Blank cells do not meet L/120. For deflection calculations, lateral loads are multiplied by 0.7 per the 2004 AISI Standard for Cold-Formed Steel Framing-Wall Stud Design except for the 5psf load which is considered an interior wall load.
- 5 A 1/3 stress increase is not used.
- 6 Provide bridging and/or bracing at 48" o.c. Allowable loads are based on weak axis and torsional bracing at 48" o.c. for axial load, and continuous support of each flange for moment.
- 7 Capacities are calculated according to the the AISI-NASPEC, 2001 with 2004 supplement. A 1-1/2" by 4" knockout spaced no closer than 24" o.c. is assumed for standard studs.
- 8 Cells marked with an " \* " have h/t > 200 and thus require bearing stiffeners. Cells are left blank when h/t > 260.

Complies with IBC 2006 &amp; AISI-NASPEC, 2001 with 2004 supplement

# ALLOWABLE COMBINED AXIAL & LATERAL LOADS

(Kips/Stud)

| Wind = 5psf           |                      |               | S162 (1-5/8" Flange) |               |               |               |               |               |               |               | S200 (2" Flange) |               |               |               |               |               |               |               | S250 (2-1/2" Flange) |               |               |               |               |               |               |         |
|-----------------------|----------------------|---------------|----------------------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|------------------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|----------------------|---------------|---------------|---------------|---------------|---------------|---------------|---------|
| Stud length<br>(feet) | Spacing<br>(in) o.c. | -33<br>(20ga) | -43<br>(18ga)        | -54<br>(16ga) | -54<br>(16ga) | -68<br>(14ga) | -68<br>(14ga) | -97<br>(12ga) | -97<br>(12ga) | -33<br>(20ga) | -43<br>(18ga)    | -54<br>(16ga) | -54<br>(16ga) | -68<br>(14ga) | -68<br>(14ga) | -97<br>(12ga) | -97<br>(12ga) | -33<br>(20ga) | -43<br>(18ga)        | -54<br>(16ga) | -54<br>(16ga) | -68<br>(14ga) | -68<br>(14ga) | -97<br>(12ga) | -97<br>(12ga) |         |
|                       |                      | 33ksi         | 33ksi                | 33ksi         | 50ksi         | 33ksi         | 50ksi         | 33ksi         | 50ksi         | 33ksi         | 33ksi            | 33ksi         | 50ksi         | 33ksi         | 50ksi         | 33ksi         | 50ksi         | 33ksi         | 33ksi                | 33ksi         | 50ksi         | 33ksi         | 50ksi         | 33ksi         | 50ksi         |         |
| 6" Stud               | 8                    | 12            | 2.45 a               | 3.41 a        | 4.54 a        | 5.63 a        | 6.07 a        | 7.45 a        | 9.43 a        | 11.46 a       | 2.84 a           | 4.32 a        | 5.76 a        | 7.48 a        | 7.69 a        | 9.98 a        | 12.06 a       | 15.62 a       | 3.07 a               | 4.67 a        | 6.41 a        | 7.66 a        | 8.89 a        | 11.06 a       | 13.87 a       | 18.26 a |
|                       |                      | 16            | 2.41 a               | 3.37 a        | 4.50 a        | 5.60 a        | 6.03 a        | 7.42 a        | 9.39 a        | 11.42 a       | 2.80 a           | 4.27 a        | 5.72 a        | 7.44 a        | 7.65 a        | 9.94 a        | 12.01 a       | 15.58 a       | 3.03 a               | 4.62 a        | 6.35 a        | 7.62 a        | 8.84 a        | 11.01 a       | 13.82 a       | 18.21 a |
|                       | 9                    | 24            | 2.33 a               | 3.30 a        | 4.43 a        | 5.53 a        | 5.94 a        | 7.35 a        | 9.30 a        | 11.34 a       | 2.71 a           | 4.18 a        | 5.63 a        | 7.34 a        | 7.55 a        | 9.85 a        | 11.91 a       | 15.49 a       | 2.94 a               | 4.53 a        | 6.25 a        | 7.53 a        | 8.74 a        | 10.91 a       | 13.72 a       | 18.11 a |
|                       |                      | 12            | 2.41 a               | 3.38 a        | 4.51 a        | 5.60 a        | 6.03 a        | 7.42 a        | 9.39 a        | 11.42 a       | 2.78 a           | 4.24 a        | 5.67 a        | 7.34 a        | 7.58 a        | 9.81 a        | 11.91 a       | 15.37 a       | 3.01 a               | 4.59 a        | 6.32 a        | 7.53 a        | 8.78 a        | 10.85 a       | 13.67 a       | 17.91 a |
|                       | 10                   | 16            | 2.36 a               | 3.33 a        | 4.46 a        | 5.56 a        | 5.98 a        | 7.38 a        | 9.33 a        | 11.37 a       | 2.73 a           | 4.18 a        | 5.61 a        | 7.28 a        | 7.52 a        | 9.75 a        | 11.84 a       | 15.31 a       | 2.96 a               | 4.53 a        | 6.26 a        | 7.48 a        | 8.72 a        | 10.79 a       | 13.61 a       | 17.85 a |
|                       |                      | 24            | 2.26 a               | 3.23 a        | 4.36 a        | 5.47 a        | 5.87 a        | 7.29 a        | 9.22 a        | 11.27 a       | 2.62 a           | 4.07 a        | 5.50 a        | 7.16 a        | 7.41 a        | 9.64 a        | 11.71 a       | 15.19 a       | 2.85 a               | 4.42 a        | 6.13 a        | 7.36 a        | 8.59 a        | 10.66 a       | 13.47 a       | 17.72 a |
|                       | 12                   | 12            | 2.37 a               | 3.34 a        | 4.47 a        | 5.56 a        | 5.98 a        | 7.38 a        | 9.34 a        | 11.38 a       | 2.72 a           | 4.15 a        | 5.56 a        | 7.17 a        | 7.45 a        | 9.59 a        | 11.72 a       | 15.05 a       | 2.94 a               | 4.50 a        | 6.21 a        | 7.38 a        | 8.64 a        | 10.61 a       | 13.43 a       | 17.49 a |
|                       |                      | 16            | 2.31 a               | 3.28 a        | 4.40 a        | 5.51 a        | 5.92 a        | 7.32 a        | 9.27 a        | 11.31 a       | 2.65 a           | 4.07 a        | 5.49 a        | 7.09 a        | 7.38 a        | 9.52 a        | 11.63 a       | 14.97 a       | 2.87 a               | 4.43 a        | 6.13 a        | 7.31 a        | 8.56 a        | 10.53 a       | 13.35 a       | 17.41 a |
|                       | 14                   | 24            | 2.18 a               | 3.16 a        | 4.28 a        | 5.40 a        | 5.78 a        | 7.21 a        | 9.12 a        | 11.18 a       | 2.52 a           | 3.93 a        | 5.35 a        | 6.94 a        | 7.23 a        | 9.39 a        | 11.47 a       | 14.82 a       | 2.73 a               | 4.28 a        | 5.97 a        | 7.16 a        | 8.40 a        | 10.37 a       | 13.18 a       | 17.24 a |
|                       |                      | 12            | 2.22 a               | 3.19 a        | 4.33 a        | 5.40 a        | 5.87 a        | 7.28 a        | 9.21 a        | 11.26 a       | 2.55 a           | 3.91 a        | 5.28 a        | 6.71 a        | 7.10 a        | 9.04 a        | 11.21 a       | 14.21 a       | 2.76 a               | 4.28 a        | 5.92 a        | 6.98 a        | 8.22 a        | 10.02 a       | 12.82 a       | 16.42 a |
|                       | 16                   | 16            | 2.13 a               | 3.10 a        | 4.23 a        | 5.31 a        | 5.77 a        | 7.19 a        | 9.10 a        | 11.15 a       | 2.45 a           | 3.80 a        | 5.18 a        | 6.60 a        | 6.99 a        | 8.93 a        | 11.08 a       | 14.09 a       | 2.66 a               | 4.17 a        | 5.80 a        | 6.88 a        | 8.10 a        | 9.89 a        | 12.69 a       | 16.30 a |
|                       |                      | 24            | 1.96 a               | 2.93 a        | 4.05 a        | 5.14 a        | 5.56 a        | 7.01 a        | 8.87 a        | 10.95 a       | 2.26 a           | 3.59 a        | 4.98 a        | 6.39 a        | 6.77 a        | 8.73 a        | 10.83 a       | 13.86 a       | 2.47 a               | 3.95 a        | 5.56 a        | 6.67 a        | 7.87 a        | 9.65 a        | 12.44 a       | 16.05 a |
| 18                    | 12                   | 2.03 a        | 2.97 a               | 4.05 a        | 5.00 a        | 5.55 a        | 6.81 a        | 8.96 a        | 10.96 a       | 2.34 a        | 3.60 a           | 4.92 a        | 6.13 a        | 6.64 a        | 8.30 a        | 10.53 a       | 13.09 a       | 2.55 a        | 4.00 a               | 5.55 a        | 6.51 a        | 7.68 a        | 9.29 a        | 12.04 a       | 15.10 a       |         |
|                       | 16                   | 1.91 a        | 2.85 a               | 3.92 a        | 4.89 a        | 5.40 a        | 6.68 a        | 8.79 a        | 10.80 a       | 2.21 a        | 3.46 a           | 4.78 a        | 5.98 a        | 6.49 a        | 8.16 a        | 10.35 a       | 12.92 a       | 2.41 a        | 3.85 a               | 5.38 a        | 6.37 a        | 7.52 a        | 9.12 a        | 11.86 a       | 14.92 a       |         |
| 20                    | 24                   | 1.68 a        | 2.61 a               | 3.67 a        | 4.66 a        | 5.12 a        | 6.43 a        | 8.46 a        | 10.50 a       | 1.96 a        | 3.18 a           | 4.50 a        | 5.69 a        | 6.19 a        | 7.88 a        | 10.01 a       | 12.60 a       | 2.15 a        | 3.56 a               | 5.06 a        | 6.08 a        | 7.20 a        | 8.79 a        | 11.51 a       | 14.57 a       |         |
|                       | 12                   | 2.41 a*       | 3.36 a               | 4.50 a        | 5.45 a        | 6.05 a        | 7.25 a        | 9.60 a        | 11.33 a       | 2.94 a*       | 4.49 a           | 5.96 a        | 7.77 a        | 7.96 a        | 10.30 a       | 12.53 a       | 16.01 a       | 3.24 a*       | 4.91 a               | 6.70 a        | 8.19 a        | 9.40 a        | 11.81 a       | 15.04 a       | 19.76 a       |         |
| 14                    | 16                   | 2.38 a*       | 3.33 a               | 4.47 a        | 5.42 a        | 6.02 a        | 7.23 a        | 9.57 a        | 11.31 a       | 2.90 a*       | 4.46 a           | 5.93 a        | 7.74 a        | 7.93 a        | 10.27 a       | 12.49 a       | 15.98 a       | 3.20 a*       | 4.88 a               | 6.66 a        | 8.16 a        | 9.36 a        | 11.77 a       | 15.01 a       | 19.73 a       |         |
|                       | 24                   | 2.32 a*       | 3.27 a               | 4.41 a        | 5.37 a        | 5.96 a        | 7.18 a        | 9.52 a        | 11.26 a       | 2.84 a*       | 4.40 a           | 5.88 a        | 7.68 a        | 7.87 a        | 10.21 a       | 12.43 a       | 15.93 a       | 3.14 a*       | 4.82 a               | 6.60 a        | 8.10 a        | 9.30 a        | 11.71 a       | 14.94 a       | 19.66 a       |         |
| 16                    | 12                   | 2.38 a*       | 3.33 a               | 4.47 a        | 5.42 a        | 6.02 a        | 7.23 a        | 9.58 a        | 11.31 a       | 2.91 a*       | 4.46 a           | 5.94 a        | 7.74 a        | 7.93 a        | 10.27 a       | 12.50 a       | 15.99 a       | 3.20 a*       | 4.87 a               | 6.65 a        | 8.13 a        | 9.34 a        | 11.73 a       | 14.95 a       | 19.65 a       |         |
|                       | 16                   | 2.35 a*       | 3.30 a               | 4.43 a        | 5.39 a        | 5.98 a        | 7.20 a        | 9.54 a        | 11.28 a       | 2.87 a*       | 4.42 a           | 5.90 a        | 7.70 a        | 7.89 a        | 10.24 a       | 12.45 a       | 15.95 a       | 3.16 a*       | 4.83 a               | 6.61 a        | 8.09 a        | 9.30 a        | 11.69 a       | 14.91 a       | 19.61 a       |         |
| 18                    | 24                   | 2.27 a*       | 3.22 a               | 4.36 a        | 5.33 a        | 5.90 a        | 7.13 a        | 9.47 a        | 11.22 a       | 2.79 a*       | 4.34 a           | 5.83 a        | 7.63 a        | 7.81 a        | 10.17 a       | 12.37 a       | 15.88 a       | 3.07 a*       | 4.75 a               | 6.52 a        | 8.01 a        | 9.21 a        | 11.60 a       | 14.82 a       | 19.52 a       |         |
|                       | 12                   | 2.36 a*       | 3.31 a               | 4.44 a        | 5.40 a        | 5.99 a        | 7.20 a        | 9.55 a        | 11.29 a       | 2.88 a*       | 4.43 a           | 5.91 a        | 7.71 a        | 7.90 a        | 10.24 a       | 12.46 a       | 15.96 a       | 3.16 a*       | 4.82 a               | 6.60 a        | 8.06 a        | 9.27 a        | 11.65 a       | 14.84 a       | 19.51 a       |         |
| 20                    | 16                   | 2.31 a*       | 3.26 a               | 4.40 a        | 5.36 a        | 5.94 a        | 7.16 a        | 9.51 a        | 11.25 a       | 2.83 a*       | 4.38 a           | 5.86 a        | 7.66 a        | 7.85 a        | 10.20 a       | 12.41 a       | 15.91 a       | 3.10 a*       | 4.77 a               | 6.55 a        | 8.01 a        | 9.22 a        | 11.59 a       | 14.79 a       | 19.46 a       |         |
|                       | 24                   | 2.22 a*       | 3.17 a               | 4.30 a        | 5.28 a        | 5.85 a        | 7.08 a        | 9.42 a        | 11.18 a       | 2.73 a*       | 4.29 a           | 5.77 a        | 7.57 a        | 7.76 a        | 10.11 a       | 12.30 a       | 15.81 a       | 3.00 a*       | 4.67 a               | 6.44 a        | 7.91 a        | 9.12 a        | 11.48 a       | 14.67 a       | 19.35 a       |         |
| 22                    | 12                   | 2.29 a*       | 3.24 a               | 4.37 a        | 5.34 a        | 5.92 a        | 7.14 a        | 9.48 a        | 11.23 a       | 2.81 a*       | 4.36 a           | 5.84 a        | 7.64 a        | 7.83 a        | 10.18 a       | 12.38 a       | 15.88 a       | 3.05 a*       | 4.70 a               | 6.47 a        | 7.85 a        | 9.10 a        | 11.41 a       | 14.55 a       | 19.14 a       |         |
|                       | 16                   | 2.22 a*       | 3.17 a               | 4.31 a        | 5.28 a        | 5.85 a        | 7.08 a        | 9.41 a        | 11.17 a       | 2.73 a*       | 4.29 a           | 5.77 a        | 7.56 a        | 7.75 a        | 10.11 a       | 12.30 a       | 15.81 a       | 2.97 a*       | 4.62 a               | 6.39 a        | 7.78 a        | 9.02 a        | 11.33 a       | 14.46 a       | 19.06 a       |         |
| 24                    | 24                   | 2.08 a*       | 3.04 a               | 4.17 a        | 5.16 a        | 5.70 a        | 6.96 a        | 9.28 a        | 11.06 a       | 2.58 a*       | 4.15 a           | 5.64 a        | 7.42 a        | 7.61 a        | 9.97 a        | 12.14 a       | 15.66 a       | 2.82 a*       | 4.47 a               | 6.23 a        | 7.64 a        | 8.87 a        | 11.17 a       | 14.29 a       | 18.89 a       |         |
|                       | 12                   | 2.21 a*       | 3.16 a               | 4.29 a        | 5.26 a        | 5.83 a        | 7.06 a        | 9.39 a        | 11.16 a       | 2.68 a*       | 4.21 a           | 5.70 a        | 7.43 a        | 7.70 a        | 10.01 a       | 12.27 a       | 15.78 a       | 2.91 a*       | 4.54 a               | 6.30 a        | 7.58 a        | 8.86 a        | 11.03 a       | 14.12 a       | 18.49 a       |         |
| 26                    | 16                   | 2.11 a*       | 3.06 a               | 4.19 a        | 5.17 a        | 5.73 a        | 6.98 a        | 9.30 a        | 11.08 a       | 2.58 a*       | 4.12 a           | 5.60 a        | 7.32 a        | 7.60 a        | 9.92 a        | 12.16 a       | 15.67 a       | 2.81 a*       | 4.43 a               | 6.19 a        | 7.48 a        | 8.75 a        | 10.91 a       | 14.00 a       | 18.37 a       |         |
|                       | 24                   | 1.92 a*       | 2.88 a               | 4.00 a        | 5.00 a        | 5.53 a        | 6.81 a        | 9.11 a        | 10.92 a       | 2.38 a*       | 3.92 a           | 5.41 a        | 7.12 a        | 7.39 a        | 9.73 a        | 11.93 a       | 15.46 a       | 2.60 a*       | 4.23 a               | 5.97 a        | 7.27 a        | 8.54 a        | 10.69 a       | 13.77 a       | 18.14 a       |         |

## Notes:

- 1 Studs are assumed to be simple span.
- 2 Axial loads are assumed to pass through the geometric centroid of the section.
- 3 Use 5psf tables for interior loads.
- 4 Cells marked with an a, b, c, d, e, or f meet L/720, L/600, L/480, L/360, L/240 or L/120 respectively. Blank cells do not meet L/120. For deflection calculations, lateral loads are multiplied by 0.7 per the 2004 AISI Standard for Cold-Formed Steel Framing-Wall Stud Design except for the 5psf load which is considered an interior wall load.
- 5 A 1/3 stress increase is not used.
- 6 Provide bridging and/or bracing at 48" o.c. Allowable loads are based on weak axis and torsional bracing at 48" o.c. for axial load, and continuous support of each flange for moment.
- 7 Capacities are calculated according to the the AISI-NASPEC, 2001 with 2004 supplement. A 1-1/2" by 4" knockout spaced no closer than 24" o.c. is assumed for standard studs.
- 8 Cells marked with an "\*" have h/t > 200 and thus require bearing stiffeners. Cells are left blank when h/t > 260.

Complies with IBC 2006 & AISI-NASPEC, 2001 with 2004 supplement

The technical content of this literature is effective 2/1/12 and supersedes all previous information.

## ALLOWABLE COMBINED AXIAL &amp; LATERAL LOADS

(Kips/Stud)

| Wind = 15psf       |                   |            | S162 (1-5/8" Flange) |            |            |            |            |            |            |            | S200 (2" Flange) |            |            |            |            |            |            |            | S250 (2-1/2" Flange) |            |            |            |            |            |            |         |
|--------------------|-------------------|------------|----------------------|------------|------------|------------|------------|------------|------------|------------|------------------|------------|------------|------------|------------|------------|------------|------------|----------------------|------------|------------|------------|------------|------------|------------|---------|
| Stud length (feet) | Spacing (in) o.c. | -33 (20ga) | -43 (18ga)           | -54 (16ga) | -54 (16ga) | -68 (14ga) | -68 (14ga) | -97 (12ga) | -97 (12ga) | -33 (20ga) | -43 (18ga)       | -54 (16ga) | -54 (16ga) | -68 (14ga) | -68 (14ga) | -97 (12ga) | -97 (12ga) | -33 (20ga) | -43 (18ga)           | -54 (16ga) | -54 (16ga) | -68 (14ga) | -68 (14ga) | -97 (12ga) | -97 (12ga) |         |
|                    |                   | 33ksi      | 33ksi                | 33ksi      | 50ksi      | 33ksi      | 50ksi      | 33ksi      | 50ksi      | 33ksi      | 33ksi            | 33ksi      | 50ksi      | 33ksi      | 50ksi      | 33ksi      | 50ksi      | 33ksi      | 33ksi                | 33ksi      | 50ksi      | 33ksi      | 50ksi      | 33ksi      | 50ksi      |         |
| 3-5/8" Stud        | 8                 | 12         | 1.47 a               | 2.27 a     | 3.11 a     | 3.82 a     | 4.06 a     | 5.03 a     | 6.08 a     | 7.54 a     | 1.78 a           | 2.82 a     | 3.89 a     | 4.74 a     | 5.03 a     | 6.30 a     | 7.38 a     | 9.19 a     | 1.98 a               | 3.22 a     | 4.49 a     | 5.35 a     | 5.92 a     | 7.27 a     | 8.61 a     | 10.69 a |
|                    |                   | 16         | 1.27 a               | 2.08 a     | 2.91 a     | 3.65 a     | 3.85 a     | 4.85 a     | 5.86 a     | 7.35 a     | 1.57 a           | 2.59 a     | 3.67 a     | 4.52 a     | 4.80 a     | 6.10 a     | 7.15 a     | 8.99 a     | 1.76 a               | 2.99 a     | 4.23 a     | 5.12 a     | 5.70 a     | 7.04 a     | 8.38 a     | 10.48 a |
|                    |                   | 24         | 0.91 a               | 1.73 a     | 2.52 a     | 3.32 a     | 3.45 a     | 4.50 a     | 5.44 a     | 6.97 a     | 1.16 a           | 2.17 a     | 3.25 a     | 4.11 a     | 4.37 a     | 5.73 a     | 6.71 a     | 8.59 a     | 1.34 a               | 2.53 a     | 3.75 a     | 4.68 a     | 5.26 a     | 6.58 a     | 7.93 a     | 10.08 a |
|                    | 9                 | 12         | 1.24 a               | 2.02 a     | 2.80 a     | 3.45 a     | 3.69 a     | 4.55 a     | 5.60 a     | 6.86 a     | 1.53 a           | 2.50 a     | 3.52 a     | 4.25 a     | 4.59 a     | 5.69 a     | 6.82 a     | 8.36 a     | 1.72 a               | 2.90 a     | 4.06 a     | 4.87 a     | 5.44 a     | 6.57 a     | 8.00 a     | 9.77 a  |
|                    |                   | 16         | 1.01 a               | 1.79 a     | 2.55 a     | 3.24 a     | 3.44 a     | 4.33 a     | 5.33 a     | 6.62 a     | 1.28 a           | 2.23 a     | 3.25 a     | 3.99 a     | 4.32 a     | 5.46 a     | 6.54 a     | 8.11 a     | 1.46 a               | 2.61 a     | 3.75 a     | 4.59 a     | 5.17 a     | 6.28 a     | 7.71 a     | 9.51 a  |
|                    |                   | 24         | 0.59 c               | 1.37 a     | 2.09 a     | 2.85 a     | 2.95 a     | 3.92 a     | 4.82 a     | 6.16 a     | 0.80 b           | 1.74 a     | 2.76 a     | 3.50 a     | 3.80 a     | 5.01 a     | 5.99 a     | 7.63 a     | 0.97 a               | 2.07 a     | 3.17 a     | 4.06 a     | 4.64 a     | 5.73 a     | 7.16 a     | 9.03 a  |
|                    | 10                | 12         | 1.01 a               | 1.75 a     | 2.46 a     | 3.05 a     | 3.29 a     | 4.03 a     | 5.07 a     | 6.12 a     | 1.27 a           | 2.16 a     | 3.12 a     | 3.73 a     | 4.12 a     | 5.05 a     | 6.20 a     | 7.48 a     | 1.45 a               | 2.55 a     | 3.60 a     | 4.37 a     | 4.93 a     | 5.82 a     | 7.33 a     | 8.79 a  |
|                    |                   | 16         | 0.76 b               | 1.49 a     | 2.18 a     | 2.81 a     | 2.99 a     | 3.78 a     | 4.76 a     | 5.84 a     | 0.98 a           | 1.86 a     | 2.81 a     | 3.43 a     | 3.80 a     | 4.78 a     | 5.87 a     | 7.19 a     | 1.15 a               | 2.22 a     | 3.25 a     | 4.05 a     | 4.60 a     | 5.49 a     | 6.99 a     | 8.49 a  |
|                    |                   | 24         | 0.30 d               | 1.02 c     | 1.66 b     | 2.38 b     | 2.44 a     | 3.32 a     | 4.16 a     | 5.33 a     | 0.46 c           | 1.31 b     | 2.25 a     | 2.89 a     | 3.20 a     | 4.27 a     | 5.24 a     | 6.64 a     | 0.61 c               | 1.60 a     | 2.59 a     | 3.44 a     | 3.99 a     | 4.88 a     | 6.34 a     | 7.93 a  |
|                    | 12                | 12         | 0.58 c               | 1.21 b     | 1.77 a     | 2.22 a     | 2.47 a     | 2.99 a     | 3.96 a     | 4.61 a     | 0.77 c           | 1.51 a     | 2.31 a     | 2.70 a     | 3.14 a     | 3.78 a     | 4.91 a     | 5.70 a     | 0.92 b               | 1.82 a     | 2.67 a     | 3.22 a     | 3.85 a     | 4.36 a     | 5.91 a     | 6.80 a  |
|                    |                   | 16         | 0.29 d               | 0.91 d     | 1.45 c     | 1.96 c     | 2.12 b     | 2.71 b     | 3.57 a     | 4.30 a     | 0.45 d           | 1.16 c     | 1.95 b     | 2.37 b     | 2.77 a     | 3.47 a     | 4.50 a     | 5.36 a     | 0.58 d               | 1.43 b     | 2.25 a     | 2.85 a     | 3.45 a     | 3.98 a     | 5.48 a     | 6.45 a  |
|                    |                   | 24         | —                    | 0.39 e     | 0.87 d     | 1.49 d     | 1.50 d     | 2.21 d     | 2.89 b     | 3.73 b     | —                | 0.56 d     | 1.32 d     | 1.80 d     | 2.09 c     | 2.92 c     | 3.76 a     | 4.74 a     | —                    | 0.74 d     | 1.51 c     | 2.20 c     | 2.74 b     | 3.31 b     | 4.70 a     | 5.80 a  |
|                    | 14                | 12         | 0.23 e               | 0.74 d     | 1.17 d     | 1.55 d     | 1.72 c     | 2.14 c     | 2.91 a     | 3.38 a     | 0.35 e           | 0.94 d     | 1.59 c     | 1.86 c     | 2.26 b     | 2.74 b     | 3.69 a     | 4.22 a     | 0.47 d               | 1.16 c     | 1.84 b     | 2.24 b     | 2.85 a     | 3.15 a     | 4.54 a     | 5.11 a  |
|                    |                   | 16         | —                    | 0.44 e     | 0.84 e     | 1.29 e     | 1.36 d     | 1.86 d     | 2.51 c     | 3.06 c     | 0.02 e           | 0.59 e     | 1.22 d     | 1.54 d     | 1.87 c     | 2.43 c     | 3.26 b     | 3.87 b     | 0.12 e               | 0.77 d     | 1.41 c     | 1.88 c     | 2.43 b     | 2.77 b     | 4.07 a     | 4.75 a  |
|                    |                   | 24         | —                    | —          | 0.27 f     | 0.83 f     | 0.74 e     | 1.37 e     | 1.82 d     | 2.50 d     | —                | —          | 0.59 e     | 0.99 e     | 1.18 e     | 1.88 e     | 2.49 d     | 3.26 d     | —                    | 0.08 e     | 0.67 e     | 1.25 e     | 1.70 d     | 2.11 d     | 3.26 c     | 4.10 c  |

|         |    |    |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |         |        |        |        |        |        |        |        |         |
|---------|----|----|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|---------|--------|--------|--------|--------|--------|--------|--------|---------|
| 4" Stud | 8  | 12 | 1.65 a | 2.47 a | 3.47 a | 4.25 a | 4.68 a | 5.85 a | 6.93 a | 8.77 a | 1.97 a | 3.12 a | 4.31 a | 5.35 a | 5.75 a | 7.27 a | 8.37 a | 10.70 a | 2.17 a | 3.51 a | 4.92 a | 5.84 a | 6.73 a | 8.21 a | 9.73 a | 12.43 a |
|         |    | 16 | 1.46 a | 2.28 a | 3.28 a | 4.07 a | 4.47 a | 5.67 a | 6.72 a | 8.58 a | 1.77 a | 2.91 a | 4.11 a | 5.14 a | 5.53 a | 7.08 a | 8.15 a | 10.50 a | 1.97 a | 3.29 a | 4.69 a | 5.63 a | 6.51 a | 7.98 a | 9.51 a | 12.23 a |
|         |    | 24 | 1.11 a | 1.91 a | 2.91 a | 3.72 a | 4.08 a | 5.33 a | 6.31 a | 8.21 a | 1.38 a | 2.51 a | 3.71 a | 4.74 a | 5.11 a | 6.71 a | 7.72 a | 10.10 a | 1.57 a | 2.86 a | 4.22 a | 5.22 a | 6.08 a | 7.53 a | 9.08 a | 11.83 a |
|         | 9  | 12 | 1.44 a | 2.23 a | 3.19 a | 3.91 a | 4.34 a | 5.42 a | 6.49 a | 8.15 a | 1.74 a | 2.83 a | 3.98 a | 4.90 a | 5.34 a | 6.73 a | 7.86 a | 9.92 a  | 1.94 a | 3.22 a | 4.58 a | 5.48 a | 6.28 a | 7.68 a | 9.16 a | 11.55 a |
|         |    | 16 | 1.21 a | 1.99 a | 2.96 a | 3.68 a | 4.08 a | 5.20 a | 6.23 a | 7.91 a | 1.50 a | 2.57 a | 3.73 a | 4.64 a | 5.07 a | 6.49 a | 7.58 a | 9.67 a  | 1.69 a | 2.95 a | 4.28 a | 5.21 a | 6.00 a | 7.39 a | 8.88 a | 11.30 a |
|         |    | 24 | 0.79 b | 1.55 a | 2.51 a | 3.26 a | 3.60 a | 4.78 a | 5.72 a | 7.45 a | 1.03 a | 2.09 a | 3.25 a | 4.15 a | 4.55 a | 6.04 a | 7.05 a | 9.18 a  | 1.21 a | 2.43 a | 3.71 a | 4.69 a | 5.48 a | 6.84 a | 8.34 a | 10.80 a |
|         | 10 | 12 | 1.22 a | 1.97 a | 2.89 a | 3.52 a | 3.95 a | 4.95 a | 6.00 a | 7.44 a | 1.49 a | 2.51 a | 3.62 a | 4.41 a | 4.89 a | 6.13 a | 7.28 a | 9.06 a  | 1.68 a | 2.90 a | 4.16 a | 5.02 a | 5.78 a | 7.04 a | 8.53 a | 10.60 a |
|         |    | 16 | 0.96 a | 1.69 a | 2.61 a | 3.26 a | 3.65 a | 4.69 a | 5.68 a | 7.15 a | 1.21 a | 2.21 a | 3.32 a | 4.11 a | 4.56 a | 5.85 a | 6.94 a | 8.76 a  | 1.39 a | 2.58 a | 3.80 a | 4.70 a | 5.45 a | 6.70 a | 8.19 a | 10.29 a |
|         |    | 24 | 0.49 c | 1.19 b | 2.09 a | 2.77 a | 3.08 a | 4.19 a | 5.08 a | 6.61 a | 0.69 b | 1.66 a | 2.76 a | 3.55 a | 3.96 a | 5.32 a | 6.31 a | 8.18 a  | 0.85 b | 1.97 a | 3.14 a | 4.09 a | 4.83 a | 6.04 a | 7.54 a | 9.70 a  |
|         | 12 | 12 | 0.77 b | 1.42 a | 2.23 a | 2.70 a | 3.11 a | 3.88 a | 4.89 a | 5.90 a | 0.99 b | 1.86 a | 2.84 a | 3.38 a | 3.90 a | 4.84 a | 6.00 a | 7.23 a  | 1.16 a | 2.22 a | 3.25 a | 4.01 a | 4.70 a | 5.55 a | 7.13 a | 8.56 a  |
|         |    | 16 | 0.47 d | 1.09 c | 1.89 b | 2.39 b | 2.74 a | 3.56 a | 4.48 a | 5.55 a | 0.66 c | 1.50 b | 2.47 a | 3.03 a | 3.50 a | 4.50 a | 5.57 a | 6.86 a  | 0.81 c | 1.81 a | 2.81 a | 3.61 a | 4.28 a | 5.13 a | 6.69 a | 8.17 a  |
|         |    | 24 | —      | 0.51 d | 1.28 d | 1.83 d | 2.07 c | 2.99 c | 3.74 a | 4.91 a | 0.06 e | 0.86 d | 1.81 c | 2.39 c | 2.78 b | 3.87 b | 4.78 a | 6.17 a  | 0.18 d | 1.09 c | 2.03 b | 2.89 b | 3.52 a | 4.36 a | 5.87 a | 7.45 a  |
|         | 14 | 12 | 0.38 d | 0.91 c | 1.59 c | 1.94 c | 2.30 a | 2.85 a | 3.77 a | 4.43 a | 0.54 d | 1.26 c | 2.09 b | 2.45 b | 2.95 a | 3.60 a | 4.70 a | 5.49 a  | 0.68 c | 1.53 b | 2.38 a | 2.93 a | 3.63 a | 4.12 a | 5.70 a | 6.60 a  |
|         |    | 16 | 0.07 e | 0.56 d | 1.22 d | 1.62 d | 1.89 c | 2.53 c | 3.32 a | 4.07 a | 0.19 e | 0.87 d | 1.69 c | 2.08 c | 2.51 b | 3.24 b | 4.22 a | 5.09 a  | 0.30 d | 1.10 c | 1.91 b | 2.51 b | 3.17 a | 3.68 a | 5.19 a | 6.18 a  |
|         |    | 24 | —      | —      | 0.59 e | 1.06 e | 1.19 d | 1.96 d | 2.54 c | 3.42 c | —      | 0.21 e | 0.99 e | 1.44 e | 1.74 d | 2.62 d | 3.37 c | 4.39 c  | —      | 0.35 e | 1.08 d | 1.78 d | 2.35 c | 2.91 c | 4.28 b | 5.42 b  |

## Notes:

- 1 Studs are assumed to be simple span.
- 2 Axial loads are assumed to pass through the geometric centroid of the section.
- 3 Use 5psf tables for interior loads.
- 4 Cells marked with an a, b, c, d, e, or f meet L/720, L/600, L/480, L/360, L/240 or L/120 respectively. Blank cells do not meet L/120. For deflection calculations, lateral loads are multiplied by 0.7 per the 2004 AISI Standard for Cold-Formed Steel Framing-Wall Stud Design except for the 5psf load which is considered an interior wall load.
- 5 A 1/3 stress increase is not used.
- 6 Provide bridging and/or bracing at 48" o.c. Allowable loads are based on weak axis and torsional bracing at 48" o.c. for axial load, and continuous support of each flange for moment.
- 7 Capacities are calculated according to the the AISI-NASPEC, 2001 with 2004 supplement. A 1-1/2" by 4" knockout spaced no closer than 24" o.c. is assumed for standard studs.
- 8 Cells marked with an " \* " have h/t > 200 and thus require bearing stiffeners. Cells are left blank when h/t > 260.

Complies with IBC 2006 &amp; AISI-NASPEC, 2001 with 2004 supplement

# ALLOWABLE COMBINED AXIAL & LATERAL LOADS

(Kips/Stud)

| Wind = 15psf       |                   |       | S162 (1-5/8" Flange) |            |            |            |            |            |            |            | S200 (2" Flange) |            |            |            |            |            |            |            | S250 (2-1/2" Flange) |            |            |            |            |            |            |            |
|--------------------|-------------------|-------|----------------------|------------|------------|------------|------------|------------|------------|------------|------------------|------------|------------|------------|------------|------------|------------|------------|----------------------|------------|------------|------------|------------|------------|------------|------------|
| Stud length (feet) | Spacing (in) o.c. |       | -33 (20ga)           | -43 (18ga) | -54 (16ga) | -54 (16ga) | -68 (14ga) | -68 (14ga) | -97 (12ga) | -97 (12ga) | -33 (20ga)       | -43 (18ga) | -54 (16ga) | -54 (16ga) | -68 (14ga) | -68 (14ga) | -97 (12ga) | -97 (12ga) | -33 (20ga)           | -43 (18ga) | -54 (16ga) | -54 (16ga) | -68 (14ga) | -68 (14ga) | -97 (12ga) | -97 (12ga) |
|                    |                   | 33ksi | 33ksi                | 33ksi      | 50ksi      | 33ksi      | 50ksi      | 33ksi      | 50ksi      | 33ksi      | 33ksi            | 33ksi      | 50ksi      | 33ksi      | 50ksi      | 33ksi      | 50ksi      | 33ksi      | 33ksi                | 33ksi      | 33ksi      | 50ksi      | 33ksi      | 50ksi      | 33ksi      | 50ksi      |
| 6" Stud            | 8                 | 12    | 2.22 a               | 3.19 a     | 4.31 a     | 5.43 a     | 5.82 a     | 7.25 a     | 9.17 a     | 11.23 a    | 2.59 a           | 4.05 a     | 5.50 a     | 7.21 a     | 7.42 a     | 9.73 a     | 11.76 a    | 15.35 a    | 2.81 a               | 4.39 a     | 6.10 a     | 7.40 a     | 8.60 a     | 10.76 a    | 13.56 a    | 17.96 a    |
|                    |                   | 16    | 2.10 a               | 3.08 a     | 4.20 a     | 5.33 a     | 5.70 a     | 7.15 a     | 9.03 a     | 11.12 a    | 2.46 a           | 3.92 a     | 5.37 a     | 7.07 a     | 7.28 a     | 9.60 a     | 11.61 a    | 15.21 a    | 2.69 a               | 4.26 a     | 5.95 a     | 7.27 a     | 8.45 a     | 10.61 a    | 13.41 a    | 17.82 a    |
|                    |                   | 24    | 1.88 a               | 2.87 a     | 3.97 a     | 5.13 a     | 5.46 a     | 6.94 a     | 8.77 a     | 10.90 a    | 2.22 a           | 3.65 a     | 5.12 a     | 6.80 a     | 7.01 a     | 9.35 a     | 11.31 a    | 14.94 a    | 2.43 a               | 3.98 a     | 5.66 a     | 7.01 a     | 8.16 a     | 10.32 a    | 13.10 a    | 17.52 a    |
|                    | 9                 | 12    | 2.12 a               | 3.10 a     | 4.21 a     | 5.34 a     | 5.71 a     | 7.15 a     | 9.04 a     | 11.12 a    | 2.46 a           | 3.90 a     | 5.34 a     | 6.99 a     | 7.23 a     | 9.48 a     | 11.52 a    | 15.01 a    | 2.68 a               | 4.24 a     | 5.94 a     | 7.20 a     | 8.40 a     | 10.47 a    | 13.27 a    | 17.52 a    |
|                    |                   | 16    | 1.97 a               | 2.96 a     | 4.06 a     | 5.21 a     | 5.56 a     | 7.02 a     | 8.87 a     | 10.98 a    | 2.30 a           | 3.73 a     | 5.17 a     | 6.81 a     | 7.05 a     | 9.32 a     | 11.32 a    | 14.83 a    | 2.52 a               | 4.07 a     | 5.74 a     | 7.03 a     | 8.22 a     | 10.28 a    | 13.07 a    | 17.33 a    |
|                    |                   | 24    | 1.69 a               | 2.68 a     | 3.77 a     | 4.95 a     | 5.25 a     | 6.76 a     | 8.53 a     | 10.69 a    | 2.00 a           | 3.39 a     | 4.85 a     | 6.47 a     | 6.71 a     | 9.00 a     | 10.93 a    | 14.48 a    | 2.20 a               | 3.72 a     | 5.37 a     | 6.70 a     | 7.85 a     | 9.90 a     | 12.68 a    | 16.95 a    |
|                    | 10                | 12    | 2.00 a               | 2.99 a     | 4.09 a     | 5.23 a     | 5.58 a     | 7.04 a     | 8.90 a     | 11.00 a    | 2.32 a           | 3.72 a     | 5.15 a     | 6.72 a     | 7.01 a     | 9.18 a     | 11.22 a    | 14.59 a    | 2.53 a               | 4.06 a     | 5.73 a     | 6.95 a     | 8.17 a     | 10.13 a    | 12.93 a    | 17.00 a    |
|                    |                   | 16    | 1.82 a               | 2.81 a     | 3.91 a     | 5.07 a     | 5.39 a     | 6.87 a     | 8.68 a     | 10.81 a    | 2.13 a           | 3.51 a     | 4.94 a     | 6.51 a     | 6.79 a     | 8.98 a     | 10.98 a    | 14.37 a    | 2.33 a               | 3.85 a     | 5.49 a     | 6.75 a     | 7.94 a     | 9.89 a     | 12.68 a    | 16.75 a    |
|                    |                   | 24    | 1.48 a               | 2.47 a     | 3.55 a     | 4.75 a     | 5.00 a     | 6.53 a     | 8.25 a     | 10.44 a    | 1.75 a           | 3.10 a     | 4.54 a     | 6.08 a     | 6.36 a     | 8.58 a     | 10.49 a    | 13.92 a    | 1.94 a               | 3.43 a     | 5.02 a     | 6.34 a     | 7.48 a     | 9.43 a     | 12.18 a    | 16.27 a    |
|                    | 12                | 12    | 1.70 a               | 2.68 a     | 3.77 a     | 4.90 a     | 5.26 a     | 6.74 a     | 8.53 a     | 10.65 a    | 1.99 a           | 3.29 a     | 4.68 a     | 6.07 a     | 6.45 a     | 8.42 a     | 10.47 a    | 13.52 a    | 2.18 a               | 3.64 a     | 5.21 a     | 6.36 a     | 7.52 a     | 9.30 a     | 12.07 a    | 15.68 a    |
|                    |                   | 16    | 1.45 a               | 2.43 a     | 3.50 a     | 4.66 a     | 4.97 a     | 6.48 a     | 8.20 a     | 10.36 a    | 1.72 a           | 3.00 a     | 4.39 a     | 5.76 a     | 6.13 a     | 8.13 a     | 10.11 a    | 13.18 a    | 1.90 a               | 3.34 a     | 4.87 a     | 6.07 a     | 7.19 a     | 8.96 a     | 11.70 a    | 15.32 a    |
|                    |                   | 24    | 0.99 a               | 1.96 a     | 2.99 a     | 4.19 a     | 4.41 a     | 5.99 a     | 7.56 a     | 9.79 a     | 1.21 a           | 2.44 a     | 3.83 a     | 5.17 a     | 5.52 a     | 7.56 a     | 9.41 a     | 12.53 a    | 1.37 a               | 2.75 a     | 4.22 a     | 5.49 a     | 6.54 a     | 8.29 a     | 10.99 a    | 14.63 a    |
|                    | 14                | 12    | 1.35 a               | 2.28 a     | 3.30 a     | 4.33 a     | 4.71 a     | 6.07 a     | 7.97 a     | 10.06 a    | 1.60 a           | 2.79 a     | 4.11 a     | 5.28 a     | 5.76 a     | 7.47 a     | 9.50 a     | 12.13 a    | 1.78 a               | 3.14 a     | 4.59 a     | 5.67 a     | 6.74 a     | 8.31 a     | 11.00 a    | 14.07 a    |
|                    |                   | 16    | 1.04 a               | 1.97 a     | 2.95 a     | 4.01 a     | 4.32 a     | 5.73 a     | 7.51 a     | 9.64 a     | 1.27 a           | 2.42 a     | 3.73 a     | 4.88 a     | 5.34 a     | 7.09 a     | 9.02 a     | 11.68 a    | 1.43 a               | 2.75 a     | 4.15 a     | 5.28 a     | 6.29 a     | 7.86 a     | 10.50 a    | 13.59 a    |
|                    |                   | 24    | 0.48 c               | 1.38 b     | 2.30 a     | 3.42 a     | 3.60 a     | 5.08 a     | 6.64 a     | 8.85 a     | 0.64 c           | 1.72 a     | 3.03 a     | 4.15 a     | 4.56 a     | 6.36 a     | 8.10 a     | 10.83 a    | 0.78 b               | 2.01 a     | 3.32 a     | 4.55 a     | 5.46 a     | 7.00 a     | 9.56 a     | 12.67 a    |
| 8" Stud            | 8                 | 12    | 2.23 a*              | 3.19 a     | 4.32 a     | 5.29 a     | 5.87 a     | 7.10 a     | 9.43 a     | 11.19 a    | 2.75 a*          | 4.31 a     | 5.79 a     | 7.59 a     | 7.78 a     | 10.13 a    | 12.33 a    | 15.84 a    | 3.04 a*              | 4.72 a     | 6.49 a     | 8.01 a     | 9.20 a     | 11.61 a    | 14.83 a    | 19.56 a    |
|                    |                   | 16    | 2.14 a*              | 3.10 a     | 4.23 a     | 5.22 a     | 5.78 a     | 7.03 a     | 9.35 a     | 11.13 a    | 2.65 a*          | 4.22 a     | 5.71 a     | 7.50 a     | 7.69 a     | 10.05 a    | 12.23 a    | 15.75 a    | 2.94 a*              | 4.62 a     | 6.39 a     | 7.92 a     | 9.10 a     | 11.51 a    | 14.72 a    | 19.46 a    |
|                    |                   | 24    | 1.97 a*              | 2.93 a     | 4.06 a     | 5.07 a     | 5.60 a     | 6.88 a     | 9.18 a     | 10.99 a    | 2.46 a*          | 4.04 a     | 5.54 a     | 7.32 a     | 7.51 a     | 9.89 a     | 12.03 a    | 15.58 a    | 2.74 a*              | 4.43 a     | 6.19 a     | 7.73 a     | 8.90 a     | 11.31 a    | 14.51 a    | 19.26 a    |
|                    | 9                 | 12    | 2.16 a*              | 3.12 a     | 4.25 a     | 5.23 a     | 5.79 a     | 7.04 a     | 9.36 a     | 11.14 a    | 2.67 a*          | 4.23 a     | 5.72 a     | 7.51 a     | 7.70 a     | 10.06 a    | 12.24 a    | 15.76 a    | 2.95 a*              | 4.62 a     | 6.39 a     | 7.89 a     | 9.09 a     | 11.48 a    | 14.68 a    | 19.39 a    |
|                    |                   | 16    | 2.05 a*              | 3.01 a     | 4.14 a     | 5.13 a     | 5.67 a     | 6.94 a     | 9.25 a     | 11.05 a    | 2.55 a*          | 4.12 a     | 5.61 a     | 7.40 a     | 7.58 a     | 9.96 a     | 12.12 a    | 15.65 a    | 2.82 a*              | 4.50 a     | 6.27 a     | 7.78 a     | 8.96 a     | 11.35 a    | 14.54 a    | 19.26 a    |
|                    |                   | 24    | 1.83 a*              | 2.79 a     | 3.92 a     | 4.94 a     | 5.45 a     | 6.75 a     | 9.04 a     | 10.87 a    | 2.31 a*          | 3.89 a     | 5.39 a     | 7.17 a     | 7.35 a     | 9.75 a     | 11.86 a    | 15.43 a    | 2.57 a*              | 4.26 a     | 6.01 a     | 7.54 a     | 8.71 a     | 11.09 a    | 14.27 a    | 19.00 a    |
|                    | 10                | 12    | 2.08 a*              | 3.03 a     | 4.16 a     | 5.16 a     | 5.70 a     | 6.96 a     | 9.28 a     | 11.07 a    | 2.58 a*          | 4.14 a     | 5.64 a     | 7.42 a     | 7.61 a     | 9.98 a     | 12.14 a    | 15.67 a    | 2.84 a*              | 4.52 a     | 6.28 a     | 7.76 a     | 8.96 a     | 11.32 a    | 14.50 a    | 19.18 a    |
|                    |                   | 16    | 1.94 a*              | 2.90 a     | 4.03 a     | 5.03 a     | 5.56 a     | 6.84 a     | 9.14 a     | 10.96 a    | 2.43 a*          | 4.00 a     | 5.50 a     | 7.28 a     | 7.47 a     | 9.85 a     | 11.98 a    | 15.53 a    | 2.69 a*              | 4.36 a     | 6.12 a     | 7.61 a     | 8.80 a     | 11.16 a    | 14.33 a    | 19.02 a    |
|                    |                   | 24    | 1.67 a*              | 2.63 a     | 3.75 a     | 4.79 a     | 5.27 a     | 6.60 a     | 8.88 a     | 10.74 a    | 2.13 a*          | 3.72 a     | 5.23 a     | 6.99 a     | 7.18 a     | 9.59 a     | 11.67 a    | 15.25 a    | 2.38 a*              | 4.06 a     | 5.80 a     | 7.32 a     | 8.49 a     | 10.84 a    | 13.98 a    | 18.69 a    |
|                    | 12                | 12    | 1.88 a*              | 2.84 a     | 3.96 a     | 4.98 a     | 5.49 a     | 6.78 a     | 9.08 a     | 10.90 a    | 2.37 a*          | 3.94 a     | 5.43 a     | 7.20 a     | 7.39 a     | 9.78 a     | 11.90 a    | 15.45 a    | 2.60 a*              | 4.25 a     | 6.00 a     | 7.42 a     | 8.63 a     | 10.93 a    | 14.03 a    | 18.65 a    |
|                    |                   | 16    | 1.68 a*              | 2.65 a     | 3.76 a     | 4.80 a     | 5.28 a     | 6.60 a     | 8.88 a     | 10.73 a    | 2.15 a*          | 3.73 a     | 5.23 a     | 6.98 a     | 7.18 a     | 9.58 a     | 11.66 a    | 15.23 a    | 2.37 a*              | 4.03 a     | 5.76 a     | 7.20 a     | 8.40 a     | 10.69 a    | 13.78 a    | 18.40 a    |
|                    |                   | 24    | 1.29 a*              | 2.26 a     | 3.37 a     | 4.44 a     | 4.86 a     | 6.25 a     | 8.48 a     | 10.41 a    | 1.73 a*          | 3.31 a     | 4.84 a     | 6.56 a     | 6.76 a     | 9.19 a     | 11.19 a    | 14.81 a    | 1.94 a*              | 3.59 a     | 5.30 a     | 6.78 a     | 7.94 a     | 10.23 a    | 13.28 a    | 17.92 a    |
|                    | 14                | 12    | 1.65 a*              | 2.61 a     | 3.72 a     | 4.75 a     | 5.23 a     | 6.55 a     | 8.82 a     | 10.68 a    | 2.09 a*          | 3.63 a     | 5.13 a     | 6.82 a     | 7.09 a     | 9.44 a     | 11.59 a    | 15.14 a    | 2.30 a*              | 3.92 a     | 5.64 a     | 6.98 a     | 8.21 a     | 10.36 a    | 13.41 a    | 17.79 a    |
|                    |                   | 16    | 1.38 a*              | 2.34 a     | 3.44 a     | 4.50 a     | 4.94 a     | 6.30 a     | 8.54 a     | 10.45 a    | 1.80 a*          | 3.35 a     | 4.86 a     | 6.52 a     | 6.79 a     | 9.16 a     | 11.25 a    | 14.83 a    | 2.00 a*              | 3.62 a     | 5.32 a     | 6.68 a     | 7.89 a     | 10.03 a    | 13.06 a    | 17.45 a    |
|                    |                   | 24    | 0.87 a*              | 1.82 a     | 2.90 a     | 4.02 a     | 4.37 a     | 5.81 a     | 7.98 a     | 9.98 a     | 1.24 a*          | 2.80 a     | 4.32 a     | 5.94 a     | 6.21 a     | 8.62 a     | 10.59 a    | 14.22 a    | 1.43 a*              | 3.04 a     | 4.70 a     | 6.11 a     | 7.27 a     | 9.39 a     | 12.37 a    | 16.77 a    |

## Notes:

- 1 Studs are assumed to be simple span.
- 2 Axial loads are assumed to pass through the geometric centroid of the section.
- 3 Use 5psf tables for interior loads.
- 4 Cells marked with an a, b, c, d, e, or f meet L/720, L/600, L/480, L/360, L/240 or L/120 respectively. Blank cells do not meet L/120. For deflection calculations, lateral loads are multiplied by 0.7 per the 2004 AISI Standard for Cold-Formed Steel Framing-Wall Stud Design except for the 5psf load which is considered an interior wall load.
- 5 A 1/3 stress increase is not used.
- 6 Provide bridging and/or bracing at 48" o.c. Allowable loads are based on weak axis and torsional bracing at 48" o.c. for axial load, and continuous support of each flange for moment.
- 7 Capacities are calculated according to the the AISI-NASPEC, 2001 with 2004 supplement. A 1-1/2" by 4" knockout spaced no closer than 24" o.c. is assumed for standard studs.
- 8 Cells marked with an "\*" have h/t > 200 and thus require bearing stiffeners. Cells are left blank when h/t > 260.

Complies with IBC 2006 & AISI-NASPEC, 2001 with 2004 supplement

Pub. No. CD-STR-TechGuide 2/12

The technical content of this literature is effective 2/1/12 and supersedes all previous information.

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## ALLOWABLE COMBINED AXIAL &amp; LATERAL LOADS

(Kips/Stud)

| Wind = 20psf       |                   |            | S162 (1-5/8" Flange) |            |            |            |            |            |            |            | S200 (2" Flange) |            |            |            |            |            |            |            | S250 (2-1/2" Flange) |            |            |            |            |            |            |         |
|--------------------|-------------------|------------|----------------------|------------|------------|------------|------------|------------|------------|------------|------------------|------------|------------|------------|------------|------------|------------|------------|----------------------|------------|------------|------------|------------|------------|------------|---------|
| Stud length (feet) | Spacing (in) o.c. | -33 (20ga) | -43 (18ga)           | -54 (16ga) | -54 (16ga) | -68 (14ga) | -68 (14ga) | -97 (12ga) | -97 (12ga) | -33 (20ga) | -43 (18ga)       | -54 (16ga) | -54 (16ga) | -68 (14ga) | -68 (14ga) | -97 (12ga) | -97 (12ga) | -33 (20ga) | -43 (18ga)           | -54 (16ga) | -54 (16ga) | -68 (14ga) | -68 (14ga) | -97 (12ga) | -97 (12ga) |         |
|                    |                   | 33ksi      | 33ksi                | 33ksi      | 50ksi      | 33ksi      | 50ksi      | 33ksi      | 50ksi      | 33ksi      | 33ksi            | 33ksi      | 50ksi      | 33ksi      | 50ksi      | 33ksi      | 50ksi      | 33ksi      | 33ksi                | 33ksi      | 50ksi      | 33ksi      | 50ksi      | 33ksi      | 50ksi      |         |
| 3-5/8" Stud        | 8                 | 12         | 1.27 a               | 2.08 a     | 2.91 a     | 3.65 a     | 3.85 a     | 4.85 a     | 5.86 a     | 7.35 a     | 1.57 a           | 2.59 a     | 3.67 a     | 4.52 a     | 4.80 a     | 6.10 a     | 7.15 a     | 8.99 a     | 1.76 a               | 2.99 a     | 4.23 a     | 5.12 a     | 5.70 a     | 7.04 a     | 8.38 a     | 10.48 a |
|                    |                   | 16         | 1.02 a               | 1.84 a     | 2.65 a     | 3.43 a     | 3.58 a     | 4.62 a     | 5.58 a     | 7.09 a     | 1.29 a           | 2.31 a     | 3.39 a     | 4.24 a     | 4.51 a     | 5.85 a     | 6.86 a     | 8.72 a     | 1.48 a               | 2.68 a     | 3.91 a     | 4.83 a     | 5.40 a     | 6.73 a     | 8.08 a     | 10.22 a |
|                    |                   | 24         | 0.56 b               | 1.39 a     | 2.15 a     | 3.01 a     | 3.06 a     | 4.17 a     | 5.04 a     | 6.61 a     | 0.78 b           | 1.77 a     | 2.85 a     | 3.72 a     | 3.96 a     | 5.36 a     | 6.28 a     | 8.21 a     | 0.95 a               | 2.10 a     | 3.28 a     | 4.26 a     | 4.84 a     | 6.14 a     | 7.50 a     | 9.69 a  |
|                    | 9                 | 12         | 1.01 a               | 1.79 a     | 2.55 a     | 3.24 a     | 3.44 a     | 4.33 a     | 5.33 a     | 6.62 a     | 1.28 a           | 2.23 a     | 3.25 a     | 3.99 a     | 4.32 a     | 5.46 a     | 6.54 a     | 8.11 a     | 1.46 a               | 2.61 a     | 3.75 a     | 4.59 a     | 5.17 a     | 6.28 a     | 7.71 a     | 9.51 a  |
|                    |                   | 16         | 0.73 b               | 1.51 a     | 2.24 a     | 2.98 a     | 3.11 a     | 4.05 a     | 4.99 a     | 6.31 a     | 0.96 a           | 1.90 a     | 2.92 a     | 3.66 a     | 3.97 a     | 5.15 a     | 6.17 a     | 7.79 a     | 1.13 a               | 2.24 a     | 3.36 a     | 4.24 a     | 4.81 a     | 5.91 a     | 7.34 a     | 9.19 a  |
|                    |                   | 24         | 0.21 d               | 0.98 c     | 1.66 b     | 2.49 b     | 2.50 a     | 3.53 a     | 4.33 a     | 5.74 a     | 0.37 c           | 1.28 b     | 2.29 a     | 3.05 a     | 3.31 a     | 4.58 a     | 5.48 a     | 7.17 a     | 0.52 c               | 1.57 a     | 2.63 a     | 3.57 a     | 4.14 a     | 5.22 a     | 6.64 a     | 8.56 a  |
|                    | 10                | 12         | 0.76 b               | 1.49 a     | 2.18 a     | 2.81 a     | 2.99 a     | 3.78 a     | 4.76 a     | 5.84 a     | 0.98 a           | 1.86 a     | 2.81 a     | 3.43 a     | 3.80 a     | 4.78 a     | 5.87 a     | 7.19 a     | 1.15 a               | 2.22 a     | 3.25 a     | 4.05 a     | 4.60 a     | 5.49 a     | 6.99 a     | 8.49 a  |
|                    |                   | 16         | 0.44 d               | 1.17 c     | 1.82 a     | 2.52 a     | 2.62 a     | 3.47 a     | 4.35 a     | 5.49 a     | 0.63 c           | 1.49 b     | 2.43 a     | 3.07 a     | 3.40 a     | 4.44 a     | 5.44 a     | 6.82 a     | 0.78 b               | 1.80 a     | 2.80 a     | 3.64 a     | 4.19 a     | 5.08 a     | 6.55 a     | 8.11 a  |
|                    |                   | 24         | —                    | 0.59 d     | 1.19 c     | 1.98 c     | 1.94 b     | 2.89 b     | 3.61 a     | 4.85 a     | —                | 0.81 d     | 1.74 c     | 2.40 c     | 2.66 b     | 3.81 b     | 4.65 a     | 6.13 a     | 0.12 d               | 1.05 c     | 1.99 b     | 2.89 b     | 3.42 a     | 4.32 a     | 5.74 a     | 7.40 a  |
|                    | 12                | 12         | 0.29 d               | 0.91 d     | 1.45 c     | 1.96 c     | 2.12 b     | 2.71 b     | 3.57 a     | 4.30 a     | 0.45 d           | 1.16 c     | 1.95 b     | 2.37 b     | 2.77 a     | 3.47 a     | 4.50 a     | 5.36 a     | 0.58 d               | 1.43 b     | 2.25 a     | 2.85 a     | 3.45 a     | 3.98 a     | 5.48 a     | 6.45 a  |
|                    |                   | 16         | —                    | 0.56 e     | 1.06 d     | 1.64 d     | 1.69 c     | 2.37 c     | 3.10 b     | 3.91 b     | 0.06 e           | 0.75 d     | 1.52 c     | 1.98 c     | 2.30 b     | 3.09 b     | 4.00 a     | 4.94 a     | 0.17 e               | 0.96 d     | 1.75 c     | 2.40 c     | 2.97 a     | 3.53 a     | 4.95 a     | 6.01 a  |
|                    |                   | 24         | —                    | —          | 0.37 e     | 1.08 e     | 0.95 e     | 1.76 e     | 2.28 d     | 3.22 d     | —                | 0.03 e     | 0.77 e     | 1.29 e     | 1.49 d     | 2.43 d     | 3.10 c     | 4.19 c     | —                    | 0.15 e     | 0.87 d     | 1.62 d     | 2.11 c     | 2.72 c     | 4.00 b     | 5.22 b  |
|                    | 14                | 12         | —                    | 0.44 e     | 0.84 e     | 1.29 e     | 1.36 d     | 1.86 d     | 2.51 c     | 3.06 c     | 0.02 e           | 0.59 e     | 1.22 d     | 1.54 d     | 1.87 c     | 2.43 c     | 3.26 b     | 3.87 b     | 0.12 e               | 0.77 d     | 1.41 c     | 1.88 c     | 2.43 b     | 2.77 b     | 4.07 a     | 4.75 a  |
|                    |                   | 16         | —                    | 0.08 f     | 0.45 e     | 0.97 e     | 0.94 e     | 1.52 e     | 2.04 d     | 2.68 d     | —                | 0.18 e     | 0.79 e     | 1.16 e     | 1.40 d     | 2.06 d     | 2.73 c     | 3.46 c     | —                    | 0.30 e     | 0.90 d     | 1.45 d     | 1.93 d     | 2.32 d     | 3.52 b     | 4.30 b  |
|                    |                   | 24         | —                    | —          | —          | 0.43 f     | 0.21 f     | 0.94 f     | 1.21 e     | 2.01 e     | —                | —          | 0.05 f     | 0.51 f     | 0.59 e     | 1.41 e     | 1.83 e     | 2.73 e     | —                    | —          | 0.03 e     | 0.70 e     | 1.06 e     | 1.54 e     | 2.54 d     | 3.52 d  |

|         |    |    |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |         |        |        |        |        |        |        |        |         |
|---------|----|----|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|---------|--------|--------|--------|--------|--------|--------|--------|---------|
| 4" Stud | 8  | 12 | 1.46 a | 2.28 a | 3.28 a | 4.07 a | 4.47 a | 5.67 a | 6.72 a | 8.58 a | 1.77 a | 2.91 a | 4.11 a | 5.14 a | 5.53 a | 7.08 a | 8.15 a | 10.50 a | 1.97 a | 3.29 a | 4.69 a | 5.63 a | 6.51 a | 7.98 a | 9.51 a | 12.23 a |
|         |    | 16 | 1.22 a | 2.03 a | 3.03 a | 3.84 a | 4.21 a | 5.44 a | 6.44 a | 8.33 a | 1.51 a | 2.64 a | 3.84 a | 4.87 a | 5.25 a | 6.83 a | 7.87 a | 10.23 a | 1.70 a | 3.00 a | 4.37 a | 5.35 a | 6.22 a | 7.68 a | 9.22 a | 11.96 a |
|         |    | 24 | 0.77 a | 1.56 a | 2.56 a | 3.39 a | 3.69 a | 5.00 a | 5.91 a | 7.85 a | 1.01 a | 2.12 a | 3.33 a | 4.35 a | 4.71 a | 6.35 a | 7.31 a | 9.72 a  | 1.19 a | 2.45 a | 3.78 a | 4.82 a | 5.67 a | 7.10 a | 8.65 a | 11.44 a |
|         | 9  | 12 | 1.21 a | 1.99 a | 2.96 a | 3.68 a | 4.08 a | 5.20 a | 6.23 a | 7.91 a | 1.50 a | 2.57 a | 3.73 a | 4.64 a | 5.07 a | 6.49 a | 7.58 a | 9.67 a  | 1.69 a | 2.95 a | 4.28 a | 5.21 a | 6.00 a | 7.39 a | 8.88 a | 11.30 a |
|         |    | 16 | 0.93 a | 1.70 a | 2.66 a | 3.40 a | 3.75 a | 4.92 a | 5.89 a | 7.60 a | 1.18 a | 2.24 a | 3.41 a | 4.31 a | 4.72 a | 6.18 a | 7.22 a | 9.34 a  | 1.37 a | 2.60 a | 3.90 a | 4.86 a | 5.65 a | 7.02 a | 8.52 a | 10.96 a |
|         |    | 24 | 0.41 c | 1.14 b | 2.09 a | 2.86 a | 3.14 a | 4.38 a | 5.23 a | 7.01 a | 0.60 b | 1.63 a | 2.80 a | 3.69 a | 4.06 a | 5.60 a | 6.53 a | 8.71 a  | 0.77 b | 1.93 a | 3.18 a | 4.21 a | 4.97 a | 6.31 a | 7.82 a | 10.32 a |
|         | 10 | 12 | 0.96 a | 1.69 a | 2.61 a | 3.26 a | 3.65 a | 4.69 a | 5.68 a | 7.15 a | 1.21 a | 2.21 a | 3.32 a | 4.11 a | 4.56 a | 5.85 a | 6.94 a | 8.76 a  | 1.39 a | 2.58 a | 3.80 a | 4.70 a | 5.45 a | 6.70 a | 8.19 a | 10.29 a |
|         |    | 16 | 0.64 c | 1.35 a | 2.26 a | 2.93 a | 3.27 a | 4.35 a | 5.27 a | 6.79 a | 0.85 b | 1.84 a | 2.94 a | 3.73 a | 4.16 a | 5.49 a | 6.51 a | 8.37 a  | 1.03 a | 2.17 a | 3.36 a | 4.29 a | 5.03 a | 6.26 a | 7.76 a | 9.89 a  |
|         |    | 24 | 0.06 d | 0.73 c | 1.62 b | 2.32 b | 2.56 a | 3.74 a | 4.51 a | 6.11 a | 0.21 d | 1.15 c | 2.25 a | 3.03 a | 3.40 a | 4.82 a | 5.71 a | 7.64 a  | 0.36 c | 1.42 b | 2.53 a | 3.54 a | 4.25 a | 5.44 a | 6.93 a | 9.14 a  |
|         | 12 | 12 | 0.47 d | 1.09 c | 1.89 b | 2.39 b | 2.74 a | 3.56 a | 4.48 a | 5.55 a | 0.66 c | 1.50 b | 2.47 a | 3.03 a | 3.50 a | 4.50 a | 5.57 a | 6.86 a  | 0.81 c | 1.81 a | 2.81 a | 3.61 a | 4.28 a | 5.13 a | 6.69 a | 8.17 a  |
|         |    | 16 | 0.11 e | 0.69 d | 1.47 c | 2.01 c | 2.28 b | 3.17 b | 3.98 a | 5.12 a | 0.25 d | 1.06 c | 2.02 b | 2.59 b | 3.01 a | 4.07 a | 5.03 a | 6.39 a  | 0.38 d | 1.32 c | 2.28 a | 3.12 a | 3.77 a | 4.61 a | 6.13 a | 7.68 a  |
|         |    | 24 | —      | —      | 0.73 e | 1.34 e | 1.47 d | 2.48 d | 3.08 c | 4.34 c | —      | 0.29 e | 1.22 d | 1.82 d | 2.13 c | 3.31 c | 4.06 b | 5.55 b  | —      | 0.46 d | 1.33 c | 2.25 c | 2.84 b | 3.68 b | 5.12 a | 6.79 a  |
|         | 14 | 12 | 0.07 e | 0.56 d | 1.22 d | 1.62 d | 1.89 c | 2.53 c | 3.32 a | 4.07 a | 0.19 e | 0.87 d | 1.69 c | 2.08 c | 2.51 b | 3.24 b | 4.22 a | 5.09 a  | 0.30 d | 1.10 c | 1.91 b | 2.51 b | 3.17 a | 3.68 a | 5.19 a | 6.18 a  |
|         |    | 16 | —      | 0.15 e | 0.79 e | 1.23 e | 1.41 d | 2.14 d | 2.79 c | 3.62 c | —      | 0.42 e | 1.21 d | 1.64 d | 1.98 c | 2.81 c | 3.64 b | 4.61 b  | —      | 0.58 d | 1.34 d | 2.01 d | 2.61 c | 3.16 c | 4.57 a | 5.66 a  |
|         |    | 24 | —      | —      | 0.03 f | 0.57 f | 0.58 e | 1.46 e | 1.85 d | 2.85 d | —      | —      | 0.39 e | 0.88 e | 1.08 e | 2.06 e | 2.62 d | 3.77 d  | —      | —      | 0.37 e | 1.15 e | 1.63 d | 2.24 d | 3.48 c | 4.75 c  |

## Notes:

- 1 Studs are assumed to be simple span.
- 2 Axial loads are assumed to pass through the geometric centroid of the section.
- 3 Use 5psf tables for interior loads.
- 4 Cells marked with an a, b, c, d, e, or f meet L/720, L/600, L/480, L/360, L/240 or L/120 respectively. Blank cells do not meet L/120. For deflection calculations, lateral loads are multiplied by 0.7 per the 2004 AISI Standard for Cold-Formed Steel Framing-Wall Stud Design except for the 5psf load which is considered an interior wall load.
- 5 A 1/3 stress increase is not used.
- 6 Provide bridging and/or bracing at 48" o.c. Allowable loads are based on weak axis and torsional bracing at 48" o.c. for axial load, and continuous support of each flange for moment.
- 7 Capacities are calculated according to the the AISI-NASPEC, 2001 with 2004 supplement. A 1-1/2" by 4" knockout spaced no closer than 24" o.c. is assumed for standard studs.
- 8 Cells marked with an " \* " have h/t > 200 and thus require bearing stiffeners. Cells are left blank when h/t > 260.

Complies with IBC 2006 &amp; AISI-NASPEC, 2001 with 2004 supplement

# ALLOWABLE COMBINED AXIAL & LATERAL LOADS

(Kips/Stud)

| Wind = 20psf       |                   |            | S162 (1-5/8" Flange) |            |            |            |            |            |            |            | S200 (2" Flange) |            |            |            |            |            |            |            | S250 (2-1/2" Flange) |            |            |            |            |            |            |         |
|--------------------|-------------------|------------|----------------------|------------|------------|------------|------------|------------|------------|------------|------------------|------------|------------|------------|------------|------------|------------|------------|----------------------|------------|------------|------------|------------|------------|------------|---------|
| Stud length (feet) | Spacing (in) o.c. | -33 (20ga) | -43 (18ga)           | -54 (16ga) | -54 (16ga) | -68 (14ga) | -68 (14ga) | -97 (12ga) | -97 (12ga) | -33 (20ga) | -43 (18ga)       | -54 (16ga) | -54 (16ga) | -68 (14ga) | -68 (14ga) | -97 (12ga) | -97 (12ga) | -33 (20ga) | -43 (18ga)           | -54 (16ga) | -54 (16ga) | -68 (14ga) | -68 (14ga) | -97 (12ga) | -97 (12ga) |         |
|                    |                   | 33ksi      | 33ksi                | 33ksi      | 50ksi      | 33ksi      | 50ksi      | 33ksi      | 50ksi      | 33ksi      | 33ksi            | 33ksi      | 50ksi      | 33ksi      | 50ksi      | 33ksi      | 50ksi      | 33ksi      | 33ksi                | 33ksi      | 50ksi      | 33ksi      | 50ksi      | 33ksi      | 50ksi      |         |
| 6" Stud            | 8                 | 12         | 2.10 a               | 3.08 a     | 4.20 a     | 5.33 a     | 5.70 a     | 7.15 a     | 9.03 a     | 11.12 a    | 2.46 a           | 3.92 a     | 5.37 a     | 7.07 a     | 7.28 a     | 9.60 a     | 11.61 a    | 15.21 a    | 2.69 a               | 4.26 a     | 5.95 a     | 7.27 a     | 8.45 a     | 10.61 a    | 13.41 a    | 17.82 a |
|                    |                   | 16         | 1.95 a               | 2.94 a     | 4.05 a     | 5.20 a     | 5.54 a     | 7.01 a     | 8.86 a     | 10.97 a    | 2.30 a           | 3.74 a     | 5.20 a     | 6.89 a     | 7.10 a     | 9.44 a     | 11.41 a    | 15.03 a    | 2.52 a               | 4.07 a     | 5.76 a     | 7.10 a     | 8.26 a     | 10.41 a    | 13.20 a    | 17.62 a |
|                    |                   | 24         | 1.66 a               | 2.66 a     | 3.75 a     | 4.94 a     | 5.22 a     | 6.74 a     | 8.51 a     | 10.68 a    | 1.97 a           | 3.39 a     | 4.86 a     | 6.54 a     | 6.74 a     | 9.11 a     | 11.01 a    | 14.67 a    | 2.18 a               | 3.72 a     | 5.36 a     | 6.76 a     | 7.88 a     | 10.03 a    | 12.79 a    | 17.23 a |
|                    | 9                 | 12         | 1.97 a               | 2.96 a     | 4.06 a     | 5.21 a     | 5.56 a     | 7.02 a     | 8.87 a     | 10.98 a    | 2.30 a           | 3.73 a     | 5.17 a     | 6.81 a     | 7.05 a     | 9.32 a     | 11.32 a    | 14.83 a    | 2.52 a               | 4.07 a     | 5.74 a     | 7.03 a     | 8.22 a     | 10.28 a    | 13.07 a    | 17.33 a |
|                    |                   | 16         | 1.79 a               | 2.77 a     | 3.87 a     | 5.04 a     | 5.35 a     | 6.84 a     | 8.64 a     | 10.78 a    | 2.10 a           | 3.50 a     | 4.96 a     | 6.58 a     | 6.82 a     | 9.10 a     | 11.06 a    | 14.59 a    | 2.31 a               | 3.84 a     | 5.49 a     | 6.81 a     | 7.97 a     | 10.03 a    | 12.81 a    | 17.08 a |
|                    |                   | 24         | 1.42 a               | 2.42 a     | 3.49 a     | 4.70 a     | 4.94 a     | 6.49 a     | 8.19 a     | 10.40 a    | 1.69 a           | 3.06 a     | 4.53 a     | 6.13 a     | 6.37 a     | 8.68 a     | 10.55 a    | 14.13 a    | 1.89 a               | 3.38 a     | 4.99 a     | 6.37 a     | 7.48 a     | 9.53 a     | 12.29 a    | 16.57 a |
|                    | 10                | 12         | 1.82 a               | 2.81 a     | 3.91 a     | 5.07 a     | 5.39 a     | 6.87 a     | 8.68 a     | 10.81 a    | 2.13 a           | 3.51 a     | 4.94 a     | 6.51 a     | 6.79 a     | 8.98 a     | 10.98 a    | 14.37 a    | 2.33 a               | 3.85 a     | 5.49 a     | 6.75 a     | 7.94 a     | 9.89 a     | 12.68 a    | 16.75 a |
|                    |                   | 16         | 1.59 a               | 2.59 a     | 3.67 a     | 4.85 a     | 5.13 a     | 6.65 a     | 8.39 a     | 10.56 a    | 1.87 a           | 3.23 a     | 4.68 a     | 6.22 a     | 6.50 a     | 8.71 a     | 10.65 a    | 14.07 a    | 2.07 a               | 3.57 a     | 5.18 a     | 6.47 a     | 7.63 a     | 9.58 a     | 12.35 a    | 16.43 a |
|                    |                   | 24         | 1.14 a               | 2.15 a     | 3.19 a     | 4.43 a     | 4.62 a     | 6.21 a     | 7.83 a     | 10.07 a    | 1.39 a           | 2.70 a     | 4.15 a     | 5.67 a     | 5.94 a     | 8.19 a     | 10.02 a    | 13.49 a    | 1.57 a               | 3.02 a     | 4.57 a     | 5.94 a     | 7.03 a     | 8.97 a     | 11.70 a    | 15.80 a |
|                    | 12                | 12         | 1.45 a               | 2.43 a     | 3.50 a     | 4.66 a     | 4.97 a     | 6.48 a     | 8.20 a     | 10.36 a    | 1.72 a           | 3.00 a     | 4.39 a     | 5.76 a     | 6.13 a     | 8.13 a     | 10.11 a    | 13.18 a    | 1.90 a               | 3.34 a     | 4.87 a     | 6.07 a     | 7.19 a     | 8.96 a     | 11.70 a    | 15.32 a |
|                    |                   | 16         | 1.14 a               | 2.11 a     | 3.16 a     | 4.34 a     | 4.59 a     | 6.15 a     | 7.77 a     | 9.98 a     | 1.37 a           | 2.62 a     | 4.01 a     | 5.37 a     | 5.72 a     | 7.75 a     | 9.64 a     | 12.74 a    | 1.55 a               | 2.94 a     | 4.43 a     | 5.68 a     | 6.75 a     | 8.51 a     | 11.22 a    | 14.86 a |
|                    |                   | 24         | 0.55 c               | 1.51 a     | 2.50 a     | 3.75 a     | 3.86 a     | 5.51 a     | 6.94 a     | 9.25 a     | 0.73 b           | 1.90 a     | 3.30 a     | 4.61 a     | 4.94 a     | 7.02 a     | 8.73 a     | 11.91 a    | 0.87 a               | 2.20 a     | 3.59 a     | 4.94 a     | 5.91 a     | 7.66 a     | 10.29 a    | 13.95 a |
|                    | 14                | 12         | 1.04 a               | 1.97 a     | 2.95 a     | 4.01 a     | 4.32 a     | 5.73 a     | 7.51 a     | 9.64 a     | 1.27 a           | 2.42 a     | 3.73 a     | 4.88 a     | 5.34 a     | 7.09 a     | 9.02 a     | 11.68 a    | 1.43 a               | 2.75 a     | 4.15 a     | 5.28 a     | 6.29 a     | 7.86 a     | 10.50 a    | 13.59 a |
|                    |                   | 16         | 0.66 c               | 1.57 b     | 2.51 a     | 3.62 a     | 3.83 a     | 5.29 a     | 6.92 a     | 9.10 a     | 0.84 b           | 1.95 a     | 3.26 a     | 4.39 a     | 4.81 a     | 6.60 a     | 8.40 a     | 11.10 a    | 0.99 b               | 2.25 a     | 3.59 a     | 4.78 a     | 5.73 a     | 7.28 a     | 9.87 a     | 12.97 a |
|                    |                   | 24         | —                    | 0.84 d     | 1.70 c     | 2.88 c     | 2.92 a     | 4.48 a     | 5.83 a     | 8.11 a     | 0.07 d           | 1.08 c     | 2.37 b     | 3.48 b     | 3.83 a     | 5.69 a     | 7.24 a     | 10.03 a    | 0.18 d               | 1.34 b     | 2.55 a     | 3.86 a     | 4.67 a     | 6.20 a     | 8.67 a     | 11.81 a |
| 8" Stud            | 8                 | 12         | 2.14 a*              | 3.10 a     | 4.23 a     | 5.22 a     | 5.78 a     | 7.03 a     | 9.35 a     | 11.13 a    | 2.65 a*          | 4.22 a     | 5.71 a     | 7.50 a     | 7.69 a     | 10.05 a    | 12.23 a    | 15.75 a    | 2.94 a*              | 4.62 a     | 6.39 a     | 7.92 a     | 9.10 a     | 11.51 a    | 14.72 a    | 19.46 a |
|                    |                   | 16         | 2.03 a*              | 2.99 a     | 4.12 a     | 5.12 a     | 5.66 a     | 6.93 a     | 9.24 a     | 11.04 a    | 2.53 a*          | 4.10 a     | 5.59 a     | 7.38 a     | 7.57 a     | 9.95 a     | 12.10 a    | 15.64 a    | 2.81 a*              | 4.49 a     | 6.26 a     | 7.79 a     | 8.97 a     | 11.37 a    | 14.58 a    | 19.32 a |
|                    |                   | 24         | 1.80 a*              | 2.76 a     | 3.89 a     | 4.92 a     | 5.42 a     | 6.73 a     | 9.02 a     | 10.86 a    | 2.28 a*          | 3.86 a     | 5.37 a     | 7.14 a     | 7.33 a     | 9.73 a     | 11.84 a    | 15.41 a    | 2.55 a*              | 4.24 a     | 5.99 a     | 7.55 a     | 8.71 a     | 11.11 a    | 14.29 a    | 19.06 a |
|                    | 9                 | 12         | 2.05 a*              | 3.01 a     | 4.14 a     | 5.13 a     | 5.67 a     | 6.94 a     | 9.25 a     | 11.05 a    | 2.55 a*          | 4.12 a     | 5.61 a     | 7.40 a     | 7.58 a     | 9.96 a     | 12.12 a    | 15.65 a    | 2.82 a*              | 4.50 a     | 6.27 a     | 7.78 a     | 8.96 a     | 11.35 a    | 14.54 a    | 19.26 a |
|                    |                   | 16         | 1.90 a*              | 2.86 a     | 3.99 a     | 5.00 a     | 5.52 a     | 6.81 a     | 9.11 a     | 10.93 a    | 2.39 a*          | 3.96 a     | 5.46 a     | 7.24 a     | 7.43 a     | 9.82 a     | 11.95 a    | 15.50 a    | 2.65 a*              | 4.34 a     | 6.09 a     | 7.62 a     | 8.79 a     | 11.18 a    | 14.36 a    | 19.09 a |
|                    |                   | 24         | 1.61 a*              | 2.58 a     | 3.70 a     | 4.75 a     | 5.22 a     | 6.56 a     | 8.83 a     | 10.70 a    | 2.07 a*          | 3.66 a     | 5.18 a     | 6.94 a     | 7.12 a     | 9.54 a     | 11.61 a    | 15.21 a    | 2.32 a*              | 4.01 a     | 5.75 a     | 7.31 a     | 8.46 a     | 10.84 a    | 13.99 a    | 18.74 a |
|                    | 10                | 12         | 1.94 a*              | 2.90 a     | 4.03 a     | 5.03 a     | 5.56 a     | 6.84 a     | 9.14 a     | 10.96 a    | 2.43 a*          | 4.00 a     | 5.50 a     | 7.28 a     | 7.47 a     | 9.85 a     | 11.98 a    | 15.53 a    | 2.69 a*              | 4.36 a     | 6.12 a     | 7.61 a     | 8.80 a     | 11.16 a    | 14.33 a    | 19.02 a |
|                    |                   | 16         | 1.76 a*              | 2.72 a     | 3.84 a     | 4.87 a     | 5.37 a     | 6.68 a     | 8.97 a     | 10.81 a    | 2.23 a*          | 3.81 a     | 5.32 a     | 7.08 a     | 7.27 a     | 9.68 a     | 11.77 a    | 15.34 a    | 2.48 a*              | 4.16 a     | 5.91 a     | 7.42 a     | 8.59 a     | 10.95 a    | 14.10 a    | 18.80 a |
|                    |                   | 24         | 1.40 a*              | 2.37 a     | 3.48 a     | 4.55 a     | 4.99 a     | 6.37 a     | 8.61 a     | 10.52 a    | 1.84 a*          | 3.44 a     | 4.96 a     | 6.70 a     | 6.89 a     | 9.33 a     | 11.35 a    | 14.97 a    | 2.08 a*              | 3.76 a     | 5.48 a     | 7.03 a     | 8.17 a     | 10.53 a    | 13.64 a    | 18.37 a |
|                    | 12                | 12         | 1.68 a*              | 2.65 a     | 3.76 a     | 4.80 a     | 5.28 a     | 6.60 a     | 8.88 a     | 10.73 a    | 2.15 a*          | 3.73 a     | 5.23 a     | 6.98 a     | 7.18 a     | 9.58 a     | 11.66 a    | 15.23 a    | 2.37 a*              | 4.03 a     | 5.76 a     | 7.20 a     | 8.40 a     | 10.69 a    | 13.78 a    | 18.40 a |
|                    |                   | 16         | 1.42 a*              | 2.39 a     | 3.50 a     | 4.56 a     | 5.00 a     | 6.37 a     | 8.61 a     | 10.52 a    | 1.87 a*          | 3.45 a     | 4.97 a     | 6.70 a     | 6.90 a     | 9.32 a     | 11.35 a    | 14.95 a    | 2.08 a*              | 3.74 a     | 5.45 a     | 6.92 a     | 8.09 a     | 10.38 a    | 13.44 a    | 18.08 a |
|                    |                   | 24         | 0.92 a*              | 1.88 a     | 2.97 a     | 4.10 a     | 4.45 a     | 5.90 a     | 8.09 a     | 10.09 a    | 1.32 a*          | 2.91 a     | 4.45 a     | 6.14 a     | 6.34 a     | 8.80 a     | 10.72 a    | 14.38 a    | 1.51 a*              | 3.17 a     | 4.84 a     | 6.36 a     | 7.49 a     | 9.76 a     | 12.78 a    | 17.43 a |
|                    | 14                | 12         | 1.38 a*              | 2.34 a     | 3.44 a     | 4.50 a     | 4.94 a     | 6.30 a     | 8.54 a     | 10.45 a    | 1.80 a*          | 3.35 a     | 4.86 a     | 6.52 a     | 6.79 a     | 9.16 a     | 11.25 a    | 14.83 a    | 2.00 a*              | 3.62 a     | 5.32 a     | 6.68 a     | 7.89 a     | 10.03 a    | 13.06 a    | 17.45 a |
|                    |                   | 16         | 1.04 a*              | 1.99 a     | 3.08 a     | 4.18 a     | 4.56 a     | 5.97 a     | 8.17 a     | 10.14 a    | 1.43 a*          | 2.98 a     | 4.50 a     | 6.13 a     | 6.40 a     | 8.80 a     | 10.80 a    | 14.42 a    | 1.62 a*              | 3.23 a     | 4.90 a     | 6.30 a     | 7.47 a     | 9.60 a     | 12.60 a    | 16.99 a |
|                    |                   | 24         | 0.38 b*              | 1.33 a     | 2.38 a     | 3.55 a     | 3.81 a     | 5.33 a     | 7.44 a     | 9.53 a     | 0.71 a*          | 2.27 a     | 3.80 a     | 5.38 a     | 5.64 a     | 8.09 a     | 9.94 a     | 13.63 a    | 0.88 a*              | 2.48 a     | 4.09 a     | 5.55 a     | 6.66 a     | 8.77 a     | 11.69 a    | 16.11 a |

## Notes:

- 1 Studs are assumed to be simple span.
- 2 Axial loads are assumed to pass through the geometric centroid of the section.
- 3 Use 5psf tables for interior loads.
- 4 Cells marked with an a, b, c, d, e, or f meet L/720, L/600, L/480, L/360, L/240 or L/120 respectively. Blank cells do not meet L/120. For deflection calculations, lateral loads are multiplied by 0.7 per the 2004 AISI Standard for Cold-Formed Steel Framing-Wall Stud Design except for the 5psf load which is considered an interior wall load.
- 5 A 1/3 stress increase is not used.
- 6 Provide bridging and/or bracing at 48" o.c. Allowable loads are based on weak axis and torsional bracing at 48" o.c. for axial load, and continuous support of each flange for moment.
- 7 Capacities are calculated according to the the AISI-NASPEC, 2001 with 2004 supplement. A 1-1/2" by 4" knockout spaced no closer than 24" o.c. is assumed for standard studs.
- 8 Cells marked with an "\*" have h/t > 200 and thus require bearing stiffeners. Cells are left blank when h/t > 260.

Complies with IBC 2006 & AISI-NASPEC, 2001 with 2004 supplement

Pub. No. CD-STR-TechGuide 2/12

The technical content of this literature is effective 2/1/12 and supersedes all previous information.

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## ALLOWABLE COMBINED AXIAL &amp; LATERAL LOADS

(Kips/Stud)

| Wind = 25psf       |                   |       | S162 (1-5/8" Flange) |            |            |            |            |            |            |            | S200 (2" Flange) |            |            |            |            |            |            |            | S250 (2-1/2" Flange) |            |            |            |            |            |            |            |
|--------------------|-------------------|-------|----------------------|------------|------------|------------|------------|------------|------------|------------|------------------|------------|------------|------------|------------|------------|------------|------------|----------------------|------------|------------|------------|------------|------------|------------|------------|
| Stud length (feet) | Spacing (in) o.c. |       | -33 (20ga)           | -43 (18ga) | -54 (16ga) | -54 (16ga) | -68 (14ga) | -68 (14ga) | -97 (12ga) | -97 (12ga) | -33 (20ga)       | -43 (18ga) | -54 (16ga) | -54 (16ga) | -68 (14ga) | -68 (14ga) | -97 (12ga) | -97 (12ga) | -33 (20ga)           | -43 (18ga) | -54 (16ga) | -54 (16ga) | -68 (14ga) | -68 (14ga) | -97 (12ga) | -97 (12ga) |
|                    |                   | 33ksi | 33ksi                | 33ksi      | 50ksi      | 33ksi      | 50ksi      | 33ksi      | 50ksi      | 33ksi      | 33ksi            | 33ksi      | 50ksi      | 33ksi      | 50ksi      | 33ksi      | 50ksi      | 33ksi      | 33ksi                | 33ksi      | 33ksi      | 33ksi      | 50ksi      | 33ksi      | 50ksi      | 33ksi      |
| 3-5/8" Stud        | 8                 | 12    | 1.09 a               | 1.90 a     | 2.71 a     | 3.49 a     | 3.65 a     | 4.68 a     | 5.65 a     | 7.16 a     | 1.36 a           | 2.38 a     | 3.46 a     | 4.31 a     | 4.59 a     | 5.91 a     | 6.93 a     | 8.79 a     | 1.55 a               | 2.75 a     | 3.99 a     | 4.90 a     | 5.48 a     | 6.80 a     | 8.16 a     | 10.28 a    |
|                    |                   | 16    | 0.79 a               | 1.61 a     | 2.39 a     | 3.22 a     | 3.32 a     | 4.39 a     | 5.30 a     | 6.85 a     | 1.03 a           | 2.04 a     | 3.12 a     | 3.98 a     | 4.23 a     | 5.60 a     | 6.57 a     | 8.46 a     | 1.21 a               | 2.38 a     | 3.59 a     | 4.54 a     | 5.12 a     | 6.43 a     | 7.79 a     | 9.95 a     |
|                    |                   | 24    | 0.24 c               | 1.07 b     | 1.80 a     | 2.71 a     | 2.69 a     | 3.85 a     | 4.64 a     | 6.26 a     | 0.42 c           | 1.40 a     | 2.47 a     | 3.34 a     | 3.56 a     | 5.02 a     | 5.87 a     | 7.83 a     | 0.58 b               | 1.69 a     | 2.84 a     | 3.86 a     | 4.44 a     | 5.72 a     | 7.08 a     | 9.32 a     |
|                    | 9                 | 12    | 0.80 b               | 1.57 a     | 2.32 a     | 3.04 a     | 3.19 a     | 4.12 a     | 5.07 a     | 6.39 a     | 1.03 a           | 1.98 a     | 3.00 a     | 3.74 a     | 4.05 a     | 5.23 a     | 6.26 a     | 7.87 a     | 1.21 a               | 2.33 a     | 3.46 a     | 4.32 a     | 4.90 a     | 6.00 a     | 7.43 a     | 9.27 a     |
|                    |                   | 16    | 0.46 c               | 1.24 b     | 1.94 a     | 2.73 a     | 2.80 a     | 3.79 a     | 4.65 a     | 6.02 a     | 0.66 c           | 1.58 a     | 2.60 a     | 3.34 a     | 3.63 a     | 4.86 a     | 5.82 a     | 7.47 a     | 0.82 b               | 1.90 a     | 2.99 a     | 3.90 a     | 4.47 a     | 5.56 a     | 6.98 a     | 8.87 a     |
|                    |                   | 24    | —                    | 0.62 d     | 1.26 c     | 2.15 c     | 2.07 b     | 3.17 b     | 3.87 a     | 5.33 a     | —                | 0.86 c     | 1.86 b     | 2.62 b     | 2.85 a     | 4.18 a     | 4.99 a     | 6.74 a     | 0.11 d               | 1.10 b     | 2.12 a     | 3.11 a     | 3.66 a     | 4.74 a     | 6.14 a     | 8.11 a     |
|                    | 10                | 12    | 0.52 c               | 1.24 b     | 1.91 a     | 2.59 a     | 2.71 a     | 3.54 a     | 4.45 a     | 5.58 a     | 0.71 c           | 1.58 a     | 2.53 a     | 3.15 a     | 3.49 a     | 4.52 a     | 5.55 a     | 6.91 a     | 0.87 b               | 1.90 a     | 2.91 a     | 3.74 a     | 4.29 a     | 5.18 a     | 6.66 a     | 8.21 a     |
|                    |                   | 16    | 0.15 d               | 0.87 d     | 1.50 c     | 2.24 c     | 2.27 a     | 3.17 a     | 3.98 a     | 5.16 a     | 0.30 d           | 1.14 c     | 2.08 b     | 2.72 b     | 3.02 a     | 4.12 a     | 5.04 a     | 6.46 a     | 0.44 c               | 1.41 b     | 2.38 a     | 3.25 a     | 3.80 a     | 4.69 a     | 6.14 a     | 7.75 a     |
|                    |                   | 24    | —                    | 0.20 e     | 0.75 d     | 1.61 d     | 1.48 c     | 2.50 c     | 3.10 b     | 4.40 b     | —                | 0.36 d     | 1.27 d     | 1.95 d     | 2.16 c     | 3.37 c     | 4.11 a     | 5.65 a     | —                    | 0.54 d     | 1.44 c     | 2.39 c     | 2.90 b     | 3.79 b     | 5.17 a     | 6.90 a     |
|                    | 12                | 12    | 0.04 e               | 0.64 d     | 1.15 d     | 1.72 d     | 1.80 c     | 2.45 c     | 3.22 a     | 4.01 a     | 0.15 e           | 0.85 d     | 1.63 c     | 2.08 c     | 2.42 b     | 3.19 b     | 4.12 a     | 5.04 a     | 0.27 d               | 1.07 c     | 1.87 b     | 2.51 b     | 3.09 a     | 3.64 a     | 5.08 a     | 6.12 a     |
|                    |                   | 16    | —                    | 0.23 e     | 0.70 e     | 1.35 e     | 1.31 d     | 2.05 d     | 2.68 c     | 3.56 c     | —                | 0.37 e     | 1.13 d     | 1.62 d     | 1.88 c     | 2.75 c     | 3.53 b     | 4.55 b     | —                    | 0.54 d     | 1.29 d     | 2.00 d     | 2.52 c     | 3.11 c     | 4.46 a     | 5.60 a     |
|                    |                   | 24    | —                    | —          | —          | 0.70 f     | 0.46 e     | 1.35 e     | 1.72 d     | 2.76 d     | —                | —          | 0.27 e     | 0.84 e     | 0.95 e     | 1.98 e     | 2.49 d     | 3.69 d     | —                    | —          | 0.28 e     | 1.10 e     | 1.53 d     | 2.17 d     | 3.36 c     | 4.68 c     |
|                    | 14                | 12    | —                    | 0.17 f     | 0.54 e     | 1.05 e     | 1.04 e     | 1.60 e     | 2.15 d     | 2.77 d     | —                | 0.28 e     | 0.90 e     | 1.25 e     | 1.51 d     | 2.15 d     | 2.86 c     | 3.56 c     | —                    | 0.41 e     | 1.02 d     | 1.55 d     | 2.05 c     | 2.43 c     | 3.65 b     | 4.41 b     |
|                    |                   | 16    | —                    | —          | 0.10 f     | 0.69 f     | 0.56 e     | 1.22 e     | 1.61 e     | 2.33 e     | —                | —          | 0.41 e     | 0.82 e     | 0.98 e     | 1.72 e     | 2.26 d     | 3.08 d     | —                    | —          | 0.45 e     | 1.06 e     | 1.48 d     | 1.91 d     | 3.01 c     | 3.90 c     |
|                    |                   | 24    | —                    | —          | —          | 0.07 f     | —          | 0.55 f     | 0.67 f     | 1.57 f     | —                | —          | —          | 0.08 f     | 0.07 f     | 0.99 f     | 1.23 e     | 2.24 e     | —                    | —          | —          | 0.21 f     | 0.49 e     | 1.02 e     | 1.90 e     | 3.00 e     |

|         |    |    |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |         |        |        |        |        |        |        |        |         |
|---------|----|----|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|---------|--------|--------|--------|--------|--------|--------|--------|---------|
| 4" Stud | 8  | 12 | 1.28 a | 2.09 a | 3.09 a | 3.90 a | 4.27 a | 5.50 a | 6.51 a | 8.39 a | 1.57 a | 2.71 a | 3.91 a | 4.94 a | 5.32 a | 6.89 a | 7.94 a | 10.30 a | 1.77 a | 3.07 a | 4.45 a | 5.42 a | 6.29 a | 7.75 a | 9.29 a | 12.02 a |
|         |    | 16 | 0.99 a | 1.79 a | 2.79 a | 3.61 a | 3.95 a | 5.22 a | 6.17 a | 8.09 a | 1.25 a | 2.37 a | 3.58 a | 4.61 a | 4.97 a | 6.59 a | 7.58 a | 9.97 a  | 1.44 a | 2.72 a | 4.07 a | 5.08 a | 5.94 a | 7.39 a | 8.93 a | 11.70 a |
|         |    | 24 | 0.45 b | 1.22 a | 2.22 a | 3.06 a | 3.33 a | 4.68 a | 5.52 a | 7.50 a | 0.66 b | 1.75 a | 2.97 a | 3.98 a | 4.31 a | 6.00 a | 6.90 a | 9.34 a  | 0.83 a | 2.05 a | 3.35 a | 4.43 a | 5.26 a | 6.68 a | 8.24 a | 11.05 a |
|         | 9  | 12 | 1.00 a | 1.77 a | 2.73 a | 3.47 a | 3.84 a | 4.99 a | 5.97 a | 7.67 a | 1.26 a | 2.33 a | 3.49 a | 4.39 a | 4.81 a | 6.26 a | 7.31 a | 9.42 a  | 1.45 a | 2.68 a | 3.99 a | 4.95 a | 5.74 a | 7.11 a | 8.61 a | 11.04 a |
|         |    | 16 | 0.66 b | 1.41 a | 2.37 a | 3.12 a | 3.44 a | 4.65 a | 5.56 a | 7.30 a | 0.89 a | 1.93 a | 3.10 a | 4.00 a | 4.39 a | 5.89 a | 6.87 a | 9.02 a  | 1.06 a | 2.26 a | 3.53 a | 4.53 a | 5.31 a | 6.66 a | 8.17 a | 10.64 a |
|         |    | 24 | 0.05 d | 0.75 c | 1.69 b | 2.48 b | 2.70 a | 4.00 a | 4.77 a | 6.58 a | 0.20 c | 1.20 b | 2.37 a | 3.26 a | 3.60 a | 5.19 a | 6.04 a | 8.26 a  | 0.35 c | 1.47 a | 2.67 a | 3.74 a | 4.49 a | 5.81 a | 7.32 a | 9.86 a  |
|         | 10 | 12 | 0.72 b | 1.43 a | 2.35 a | 3.01 a | 3.36 a | 4.44 a | 5.37 a | 6.88 a | 0.94 a | 1.93 a | 3.04 a | 3.82 a | 4.26 a | 5.58 a | 6.62 a | 8.46 a  | 1.12 a | 2.27 a | 3.46 a | 4.39 a | 5.14 a | 6.36 a | 7.86 a | 9.99 a  |
|         |    | 16 | 0.34 d | 1.03 b | 1.93 a | 2.62 a | 2.91 a | 4.04 a | 4.89 a | 6.44 a | 0.52 c | 1.49 b | 2.59 a | 3.37 a | 3.77 a | 5.15 a | 6.10 a | 8.00 a  | 0.68 b | 1.78 a | 2.93 a | 3.90 a | 4.63 a | 5.84 a | 7.34 a | 9.51 a  |
|         |    | 24 | —      | 0.30 d | 1.17 c | 1.91 c | 2.07 b | 3.31 b | 3.98 a | 5.63 a | —      | 0.68 d | 1.77 c | 2.55 c | 2.87 b | 4.36 b | 5.14 a | 7.13 a  | —      | 0.90 c | 1.96 b | 3.01 b | 3.70 a | 4.87 a | 6.35 a | 8.60 a  |
|         | 12 | 12 | 0.20 d | 0.79 d | 1.57 c | 2.10 c | 2.39 b | 3.27 b | 4.10 a | 5.22 a | 0.35 d | 1.17 c | 2.13 b | 2.70 b | 3.13 a | 4.18 a | 5.16 a | 6.50 a  | 0.48 d | 1.44 b | 2.41 a | 3.24 a | 3.89 a | 4.73 a | 6.27 a | 7.80 a  |
|         |    | 16 | —      | 0.33 e | 1.09 d | 1.66 d | 1.86 c | 2.81 c | 3.52 b | 4.72 b | —      | 0.66 d | 1.60 c | 2.19 c | 2.55 b | 3.68 b | 4.53 a | 5.96 a  | —      | 0.87 d | 1.79 c | 2.67 c | 3.29 a | 4.13 a | 5.61 a | 7.23 a  |
|         |    | 24 | —      | —      | 0.24 e | 0.89 e | 0.93 e | 2.02 e | 2.47 d | 3.81 d | —      | —      | 0.68 e | 1.31 e | 1.54 d | 2.80 d | 3.41 c | 4.97 c  | —      | —      | 0.70 d | 1.66 d | 2.21 c | 3.06 c | 4.43 b | 6.18 b  |
|         | 14 | 12 | —      | 0.25 e | 0.89 e | 1.33 e | 1.53 d | 2.23 d | 2.91 b | 3.73 b | —      | 0.53 e | 1.32 d | 1.75 d | 2.11 c | 2.92 c | 3.78 b | 4.73 b  | —      | 0.71 d | 1.48 c | 2.13 c | 2.74 b | 3.28 b | 4.72 a | 5.79 a  |
|         |    | 16 | —      | —      | 0.39 e | 0.89 e | 0.98 e | 1.78 e | 2.30 d | 3.22 d | —      | 0.01 e | 0.78 e | 1.25 e | 1.51 d | 2.42 d | 3.11 c | 4.17 c  | —      | 0.12 e | 0.83 d | 1.56 d | 2.10 d | 2.68 d | 4.01 b | 5.19 b  |
|         |    | 24 | —      | —      | —      | 0.13 f | 0.04 f | 1.01 f | 1.23 e | 2.34 e | —      | —      | —      | 0.39 f | 0.48 e | 1.57 e | 1.94 e | 3.20 e  | —      | —      | —      | 0.58 e | 0.99 e | 1.64 e | 2.76 d | 4.14 d  |

## Notes:

- 1 Studs are assumed to be simple span.
- 2 Axial loads are assumed to pass through the geometric centroid of the section.
- 3 Use 5psf tables for interior loads.
- 4 Cells marked with an a, b, c, d, e, or f meet L/720, L/600, L/480, L/360, L/240 or L/120 respectively. Blank cells do not meet L/120. For deflection calculations, lateral loads are multiplied by 0.7 per the 2004 AISI Standard for Cold-Formed Steel Framing-Wall Stud Design except for the 5psf load which is considered an interior wall load.
- 5 A 1/3 stress increase is not used.
- 6 Provide bridging and/or bracing at 48" o.c. Allowable loads are based on weak axis and torsional bracing at 48" o.c. for axial load, and continuous support of each flange for moment.
- 7 Capacities are calculated according to the the AISI-NASPEC, 2001 with 2004 supplement. A 1-1/2" by 4" knockout spaced no closer than 24" o.c. is assumed for standard studs.
- 8 Cells marked with an "\*" have h/t > 200 and thus require bearing stiffeners. Cells are left blank when h/t > 260.

Complies with IBC 2006 &amp; AISI-NASPEC, 2001 with 2004 supplement

# ALLOWABLE COMBINED AXIAL & LATERAL LOADS

(Kips/Stud)

| Wind = 25psf       |                   |       | S162 (1-5/8" Flange) |            |            |            |            |            |            |            | S200 (2" Flange) |            |            |            |            |            |            |            | S250 (2-1/2" Flange) |            |            |            |            |            |            |            |
|--------------------|-------------------|-------|----------------------|------------|------------|------------|------------|------------|------------|------------|------------------|------------|------------|------------|------------|------------|------------|------------|----------------------|------------|------------|------------|------------|------------|------------|------------|
| Stud length (feet) | Spacing (in) o.c. |       | -33 (20ga)           | -43 (18ga) | -54 (16ga) | -54 (16ga) | -68 (14ga) | -68 (14ga) | -97 (12ga) | -97 (12ga) | -33 (20ga)       | -43 (18ga) | -54 (16ga) | -54 (16ga) | -68 (14ga) | -68 (14ga) | -97 (12ga) | -97 (12ga) | -33 (20ga)           | -43 (18ga) | -54 (16ga) | -54 (16ga) | -68 (14ga) | -68 (14ga) | -97 (12ga) | -97 (12ga) |
|                    |                   | 33ksi | 33ksi                | 33ksi      | 50ksi      | 33ksi      | 50ksi      | 33ksi      | 50ksi      | 33ksi      | 33ksi            | 33ksi      | 50ksi      | 33ksi      | 50ksi      | 33ksi      | 50ksi      | 33ksi      | 33ksi                | 33ksi      | 50ksi      | 33ksi      | 50ksi      | 33ksi      | 50ksi      | 33ksi      |
| 6" Stud            | 8                 | 12    | 1.99 a               | 2.98 a     | 4.08 a     | 5.23 a     | 5.58 a     | 7.04 a     | 8.90 a     | 11.01 a    | 2.34 a           | 3.78 a     | 5.24 a     | 6.94 a     | 7.14 a     | 9.48 a     | 11.46 a    | 15.07 a    | 2.56 a               | 4.12 a     | 5.81 a     | 7.14 a     | 8.31 a     | 10.46 a    | 13.25 a    | 17.67 a    |
|                    |                   | 16    | 1.81 a               | 2.80 a     | 3.90 a     | 5.07 a     | 5.38 a     | 6.87 a     | 8.68 a     | 10.82 a    | 2.13 a           | 3.56 a     | 5.03 a     | 6.71 a     | 6.92 a     | 9.27 a     | 11.21 a    | 14.85 a    | 2.35 a               | 3.89 a     | 5.56 a     | 6.93 a     | 8.07 a     | 10.22 a    | 13.00 a    | 17.42 a    |
|                    |                   | 24    | 1.44 a               | 2.45 a     | 3.52 a     | 4.74 a     | 4.98 a     | 6.54 a     | 8.25 a     | 10.46 a    | 1.73 a           | 3.13 a     | 4.61 a     | 6.27 a     | 6.47 a     | 8.86 a     | 10.71 a    | 14.40 a    | 1.93 a               | 3.45 a     | 5.07 a     | 6.50 a     | 7.59 a     | 9.74 a     | 12.49 a    | 16.93 a    |
|                    | 9                 | 12    | 1.83 a               | 2.82 a     | 3.92 a     | 5.08 a     | 5.40 a     | 6.89 a     | 8.70 a     | 10.83 a    | 2.15 a           | 3.56 a     | 5.01 a     | 6.64 a     | 6.88 a     | 9.16 a     | 11.13 a    | 14.65 a    | 2.36 a               | 3.89 a     | 5.55 a     | 6.86 a     | 8.03 a     | 10.09 a    | 12.88 a    | 17.14 a    |
|                    |                   | 16    | 1.60 a               | 2.59 a     | 3.68 a     | 4.87 a     | 5.14 a     | 6.67 a     | 8.42 a     | 10.59 a    | 1.89 a           | 3.28 a     | 4.74 a     | 6.36 a     | 6.59 a     | 8.89 a     | 10.81 a    | 14.36 a    | 2.09 a               | 3.61 a     | 5.24 a     | 6.59 a     | 7.73 a     | 9.78 a     | 12.55 a    | 16.82 a    |
|                    |                   | 24    | 1.15 a               | 2.15 a     | 3.21 a     | 4.46 a     | 4.64 a     | 6.24 a     | 7.86 a     | 10.12 a    | 1.40 a           | 2.74 a     | 4.22 a     | 5.80 a     | 6.03 a     | 8.37 a     | 10.17 a    | 13.78 a    | 1.58 a               | 3.05 a     | 4.63 a     | 6.05 a     | 7.12 a     | 9.17 a     | 11.90 a    | 16.20 a    |
|                    | 10                | 12    | 1.65 a               | 2.64 a     | 3.73 a     | 4.91 a     | 5.19 a     | 6.70 a     | 8.46 a     | 10.62 a    | 1.94 a           | 3.30 a     | 4.74 a     | 6.29 a     | 6.57 a     | 8.78 a     | 10.73 a    | 14.15 a    | 2.14 a               | 3.64 a     | 5.25 a     | 6.54 a     | 7.71 a     | 9.66 a     | 12.43 a    | 16.51 a    |
|                    |                   | 16    | 1.37 a               | 2.36 a     | 3.43 a     | 4.64 a     | 4.87 a     | 6.42 a     | 8.11 a     | 10.32 a    | 1.63 a           | 2.96 a     | 4.41 a     | 5.95 a     | 6.22 a     | 8.45 a     | 10.33 a    | 13.78 a    | 1.82 a               | 3.29 a     | 4.87 a     | 6.21 a     | 7.33 a     | 9.27 a     | 12.02 a    | 16.12 a    |
|                    |                   | 24    | 0.82 a               | 1.83 a     | 2.85 a     | 4.13 a     | 4.25 a     | 5.89 a     | 7.41 a     | 9.72 a     | 1.03 a           | 2.31 a     | 3.77 a     | 5.27 a     | 5.52 a     | 7.81 a     | 9.55 a     | 13.06 a    | 1.20 a               | 2.61 a     | 4.12 a     | 5.55 a     | 6.59 a     | 8.52 a     | 11.22 a    | 15.34 a    |
|                    | 12                | 12    | 1.22 a               | 2.19 a     | 3.24 a     | 4.42 a     | 4.68 a     | 6.23 a     | 7.87 a     | 10.07 a    | 1.46 a           | 2.71 a     | 4.11 a     | 5.47 a     | 5.83 a     | 7.84 a     | 9.75 a     | 12.85 a    | 1.64 a               | 3.04 a     | 4.54 a     | 5.78 a     | 6.86 a     | 8.62 a     | 11.34 a    | 14.97 a    |
|                    |                   | 16    | 0.84 b               | 1.81 a     | 2.82 a     | 4.04 a     | 4.22 a     | 5.82 a     | 7.35 a     | 9.61 a     | 1.04 a           | 2.26 a     | 3.65 a     | 4.98 a     | 5.33 a     | 7.38 a     | 9.18 a     | 12.32 a    | 1.20 a               | 2.56 a     | 4.00 a     | 5.31 a     | 6.33 a     | 8.08 a     | 10.75 a    | 14.40 a    |
|                    |                   | 24    | 0.13 d               | 1.09 b     | 2.03 a     | 3.32 a     | 3.35 a     | 5.05 a     | 6.34 a     | 8.72 a     | 0.27 c           | 1.40 b     | 2.79 a     | 4.08 a     | 4.38 a     | 6.49 a     | 8.08 a     | 11.30 a    | 0.39 c               | 1.66 a     | 2.99 a     | 4.41 a     | 5.31 a     | 7.04 a     | 9.62 a     | 13.30 a    |
|                    | 14                | 12    | 0.75 c               | 1.67 a     | 2.62 a     | 3.71 a     | 3.95 a     | 5.40 a     | 7.07 a     | 9.23 a     | 0.95 b           | 2.06 a     | 3.37 a     | 4.51 a     | 4.94 a     | 6.72 a     | 8.55 a     | 11.24 a    | 1.10 a               | 2.37 a     | 3.73 a     | 4.91 a     | 5.87 a     | 7.42 a     | 10.02 a    | 13.12 a    |
|                    |                   | 16    | 0.30 d               | 1.20 c     | 2.10 b     | 3.24 b     | 3.37 a     | 4.87 a     | 6.36 a     | 8.60 a     | 0.45 c           | 1.50 b     | 2.80 a     | 3.92 a     | 4.31 a     | 6.13 a     | 7.81 a     | 10.56 a    | 0.57 c               | 1.78 a     | 3.05 a     | 4.31 a     | 5.19 a     | 6.73 a     | 9.26 a     | 12.38 a    |
|                    |                   | 24    | —                    | 0.34 d     | 1.14 d     | 2.37 d     | 2.29 c     | 3.91 c     | 5.07 a     | 7.42 a     | —                | 0.49 d     | 1.76 c     | 2.85 c     | 3.15 b     | 5.06 b     | 6.43 a     | 9.28 a     | —                    | 0.70 c     | 1.82 b     | 3.22 b     | 3.94 a     | 5.46 a     | 7.83 a     | 11.00 a    |

|         |    |    |         |        |        |        |        |        |        |         |         |        |        |        |        |        |         |         |         |        |        |        |        |         |         |         |
|---------|----|----|---------|--------|--------|--------|--------|--------|--------|---------|---------|--------|--------|--------|--------|--------|---------|---------|---------|--------|--------|--------|--------|---------|---------|---------|
| 8" Stud | 8  | 12 | 2.06 a* | 3.02 a | 4.15 a | 5.14 a | 5.69 a | 6.95 a | 9.27 a | 11.06 a | 2.56 a* | 4.13 a | 5.62 a | 7.41 a | 7.60 a | 9.97 a | 12.13 a | 15.67 a | 2.84 a* | 4.53 a | 6.29 a | 7.82 a | 9.00 a | 11.41 a | 14.61 a | 19.36 a |
|         |    | 16 | 1.91 a* | 2.88 a | 4.00 a | 5.02 a | 5.54 a | 6.83 a | 9.13 a | 10.95 a | 2.40 a* | 3.98 a | 5.48 a | 7.26 a | 7.45 a | 9.84 a | 11.97 a | 15.52 a | 2.68 a* | 4.37 a | 6.12 a | 7.67 a | 8.84 a | 11.24 a | 14.44 a | 19.19 a |
|         |    | 24 | 1.62 a* | 2.59 a | 3.72 a | 4.77 a | 5.24 a | 6.58 a | 8.85 a | 10.72 a | 2.09 a* | 3.68 a | 5.20 a | 6.96 a | 7.15 a | 9.57 a | 11.64 a | 15.24 a | 2.35 a* | 4.05 a | 5.79 a | 7.36 a | 8.51 a | 10.91 a | 14.08 a | 18.86 a |
|         | 9  | 12 | 1.94 a* | 2.90 a | 4.03 a | 5.04 a | 5.56 a | 6.85 a | 9.15 a | 10.96 a | 2.43 a* | 4.00 a | 5.50 a | 7.28 a | 7.47 a | 9.85 a | 11.99 a | 15.54 a | 2.70 a* | 4.38 a | 6.14 a | 7.66 a | 8.84 a | 11.22 a | 14.40 a | 19.13 a |
|         |    | 16 | 1.75 a* | 2.72 a | 3.84 a | 4.88 a | 5.37 a | 6.69 a | 8.97 a | 10.82 a | 2.23 a* | 3.81 a | 5.32 a | 7.09 a | 7.28 a | 9.68 a | 11.78 a | 15.35 a | 2.49 a* | 4.18 a | 5.92 a | 7.46 a | 8.63 a | 11.01 a | 14.17 a | 18.91 a |
|         |    | 24 | 1.39 a* | 2.36 a | 3.48 a | 4.56 a | 4.99 a | 6.37 a | 8.61 a | 10.53 a | 1.84 a* | 3.44 a | 4.96 a | 6.71 a | 6.90 a | 9.34 a | 11.36 a | 14.98 a | 2.08 a* | 3.77 a | 5.50 a | 7.07 a | 8.21 a | 10.59 a | 13.72 a | 18.49 a |
|         | 10 | 12 | 1.80 a* | 2.77 a | 3.89 a | 4.91 a | 5.42 a | 6.72 a | 9.01 a | 10.85 a | 2.28 a* | 3.86 a | 5.36 a | 7.13 a | 7.32 a | 9.72 a | 11.83 a | 15.39 a | 2.53 a* | 4.21 a | 5.96 a | 7.47 a | 8.64 a | 11.00 a | 14.15 a | 18.86 a |
|         |    | 16 | 1.58 a* | 2.54 a | 3.66 a | 4.71 a | 5.18 a | 6.52 a | 8.79 a | 10.67 a | 2.04 a* | 3.62 a | 5.14 a | 6.89 a | 7.08 a | 9.50 a | 11.56 a | 15.16 a | 2.28 a* | 3.96 a | 5.69 a | 7.22 a | 8.38 a | 10.74 a | 13.87 a | 18.59 a |
|         |    | 24 | 1.13 a* | 2.11 a | 3.21 a | 4.32 a | 4.71 a | 6.13 a | 8.34 a | 10.31 a | 1.55 a* | 3.16 a | 4.69 a | 6.42 a | 6.61 a | 9.07 a | 11.04 a | 14.69 a | 1.78 a* | 3.46 a | 5.17 a | 6.74 a | 7.86 a | 10.21 a | 13.30 a | 18.05 a |
|         | 12 | 12 | 1.49 a* | 2.45 a | 3.56 a | 4.62 a | 5.07 a | 6.43 a | 8.68 a | 10.57 a | 1.94 a* | 3.52 a | 5.03 a | 6.77 a | 6.97 a | 9.38 a | 11.42 a | 15.02 a | 2.15 a* | 3.81 a | 5.53 a | 6.99 a | 8.17 a | 10.46 a | 13.53 a | 18.16 a |
|         |    | 16 | 1.17 a* | 2.13 a | 3.23 a | 4.33 a | 4.73 a | 6.13 a | 8.35 a | 10.30 a | 1.59 a* | 3.18 a | 4.71 a | 6.42 a | 6.62 a | 9.06 a | 11.03 a | 14.66 a | 1.79 a* | 3.45 a | 5.15 a | 6.64 a | 7.79 a | 10.07 a | 13.11 a | 17.75 a |
|         |    | 24 | 0.55 a* | 1.51 a | 2.59 a | 3.75 a | 4.05 a | 5.56 a | 7.70 a | 9.77 a  | 0.92 a* | 2.52 a | 4.06 a | 5.73 a | 5.93 a | 8.42 a | 10.26 a | 13.97 a | 1.10 a* | 2.75 a | 4.40 a | 5.95 a | 7.04 a | 9.31 a  | 12.29 a | 16.96 a |
|         | 14 | 12 | 1.12 a* | 2.08 a | 3.17 a | 4.26 a | 4.65 a | 6.05 a | 8.26 a | 10.21 a | 1.52 a* | 3.07 a | 4.59 a | 6.23 a | 6.50 a | 8.89 a | 10.91 a | 14.53 a | 1.71 a* | 3.33 a | 5.01 a | 6.39 a | 7.58 a | 9.71 a  | 12.71 a | 17.11 a |
|         |    | 16 | 0.70 a* | 1.65 a | 2.73 a | 3.86 a | 4.18 a | 5.65 a | 7.80 a | 9.83 a  | 1.07 a* | 2.62 a | 4.15 a | 5.75 a | 6.02 a | 8.44 a | 10.37 a | 14.02 a | 1.25 a* | 2.85 a | 4.49 a | 5.92 a | 7.06 a | 9.18 a  | 12.14 a | 16.55 a |
|         |    | 24 | —       | 0.85 a | 1.87 a | 3.09 a | 3.28 a | 4.87 a | 6.91 a | 9.09 a  | 0.21 b* | 1.76 a | 3.29 a | 4.84 a | 5.09 a | 7.57 a | 9.30 a  | 13.04 a | 0.35 a* | 1.94 a | 3.50 a | 5.01 a | 6.07 a | 8.16 a  | 11.03 a | 15.46 a |

## Notes:

- 1 Studs are assumed to be simple span.
- 2 Axial loads are assumed to pass through the geometric centroid of the section.
- 3 Use 5psf tables for interior loads.
- 4 Cells marked with an a, b, c, d, e, or f meet L/720, L/600, L/480, L/360, L/240 or L/120 respectively. Blank cells do not meet L/120. For deflection calculations, lateral loads are multiplied by 0.7 per the 2004 AISI Standard for Cold-Formed Steel Framing-Wall Stud Design except for the 5psf load which is considered an interior wall load.
- 5 A 1/3 stress increase is not used.
- 6 Provide bridging and/or bracing at 48" o.c. Allowable loads are based on weak axis and torsional bracing at 48" o.c. for axial load, and continuous support of each flange for moment.
- 7 Capacities are calculated according to the the AISI-NASPEC, 2001 with 2004 supplement. A 1-1/2" by 4" knockout spaced no closer than 24" o.c. is assumed for standard studs.
- 8 Cells marked with an "\*" have h/t > 200 and thus require bearing stiffeners. Cells are left blank when h/t > 260.

Complies with IBC 2006 & AISI-NASPEC, 2001 with 2004 supplement

Pub. No. CD-STR-TechGuide 2/12

The technical content of this literature is effective 2/1/12 and supersedes all previous information.

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## ALLOWABLE COMBINED AXIAL &amp; LATERAL LOADS

(Kips/Stud)

| Wind = 30psf       |                   | S162 (1-5/8" Flange) |            |            |            |            |            |            |            | S200 (2" Flange) |            |            |            |            |            |            |            | S250 (2-1/2" Flange) |            |            |            |            |            |            |            |         |
|--------------------|-------------------|----------------------|------------|------------|------------|------------|------------|------------|------------|------------------|------------|------------|------------|------------|------------|------------|------------|----------------------|------------|------------|------------|------------|------------|------------|------------|---------|
| Stud length (feet) | Spacing (in) o.c. | -33 (20ga)           | -43 (18ga) | -54 (16ga) | -54 (16ga) | -68 (14ga) | -68 (14ga) | -97 (12ga) | -97 (12ga) | -33 (20ga)       | -43 (18ga) | -54 (16ga) | -54 (16ga) | -68 (14ga) | -68 (14ga) | -97 (12ga) | -97 (12ga) | -33 (20ga)           | -43 (18ga) | -54 (16ga) | -54 (16ga) | -68 (14ga) | -68 (14ga) | -97 (12ga) | -97 (12ga) |         |
|                    |                   | 33ksi                | 33ksi      | 33ksi      | 50ksi      | 33ksi      | 50ksi      | 33ksi      | 50ksi      | 33ksi            | 33ksi      | 33ksi      | 50ksi      | 33ksi      | 50ksi      | 33ksi      | 50ksi      | 33ksi                | 33ksi      | 33ksi      | 50ksi      | 33ksi      | 50ksi      | 33ksi      | 50ksi      |         |
| 3-5/8" Stud        | 8                 | 12                   | 0.91 a     | 1.73 a     | 2.52 a     | 3.32 a     | 3.45 a     | 4.50 a     | 5.44 a     | 6.97 a           | 1.16 a     | 2.17 a     | 3.25 a     | 4.11 a     | 4.37 a     | 5.73 a     | 6.71 a     | 8.59 a               | 1.34 a     | 2.53 a     | 3.75 a     | 4.68 a     | 5.26 a     | 6.58 a     | 7.93 a     | 10.08 a |
|                    |                   | 16                   | 0.56 b     | 1.39 a     | 2.15 a     | 3.01 a     | 3.06 a     | 4.17 a     | 5.04 a     | 6.61 a           | 0.78 b     | 1.77 a     | 2.85 a     | 3.72 a     | 3.96 a     | 5.36 a     | 6.28 a     | 8.21 a               | 0.95 a     | 2.10 a     | 3.28 a     | 4.26 a     | 4.84 a     | 6.14 a     | 7.50 a     | 9.69 a  |
|                    | 9                 | 24                   | —          | 0.76 c     | 1.46 b     | 2.42 b     | 2.34 a     | 3.55 a     | 4.26 a     | 5.92 a           | 0.08 d     | 1.04 b     | 2.11 a     | 2.98 a     | 3.18 a     | 4.68 a     | 5.47 a     | 7.47 a               | 0.23 c     | 1.29 b     | 2.41 a     | 3.47 a     | 4.04 a     | 5.31 a     | 6.67 a     | 8.95 a  |
|                    |                   | 12                   | 0.59 c     | 1.37 a     | 2.09 a     | 2.85 a     | 2.95 a     | 3.92 a     | 4.82 a     | 6.16 a           | 0.80 b     | 1.74 a     | 2.76 a     | 3.50 a     | 3.80 a     | 5.01 a     | 5.99 a     | 7.63 a               | 0.97 a     | 2.07 a     | 3.17 a     | 4.06 a     | 4.64 a     | 5.73 a     | 7.16 a     | 9.03 a  |
|                    | 10                | 16                   | 0.21 d     | 0.98 c     | 1.66 b     | 2.49 b     | 2.50 a     | 3.53 a     | 4.33 a     | 5.74 a           | 0.37 c     | 1.28 b     | 2.29 a     | 3.05 a     | 3.31 a     | 4.58 a     | 5.48 a     | 7.17 a               | 0.52 c     | 1.57 a     | 2.63 a     | 3.57 a     | 4.14 a     | 5.22 a     | 6.64 a     | 8.56 a  |
|                    |                   | 24                   | —          | 0.28 d     | 0.88 d     | 1.82 d     | 1.67 c     | 2.82 c     | 3.44 a     | 4.94 a           | —          | 0.46 d     | 1.44 c     | 2.22 c     | 2.41 b     | 3.80 b     | 4.52 a     | 6.32 a               | —          | 0.65 c     | 1.64 b     | 2.67 b     | 3.21 a     | 4.28 a     | 5.65 a     | 7.68 a  |
|                    | 12                | 12                   | 0.30 d     | 1.02 c     | 1.66 b     | 2.38 b     | 2.44 a     | 3.32 a     | 4.16 a     | 5.33 a           | 0.46 c     | 1.31 b     | 2.25 a     | 2.89 a     | 3.20 a     | 4.27 a     | 5.24 a     | 6.64 a               | 0.61 c     | 1.60 a     | 2.59 a     | 3.44 a     | 3.99 a     | 4.88 a     | 6.34 a     | 7.93 a  |
|                    |                   | 16                   | —          | 0.59 d     | 1.19 c     | 1.98 c     | 1.94 b     | 2.89 b     | 3.61 a     | 4.85 a           | —          | 0.81 d     | 1.74 c     | 2.40 c     | 2.66 b     | 3.81 b     | 4.65 a     | 6.13 a               | 0.12 d     | 1.05 c     | 1.99 b     | 2.89 b     | 3.42 a     | 4.32 a     | 5.74 a     | 7.40 a  |
|                    | 14                | 24                   | —          | —          | 0.35 e     | 1.27 e     | 1.04 d     | 2.13 d     | 2.62 c     | 3.98 c           | —          | —          | 0.83 d     | 1.53 d     | 1.68 d     | 2.97 d     | 3.59 b     | 5.19 b               | —          | 0.07 d     | 0.92 d     | 1.91 d     | 2.40 c     | 3.30 c     | 4.63 a     | 6.43 a  |
|                    |                   | 12                   | —          | 0.39 e     | 0.87 d     | 1.49 d     | 1.50 d     | 2.21 d     | 2.89 b     | 3.73 b           | —          | 0.56 d     | 1.32 d     | 1.80 d     | 2.09 c     | 2.92 c     | 3.76 a     | 4.74 a               | —          | 0.74 d     | 1.51 c     | 2.20 c     | 2.74 b     | 3.31 b     | 4.70 a     | 5.80 a  |
|                    | 16                | 16                   | —          | —          | 0.37 e     | 1.08 e     | 0.95 e     | 1.76 e     | 2.28 d     | 3.22 d           | —          | 0.03 e     | 0.77 e     | 1.29 e     | 1.49 d     | 2.43 d     | 3.10 c     | 4.19 c               | —          | 0.15 e     | 0.87 d     | 1.62 d     | 2.11 c     | 2.72 c     | 4.00 b     | 5.22 b  |
|                    |                   | 24                   | —          | —          | —          | 0.36 f     | 0.01 f     | 0.98 f     | 1.21 e     | 2.33 e           | —          | —          | —          | 0.42 f     | 0.46 e     | 1.57 e     | 1.94 d     | 3.22 d               | —          | —          | —          | 0.62 e     | 1.00 e     | 1.68 e     | 2.77 d     | 4.18 d  |
|                    | 18                | 12                   | —          | —          | 0.27 f     | 0.83 f     | 0.74 e     | 1.37 e     | 1.82 d     | 2.50 d           | —          | —          | 0.59 e     | 0.99 e     | 1.18 e     | 1.88 e     | 2.49 d     | 3.26 d               | —          | 0.08 e     | 0.67 e     | 1.25 e     | 1.70 d     | 2.11 d     | 3.26 c     | 4.10 c  |
|                    |                   | 16                   | —          | —          | —          | 0.43 f     | 0.21 f     | 0.94 f     | 1.21 e     | 2.01 e           | —          | —          | 0.05 f     | 0.51 f     | 0.59 e     | 1.41 e     | 1.83 e     | 2.73 e               | —          | —          | 0.03 e     | 0.70 e     | 1.06 e     | 1.54 e     | 2.54 d     | 3.52 d  |
|                    | 20                | 24                   | —          | —          | —          | —          | —          | 0.20 f     | 0.17 f     | 1.16 f           | —          | —          | —          | —          | —          | 0.60 f     | 0.68 f     | 1.80 f               | —          | —          | —          | —          | —          | 0.55 f     | 1.30 e     | 2.51 e  |
|                    |                   | 12                   | 1.11 a     | 1.91 a     | 2.91 a     | 3.72 a     | 4.08 a     | 5.33 a     | 6.31 a     | 8.21 a           | 1.38 a     | 2.51 a     | 3.71 a     | 4.74 a     | 5.11 a     | 6.71 a     | 7.72 a     | 10.10 a              | 1.57 a     | 2.86 a     | 4.22 a     | 5.22 a     | 6.08 a     | 7.53 a     | 9.08 a     | 11.83 a |
| 4" Stud            | 8                 | 16                   | 0.77 a     | 1.56 a     | 2.56 a     | 3.39 a     | 3.69 a     | 5.00 a     | 5.91 a     | 7.85 a           | 1.01 a     | 2.12 a     | 3.33 a     | 4.35 a     | 4.71 a     | 6.35 a     | 7.31 a     | 9.72 a               | 1.19 a     | 2.45 a     | 3.78 a     | 4.82 a     | 5.67 a     | 7.10 a     | 8.65 a     | 11.44 a |
|                    |                   | 24                   | 0.15 c     | 0.90 b     | 1.89 a     | 2.75 a     | 2.97 a     | 4.37 a     | 5.15 a     | 7.15 a           | 0.32 c     | 1.39 a     | 2.61 a     | 3.61 a     | 3.93 a     | 5.66 a     | 6.50 a     | 8.98 a               | 0.48 b     | 1.67 a     | 2.93 a     | 4.05 a     | 4.87 a     | 6.28 a     | 7.84 a     | 10.68 a |
|                    | 9                 | 12                   | 0.79 b     | 1.55 a     | 2.51 a     | 3.26 a     | 3.60 a     | 4.78 a     | 5.72 a     | 7.45 a           | 1.03 a     | 2.09 a     | 3.25 a     | 4.15 a     | 4.55 a     | 6.04 a     | 7.05 a     | 9.18 a               | 1.21 a     | 2.43 a     | 3.71 a     | 4.69 a     | 5.48 a     | 6.84 a     | 8.34 a     | 10.80 a |
|                    |                   | 16                   | 0.41 c     | 1.14 b     | 2.09 a     | 2.86 a     | 3.14 a     | 4.38 a     | 5.23 a     | 7.01 a           | 0.60 b     | 1.63 a     | 2.80 a     | 3.69 a     | 4.06 a     | 5.60 a     | 6.53 a     | 8.71 a               | 0.77 b     | 1.93 a     | 3.18 a     | 4.21 a     | 4.97 a     | 6.31 a     | 7.82 a     | 10.32 a |
|                    | 10                | 24                   | —          | 0.38 d     | 1.31 c     | 2.12 c     | 2.29 b     | 3.64 b     | 4.32 a     | 6.18 a           | —          | 0.80 c     | 1.96 b     | 2.84 b     | 3.15 a     | 4.79 a     | 5.57 a     | 7.82 a               | —          | 1.03 b     | 2.18 a     | 3.30 a     | 4.03 a     | 5.33 a     | 6.83 a     | 9.41 a  |
|                    |                   | 12                   | 0.49 c     | 1.19 b     | 2.09 a     | 2.77 a     | 3.08 a     | 4.19 a     | 5.08 a     | 6.61 a           | 0.69 b     | 1.66 a     | 2.76 a     | 3.55 a     | 3.96 a     | 5.32 a     | 6.31 a     | 8.18 a               | 0.85 b     | 1.97 a     | 3.14 a     | 4.09 a     | 4.83 a     | 6.04 a     | 7.54 a     | 9.70 a  |
|                    | 12                | 16                   | 0.06 d     | 0.73 c     | 1.62 b     | 2.32 b     | 2.56 a     | 3.74 a     | 4.51 a     | 6.11 a           | 0.21 d     | 1.15 c     | 2.25 a     | 3.03 a     | 3.40 a     | 4.82 a     | 5.71 a     | 7.64 a               | 0.36 c     | 1.42 b     | 2.53 a     | 3.54 a     | 4.25 a     | 5.44 a     | 6.93 a     | 9.14 a  |
|                    |                   | 24                   | —          | —          | 0.76 d     | 1.52 d     | 1.61 c     | 2.91 c     | 3.48 b     | 5.18 b           | —          | 0.24 d     | 1.31 c     | 2.10 c     | 2.37 c     | 3.92 c     | 4.61 a     | 6.64 a               | —          | 0.41 d     | 1.43 c     | 2.52 c     | 3.18 b     | 4.33 b     | 5.79 a     | 8.10 a  |
|                    | 14                | 12                   | —          | 0.51 d     | 1.28 d     | 1.83 d     | 2.07 c     | 2.99 c     | 3.74 a     | 4.91 a           | 0.06 e     | 0.86 d     | 1.81 c     | 2.39 c     | 2.78 b     | 3.87 b     | 4.78 a     | 6.17 a               | 0.18 d     | 1.09 c     | 2.03 b     | 2.89 b     | 3.52 a     | 4.36 a     | 5.87 a     | 7.45 a  |
|                    |                   | 16                   | —          | —          | 0.73 e     | 1.34 e     | 1.47 d     | 2.48 d     | 3.08 c     | 4.34 c           | —          | 0.29 e     | 1.22 d     | 1.82 d     | 2.13 c     | 3.31 c     | 4.06 b     | 5.55 b               | —          | 0.46 d     | 1.33 c     | 2.25 c     | 2.84 b     | 3.68 b     | 5.12 a     | 6.79 a  |
|                    | 16                | 24                   | —          | —          | —          | 0.47 f     | 0.43 e     | 1.59 e     | 1.91 d     | 3.32 d           | —          | —          | 0.19 e     | 0.84 e     | 0.99 e     | 2.33 e     | 2.80 d     | 4.44 d               | —          | —          | 0.12 e     | 1.13 e     | 1.62 d     | 2.49 d     | 3.78 c     | 5.61 c  |
|                    |                   | 12                   | —          | —          | 0.59 e     | 1.06 e     | 1.19 d     | 1.96 d     | 2.54 c     | 3.42 c           | —          | 0.21 e     | 0.99 e     | 1.44 e     | 1.74 d     | 2.62 d     | 3.37 c     | 4.39 c               | —          | 0.35 e     | 1.08 d     | 1.78 d     | 2.35 c     | 2.91 c     | 4.28 b     | 5.42 b  |
|                    | 18                | 16                   | —          | —          | 0.03 f     | 0.57 f     | 0.58 e     | 1.46 e     | 1.85 d     | 2.85 d           | —          | —          | 0.39 e     | 0.88 e     | 1.08 e     | 2.06 e     | 2.62 d     | 3.77 d               | —          | —          | 0.37 e     | 1.15 e     | 1.63 d     | 2.24 d     | 3.48 c     | 4.75 c  |
|                    |                   | 24                   | —          | —          | —          | —          | —          | 0.59 f     | 0.67 e     | 1.86 e           | —          | —          | —          | —          | —          | 1.11 f     | 1.32 e     | 2.69 e               | —          | —          | —          | 0.06 f     | 0.40 e     | 1.08 e     | 2.09 e     | 3.58 e  |

## Notes:

- 1 Studs are assumed to be simple span.
- 2 Axial loads are assumed to pass through the geometric centroid of the section.
- 3 Use 5psf tables for interior loads.
- 4 Cells marked with an a, b, c, d, e, or f meet L/720, L/600, L/480, L/360, L/240 or L/120 respectively. Blank cells do not meet L/120. For deflection calculations, lateral loads are multiplied by 0.7 per the 2004 AISI Standard for Cold-Formed Steel Framing—Wall Stud Design except for the 5psf load which is considered an interior wall load.
- 5 A 1/3 stress increase is not used.
- 6 Provide bridging and/or bracing at 48" o.c. Allowable loads are based on weak axis and torsional bracing at 48" o.c. for axial load, and continuous support of each flange for moment.
- 7 Capacities are calculated according to the the AISI-NASPEC, 2001 with 2004 supplement. A 1-1/2" by 4" knockout spaced no closer than 24" o.c. is assumed for standard studs.
- 8 Cells marked with an "\*" have h/t > 200 and thus require bearing stiffeners. Cells are left blank when h/t > 260.

Complies with IBC 2006 &amp; AISI-NASPEC, 2001 with 2004 supplement

# ALLOWABLE COMBINED AXIAL & LATERAL LOADS

(Kips/Stud)

| Wind = 30psf       |                   |       | S162 (1-5/8" Flange) |            |            |            |            |            |            |            | S200 (2" Flange) |            |            |            |            |            |            |            | S250 (2-1/2" Flange) |            |            |            |            |            |            |            |
|--------------------|-------------------|-------|----------------------|------------|------------|------------|------------|------------|------------|------------|------------------|------------|------------|------------|------------|------------|------------|------------|----------------------|------------|------------|------------|------------|------------|------------|------------|
| Stud length (feet) | Spacing (in) o.c. |       | -33 (20ga)           | -43 (18ga) | -54 (16ga) | -54 (16ga) | -68 (14ga) | -68 (14ga) | -97 (12ga) | -97 (12ga) | -33 (20ga)       | -43 (18ga) | -54 (16ga) | -54 (16ga) | -68 (14ga) | -68 (14ga) | -97 (12ga) | -97 (12ga) | -33 (20ga)           | -43 (18ga) | -54 (16ga) | -54 (16ga) | -68 (14ga) | -68 (14ga) | -97 (12ga) | -97 (12ga) |
|                    |                   | 33ksi | 33ksi                | 33ksi      | 50ksi      | 33ksi      | 50ksi      | 33ksi      | 50ksi      | 33ksi      | 33ksi            | 33ksi      | 50ksi      | 33ksi      | 50ksi      | 33ksi      | 50ksi      | 33ksi      | 33ksi                | 33ksi      | 50ksi      | 33ksi      | 50ksi      | 33ksi      | 50ksi      |            |
| 6" Stud            | 8                 | 12    | 1.88 a               | 2.87 a     | 3.97 a     | 5.13 a     | 5.46 a     | 6.94 a     | 8.77 a     | 10.90 a    | 2.22 a           | 3.65 a     | 5.12 a     | 6.80 a     | 7.01 a     | 9.35 a     | 11.31 a    | 14.94 a    | 2.43 a               | 3.98 a     | 5.66 a     | 7.01 a     | 8.16 a     | 10.32 a    | 13.10 a    | 17.52 a    |
|                    |                   | 16    | 1.66 a               | 2.66 a     | 3.75 a     | 4.94 a     | 5.22 a     | 6.74 a     | 8.51 a     | 10.68 a    | 1.97 a           | 3.39 a     | 4.86 a     | 6.54 a     | 6.74 a     | 9.11 a     | 11.01 a    | 14.67 a    | 2.18 a               | 3.72 a     | 5.36 a     | 6.76 a     | 7.88 a     | 10.03 a    | 12.79 a    | 17.23 a    |
|                    |                   | 24    | 1.23 a               | 2.24 a     | 3.30 a     | 4.55 a     | 4.75 a     | 6.34 a     | 7.99 a     | 10.24 a    | 1.50 a           | 2.87 a     | 4.37 a     | 6.01 a     | 6.21 a     | 8.62 a     | 10.42 a    | 14.13 a    | 1.69 a               | 3.19 a     | 4.78 a     | 6.25 a     | 7.31 a     | 9.45 a     | 12.19 a    | 16.64 a    |
|                    | 9                 | 12    | 1.69 a               | 2.68 a     | 3.77 a     | 4.95 a     | 5.25 a     | 6.76 a     | 8.53 a     | 10.69 a    | 2.00 a           | 3.39 a     | 4.85 a     | 6.47 a     | 6.71 a     | 9.00 a     | 10.93 a    | 14.48 a    | 2.20 a               | 3.72 a     | 5.37 a     | 6.70 a     | 7.85 a     | 9.90 a     | 12.68 a    | 16.95 a    |
|                    |                   | 16    | 1.42 a               | 2.42 a     | 3.49 a     | 4.70 a     | 4.94 a     | 6.49 a     | 8.19 a     | 10.40 a    | 1.69 a           | 3.06 a     | 4.53 a     | 6.13 a     | 6.37 a     | 8.68 a     | 10.55 a    | 14.13 a    | 1.89 a               | 3.38 a     | 4.99 a     | 6.37 a     | 7.48 a     | 9.53 a     | 12.29 a    | 16.57 a    |
|                    |                   | 24    | 0.88 a               | 1.89 a     | 2.93 a     | 4.21 a     | 4.34 a     | 5.98 a     | 7.53 a     | 9.84 a     | 1.11 a           | 2.42 a     | 3.91 a     | 5.47 a     | 5.69 a     | 8.06 a     | 9.80 a     | 13.44 a    | 1.28 a               | 2.72 a     | 4.26 a     | 5.74 a     | 6.77 a     | 8.80 a     | 11.51 a    | 15.82 a    |
|                    | 10                | 12    | 1.48 a               | 2.47 a     | 3.55 a     | 4.75 a     | 5.00 a     | 6.53 a     | 8.25 a     | 10.44 a    | 1.75 a           | 3.10 a     | 4.54 a     | 6.08 a     | 6.36 a     | 8.58 a     | 10.49 a    | 13.92 a    | 1.94 a               | 3.43 a     | 5.02 a     | 6.34 a     | 7.48 a     | 9.43 a     | 12.18 a    | 16.27 a    |
|                    |                   | 16    | 1.14 a               | 2.15 a     | 3.19 a     | 4.43 a     | 4.62 a     | 6.21 a     | 7.83 a     | 10.07 a    | 1.39 a           | 2.70 a     | 4.15 a     | 5.67 a     | 5.94 a     | 8.19 a     | 10.02 a    | 13.49 a    | 1.57 a               | 3.02 a     | 4.57 a     | 5.94 a     | 7.03 a     | 8.97 a     | 11.70 a    | 15.80 a    |
|                    |                   | 24    | 0.51 b               | 1.51 a     | 2.51 a     | 3.83 a     | 3.88 a     | 5.57 a     | 7.00 a     | 9.36 a     | 0.69 a           | 1.93 a     | 3.40 a     | 4.88 a     | 5.12 a     | 7.43 a     | 9.09 a     | 12.63 a    | 0.84 a               | 2.22 a     | 3.68 a     | 5.17 a     | 6.15 a     | 8.08 a     | 10.75 a    | 14.88 a    |
|                    | 12                | 12    | 0.99 a               | 1.96 a     | 2.99 a     | 4.19 a     | 4.41 a     | 5.99 a     | 7.56 a     | 9.79 a     | 1.21 a           | 2.44 a     | 3.83 a     | 5.17 a     | 5.52 a     | 7.56 a     | 9.41 a     | 12.53 a    | 1.37 a               | 2.75 a     | 4.22 a     | 5.49 a     | 6.54 a     | 8.29 a     | 10.99 a    | 14.63 a    |
|                    |                   | 16    | 0.55 c               | 1.51 a     | 2.50 a     | 3.75 a     | 3.86 a     | 5.51 a     | 6.94 a     | 9.25 a     | 0.73 b           | 1.90 a     | 3.30 a     | 4.61 a     | 4.94 a     | 7.02 a     | 8.73 a     | 11.91 a    | 0.87 a               | 2.20 a     | 3.59 a     | 4.94 a     | 5.91 a     | 7.66 a     | 10.29 a    | 13.95 a    |
|                    |                   | 24    | —                    | 0.68 c     | 1.58 b     | 2.92 b     | 2.85 a     | 4.60 a     | 5.77 a     | 8.21 a     | —                | 0.91 c     | 2.29 b     | 3.57 b     | 3.84 a     | 5.99 a     | 7.45 a     | 10.72 a    | —                    | 1.15 b     | 2.42 a     | 3.90 a     | 4.73 a     | 6.45 a     | 8.97 a     | 12.67 a    |
|                    | 14                | 12    | 0.48 c               | 1.38 b     | 2.30 a     | 3.42 a     | 3.60 a     | 5.08 a     | 6.64 a     | 8.85 a     | 0.64 c           | 1.72 a     | 3.03 a     | 4.15 a     | 4.56 a     | 6.36 a     | 8.10 a     | 10.83 a    | 0.78 b               | 2.01 a     | 3.32 a     | 4.55 a     | 5.46 a     | 7.00 a     | 9.56 a     | 12.67 a    |
|                    |                   | 16    | —                    | 0.84 d     | 1.70 c     | 2.88 c     | 2.92 a     | 4.48 a     | 5.83 a     | 8.11 a     | 0.07 d           | 1.08 c     | 2.37 b     | 3.48 b     | 3.83 a     | 5.69 a     | 7.24 a     | 10.03 a    | 0.18 d               | 1.34 b     | 2.55 a     | 3.86 a     | 4.67 a     | 6.20 a     | 8.67 a     | 11.81 a    |
|                    |                   | 24    | —                    | —          | 0.60 d     | 1.89 d     | 1.69 c     | 3.38 c     | 4.34 b     | 6.76 b     | —                | —          | 1.18 d     | 2.26 d     | 2.50 c     | 4.46 c     | 5.66 a     | 8.57 a     | —                    | 0.10 d     | 1.14 c     | 2.61 c     | 3.24 b     | 4.75 b     | 7.02 a     | 10.23 a    |

|         |    |    |         |        |        |        |        |        |        |         |         |        |        |        |        |        |         |         |         |        |        |        |        |         |         |         |
|---------|----|----|---------|--------|--------|--------|--------|--------|--------|---------|---------|--------|--------|--------|--------|--------|---------|---------|---------|--------|--------|--------|--------|---------|---------|---------|
| 8" Stud | 8  | 12 | 1.97 a* | 2.93 a | 4.06 a | 5.07 a | 5.60 a | 6.88 a | 9.18 a | 10.99 a | 2.46 a* | 4.04 a | 5.54 a | 7.32 a | 7.51 a | 9.89 a | 12.03 a | 15.58 a | 2.74 a* | 4.43 a | 6.19 a | 7.73 a | 8.90 a | 11.31 a | 14.51 a | 19.26 a |
|         |    | 16 | 1.80 a* | 2.76 a | 3.89 a | 4.92 a | 5.42 a | 6.73 a | 9.02 a | 10.86 a | 2.28 a* | 3.86 a | 5.37 a | 7.14 a | 7.33 a | 9.73 a | 11.84 a | 15.41 a | 2.55 a* | 4.24 a | 5.99 a | 7.55 a | 8.71 a | 11.11 a | 14.29 a | 19.06 a |
|         |    | 24 | 1.45 a* | 2.43 a | 3.55 a | 4.62 a | 5.06 a | 6.43 a | 8.68 a | 10.59 a | 1.91 a* | 3.50 a | 5.03 a | 6.79 a | 6.97 a | 9.41 a | 11.44 a | 15.06 a | 2.16 a* | 3.86 a | 5.59 a | 7.18 a | 8.31 a | 10.71 a | 13.87 a | 18.66 a |
|         | 9  | 12 | 1.83 a* | 2.79 a | 3.92 a | 4.94 a | 5.45 a | 6.75 a | 9.04 a | 10.87 a | 2.31 a* | 3.89 a | 5.39 a | 7.17 a | 7.35 a | 9.75 a | 11.86 a | 15.43 a | 2.57 a* | 4.26 a | 6.01 a | 7.54 a | 8.71 a | 11.09 a | 14.27 a | 19.00 a |
|         |    | 16 | 1.61 a* | 2.58 a | 3.70 a | 4.75 a | 5.22 a | 6.56 a | 8.83 a | 10.70 a | 2.07 a* | 3.66 a | 5.18 a | 6.94 a | 7.12 a | 9.54 a | 11.61 a | 15.21 a | 2.32 a* | 4.01 a | 5.75 a | 7.31 a | 8.46 a | 10.84 a | 13.99 a | 18.74 a |
|         |    | 24 | 1.18 a* | 2.15 a | 3.26 a | 4.37 a | 4.77 a | 6.18 a | 8.40 a | 10.36 a | 1.60 a* | 3.21 a | 4.75 a | 6.48 a | 6.67 a | 9.13 a | 11.11 a | 14.76 a | 1.83 a* | 3.53 a | 5.24 a | 6.84 a | 7.96 a | 10.34 a | 13.45 a | 18.23 a |
|         | 10 | 12 | 1.67 a* | 2.63 a | 3.75 a | 4.79 a | 5.27 a | 6.60 a | 8.88 a | 10.74 a | 2.13 a* | 3.72 a | 5.23 a | 6.99 a | 7.18 a | 9.59 a | 11.67 a | 15.25 a | 2.38 a* | 4.06 a | 5.80 a | 7.32 a | 8.49 a | 10.84 a | 13.98 a | 18.69 a |
|         |    | 16 | 1.40 a* | 2.37 a | 3.48 a | 4.55 a | 4.99 a | 6.37 a | 8.61 a | 10.52 a | 1.84 a* | 3.44 a | 4.96 a | 6.70 a | 6.89 a | 9.33 a | 11.35 a | 14.97 a | 2.08 a* | 3.76 a | 5.48 a | 7.03 a | 8.17 a | 10.53 a | 13.64 a | 18.37 a |
|         |    | 24 | 0.87 a* | 1.85 a | 2.94 a | 4.08 a | 4.43 a | 5.90 a | 8.08 a | 10.09 a | 1.27 a* | 2.88 a | 4.43 a | 6.14 a | 6.33 a | 8.81 a | 10.72 a | 14.41 a | 1.48 a* | 3.17 a | 4.86 a | 6.45 a | 7.56 a | 9.90 a  | 12.97 a | 17.73 a |
|         | 12 | 12 | 1.29 a* | 2.26 a | 3.37 a | 4.44 a | 4.86 a | 6.25 a | 8.48 a | 10.41 a | 1.73 a* | 3.31 a | 4.84 a | 6.56 a | 6.76 a | 9.19 a | 11.19 a | 14.81 a | 1.94 a* | 3.59 a | 5.30 a | 6.78 a | 7.94 a | 10.23 a | 13.28 a | 17.92 a |
|         |    | 16 | 0.92 a* | 1.88 a | 2.97 a | 4.10 a | 4.45 a | 5.90 a | 8.09 a | 10.09 a | 1.32 a* | 2.91 a | 4.45 a | 6.14 a | 6.34 a | 8.80 a | 10.72 a | 14.38 a | 1.51 a* | 3.17 a | 4.84 a | 6.36 a | 7.49 a | 9.76 a  | 12.78 a | 17.43 a |
|         |    | 24 | 0.19 a* | 1.15 a | 2.21 a | 3.42 a | 3.65 a | 5.22 a | 7.31 a | 9.45 a  | 0.52 a* | 2.13 a | 3.69 a | 5.33 a | 5.52 a | 8.05 a | 9.80 a  | 13.56 a | 0.69 a* | 2.34 a | 3.96 a | 5.54 a | 6.60 a | 8.86 a  | 11.80 a | 16.49 a |
|         | 14 | 12 | 0.87 a* | 1.82 a | 2.90 a | 4.02 a | 4.37 a | 5.81 a | 7.98 a | 9.98 a  | 1.24 a* | 2.80 a | 4.32 a | 5.94 a | 6.21 a | 8.62 a | 10.59 a | 14.22 a | 1.43 a* | 3.04 a | 4.70 a | 6.11 a | 7.27 a | 9.39 a  | 12.37 a | 16.77 a |
|         |    | 16 | 0.38 b* | 1.33 a | 2.38 a | 3.55 a | 3.81 a | 5.33 a | 7.44 a | 9.53 a  | 0.71 a* | 2.27 a | 3.80 a | 5.38 a | 5.64 a | 8.09 a | 9.94 a  | 13.63 a | 0.88 a* | 2.48 a | 4.09 a | 5.55 a | 6.66 a | 8.77 a  | 11.69 a | 16.11 a |
|         | 24 | —  | 0.38 b  | 1.38 a | 2.65 a | 2.75 a | 4.41 a | 6.39 a | 8.65 a | —       | 1.26 a  | 2.80 a | 4.31 a | 4.55 a | 7.06 a | 8.68 a | 12.47 a | —       | 1.41 a  | 2.93 a | 4.49 a | 5.48 a | 7.57 a | 10.38 a | 14.83 a |         |

## Notes:

- 1 Studs are assumed to be simple span.
- 2 Axial loads are assumed to pass through the geometric centroid of the section.
- 3 Use 5psf tables for interior loads.
- 4 Cells marked with an a, b, c, d, e, or f meet L/720, L/600, L/480, L/360, L/240 or L/120 respectively. Blank cells do not meet L/120. For deflection calculations, lateral loads are multiplied by 0.7 per the 2004 AISI Standard for Cold-Formed Steel Framing-Wall Stud Design except for the 5psf load which is considered an interior wall load.
- 5 A 1/3 stress increase is not used.
- 6 Provide bridging and/or bracing at 48" o.c. Allowable loads are based on weak axis and torsional bracing at 48" o.c. for axial load, and continuous support of each flange for moment.
- 7 Capacities are calculated according to the the AISI-NASPEC, 2001 with 2004 supplement. A 1-1/2" by 4" knockout spaced no closer than 24" o.c. is assumed for standard studs.
- 8 Cells marked with an "\*" have h/t > 200 and thus require bearing stiffeners. Cells are left blank when h/t > 260.

Complies with IBC 2006 & AISI-NASPEC, 2001 with 2004 supplement

## ALLOWABLE COMBINED AXIAL &amp; LATERAL LOADS

(Kips/Stud)

| Wind = 35psf       |                   | S162 (1-5/8" Flange) |            |            |            |            |            |            |            | S200 (2" Flange) |            |            |            |            |            |            |            | S250 (2-1/2" Flange) |            |            |            |            |            |            |            |         |
|--------------------|-------------------|----------------------|------------|------------|------------|------------|------------|------------|------------|------------------|------------|------------|------------|------------|------------|------------|------------|----------------------|------------|------------|------------|------------|------------|------------|------------|---------|
| Stud length (feet) | Spacing (in) o.c. | -33 (20ga)           | -43 (18ga) | -54 (16ga) | -54 (16ga) | -68 (14ga) | -68 (14ga) | -97 (12ga) | -97 (12ga) | -33 (20ga)       | -43 (18ga) | -54 (16ga) | -54 (16ga) | -68 (14ga) | -68 (14ga) | -97 (12ga) | -97 (12ga) | -33 (20ga)           | -43 (18ga) | -54 (16ga) | -54 (16ga) | -68 (14ga) | -68 (14ga) | -97 (12ga) | -97 (12ga) |         |
|                    |                   | 33ksi                | 33ksi      | 33ksi      | 50ksi      | 33ksi      | 50ksi      | 33ksi      | 50ksi      | 33ksi            | 33ksi      | 33ksi      | 50ksi      | 33ksi      | 50ksi      | 33ksi      | 50ksi      | 33ksi                | 33ksi      | 33ksi      | 50ksi      | 33ksi      | 50ksi      | 33ksi      | 50ksi      |         |
| 3-5/8" Stud        | 8                 | 12                   | 0.73 b     | 1.55 a     | 2.33 a     | 3.17 a     | 3.25 a     | 4.34 a     | 5.24 a     | 6.79 a           | 0.97 a     | 1.97 a     | 3.05 a     | 3.91 a     | 4.16 a     | 5.54 a     | 6.49 a     | 8.40 a               | 1.14 a     | 2.31 a     | 3.51 a     | 4.47 a     | 5.05 a     | 6.36 a     | 7.72 a     | 9.89 a  |
|                    |                   | 16                   | 0.35 c     | 1.17 b     | 1.91 a     | 2.81 a     | 2.81 a     | 3.96 a     | 4.77 a     | 6.37 a           | 0.54 b     | 1.52 a     | 2.60 a     | 3.46 a     | 3.69 a     | 5.13 a     | 6.00 a     | 7.96 a               | 0.70 b     | 1.82 a     | 2.98 a     | 3.99 a     | 4.57 a     | 5.86 a     | 7.22 a     | 9.44 a  |
|                    |                   | 24                   | —          | 0.47 d     | 1.14 c     | 2.15 c     | 1.99 b     | 3.25 b     | 3.90 a     | 5.59 a           | —          | 0.69 c     | 1.76 b     | 2.64 b     | 2.81 a     | 4.36 a     | 5.08 a     | 7.12 a               | —          | 0.92 b     | 2.00 a     | 3.10 a     | 3.66 a     | 4.92 a     | 6.27 a     | 8.59 a  |
|                    | 9                 | 12                   | 0.40 c     | 1.17 b     | 1.87 a     | 2.67 a     | 2.72 a     | 3.72 a     | 4.57 a     | 5.95 a           | 0.58 c     | 1.50 a     | 2.52 a     | 3.27 a     | 3.55 a     | 4.79 a     | 5.73 a     | 7.40 a               | 0.74 b     | 1.81 a     | 2.89 a     | 3.81 a     | 4.38 a     | 5.47 a     | 6.90 a     | 8.79 a  |
|                    |                   | 16                   | —          | 0.74 d     | 1.39 c     | 2.26 c     | 2.21 b     | 3.29 b     | 4.02 a     | 5.46 a           | 0.10 d     | 0.99 c     | 2.00 b     | 2.76 b     | 3.00 a     | 4.31 a     | 5.15 a     | 6.88 a               | 0.24 c     | 1.25 b     | 2.29 a     | 3.26 a     | 3.82 a     | 4.89 a     | 6.30 a     | 8.26 a  |
|                    |                   | 24                   | —          | —          | 0.52 d     | 1.52 d     | 1.29 d     | 2.49 d     | 3.02 b     | 4.57 b           | —          | 0.08 d     | 1.05 d     | 1.84 d     | 2.00 c     | 3.44 c     | 4.07 a     | 5.92 a               | —          | 0.24 d     | 1.18 c     | 2.25 c     | 2.78 b     | 3.84 b     | 5.19 a     | 7.27 a  |
|                    | 10                | 12                   | 0.08 e     | 0.80 d     | 1.42 c     | 2.17 c     | 2.19 b     | 3.10 b     | 3.88 a     | 5.08 a           | 0.22 d     | 1.06 c     | 1.99 b     | 2.64 b     | 2.93 a     | 4.04 a     | 4.94 a     | 6.38 a               | 0.36 d     | 1.32 b     | 2.28 a     | 3.16 a     | 3.70 a     | 4.59 a     | 6.04 a     | 7.66 a  |
|                    |                   | 16                   | —          | 0.33 e     | 0.90 d     | 1.73 d     | 1.63 c     | 2.63 c     | 3.27 b     | 4.55 b           | —          | 0.51 d     | 1.42 c     | 2.10 c     | 2.32 b     | 3.52 b     | 4.29 a     | 5.80 a               | —          | 0.70 d     | 1.62 c     | 2.55 c     | 3.07 b     | 3.96 b     | 5.36 a     | 7.07 a  |
|                    |                   | 24                   | —          | —          | —          | 0.94 e     | 0.63 e     | 1.78 e     | 2.17 d     | 3.58 d           | —          | —          | 0.41 e     | 1.13 e     | 1.24 d     | 2.58 d     | 3.10 c     | 4.76 c               | —          | —          | 0.43 d     | 1.47 d     | 1.93 d     | 2.84 d     | 4.12 b     | 5.98 b  |
|                    | 12                | 12                   | —          | 0.16 e     | 0.61 e     | 1.28 e     | 1.22 d     | 1.98 d     | 2.57 c     | 3.47 c           | —          | 0.28 e     | 1.04 d     | 1.54 d     | 1.78 d     | 2.67 d     | 3.42 b     | 4.46 b               | —          | 0.44 d     | 1.18 d     | 1.90 d     | 2.42 c     | 3.01 c     | 4.34 a     | 5.51 a  |
|                    |                   | 16                   | —          | —          | 0.06 e     | 0.82 e     | 0.62 e     | 1.49 e     | 1.90 d     | 2.91 d           | —          | —          | 0.43 e     | 0.98 e     | 1.13 e     | 2.12 e     | 2.69 c     | 3.85 c               | —          | —          | 0.47 e     | 1.27 e     | 1.72 d     | 2.35 d     | 3.57 c     | 4.86 c  |
|                    |                   | 24                   | —          | —          | —          | 0.03 f     | —          | 0.63 f     | 0.73 e     | 1.93 e           | —          | —          | —          | 0.03 f     | —          | 1.18 f     | 1.41 e     | 2.78 e               | —          | —          | —          | 0.18 f     | 0.51 e     | 1.21 e     | 2.21 d     | 3.71 d  |
|                    | 14                | 12                   | —          | —          | 0.02 f     | 0.62 f     | 0.47 e     | 1.14 e     | 1.50 e     | 2.25 e           | —          | —          | 0.32 e     | 0.74 e     | 0.88 e     | 1.64 e     | 2.15 d     | 2.99 d               | —          | —          | 0.34 e     | 0.96 e     | 1.37 e     | 1.82 e     | 2.89 d     | 3.80 d  |
|                    |                   | 16                   | —          | —          | —          | 0.19 f     | —          | 0.67 f     | 0.84 e     | 1.71 e           | —          | —          | —          | 0.22 f     | 0.24 f     | 1.12 f     | 1.42 e     | 2.40 e               | —          | —          | —          | 0.37 f     | 0.68 e     | 1.19 e     | 2.10 e     | 3.16 e  |
|                    | 24                | —                    | —          | —          | —          | —          | —          | —          | 0.79 f     | —                | —          | —          | —          | —          | 0.23 f     | 0.18 f     | 1.39 f     | —                    | —          | —          | —          | —          | 0.11 f     | 0.75 f     | 2.07 f     |         |
| 4" Stud            | 8                 | 12                   | 0.94 a     | 1.73 a     | 2.73 a     | 3.55 a     | 3.88 a     | 5.16 a     | 6.11 a     | 8.03 a           | 1.19 a     | 2.31 a     | 3.52 a     | 4.54 a     | 4.91 a     | 6.53 a     | 7.51 a     | 9.91 a               | 1.38 a     | 2.65 a     | 4.00 a     | 5.01 a     | 5.87 a     | 7.32 a     | 8.86 a     | 11.63 a |
|                    |                   | 16                   | 0.56 b     | 1.33 a     | 2.33 a     | 3.17 a     | 3.45 a     | 4.78 a     | 5.65 a     | 7.61 a           | 0.77 a     | 1.87 a     | 3.09 a     | 4.10 a     | 4.44 a     | 6.11 a     | 7.03 a     | 9.47 a               | 0.95 a     | 2.18 a     | 3.49 a     | 4.56 a     | 5.40 a     | 6.82 a     | 8.38 a     | 11.18 a |
|                    |                   | 24                   | —          | 0.59 c     | 1.58 b     | 2.45 b     | 2.62 a     | 4.07 a     | 4.78 a     | 6.82 a           | —          | 1.05 b     | 2.27 a     | 3.27 a     | 3.56 a     | 5.33 a     | 6.12 a     | 8.62 a               | 0.15 c     | 1.30 a     | 2.53 a     | 3.69 a     | 4.49 a     | 5.88 a     | 7.44 a     | 10.31 a |
|                    | 9                 | 12                   | 0.60 b     | 1.34 a     | 2.30 a     | 3.06 a     | 3.36 a     | 4.58 a     | 5.47 a     | 7.22 a           | 0.81 b     | 1.86 a     | 3.02 a     | 3.92 a     | 4.31 a     | 5.82 a     | 6.79 a     | 8.94 a               | 0.99 a     | 2.18 a     | 3.44 a     | 4.45 a     | 5.22 a     | 6.57 a     | 8.08 a     | 10.56 a |
|                    |                   | 16                   | 0.16 d     | 0.88 c     | 1.82 a     | 2.61 a     | 2.84 a     | 4.13 a     | 4.92 a     | 6.72 a           | 0.33 c     | 1.34 b     | 2.51 a     | 3.40 a     | 3.75 a     | 5.32 a     | 6.20 a     | 8.41 a               | 0.49 c     | 1.62 a     | 2.83 a     | 3.89 a     | 4.65 a     | 5.97 a     | 7.49 a     | 10.01 a |
|                    |                   | 24                   | —          | 0.03 d     | 0.95 c     | 1.78 c     | 1.89 c     | 3.29 c     | 3.89 a     | 5.79 a           | —          | 0.41 d     | 1.56 c     | 2.45 c     | 2.72 b     | 4.41 b     | 5.11 a     | 7.40 a               | —          | 0.61 c     | 1.71 b     | 2.87 b     | 3.58 a     | 4.86 a     | 6.36 a     | 8.97 a  |
|                    | 10                | 12                   | 0.27 d     | 0.95 c     | 1.85 b     | 2.54 b     | 2.82 a     | 3.96 a     | 4.79 a     | 6.36 a           | 0.44 c     | 1.40 b     | 2.50 a     | 3.28 a     | 3.67 a     | 5.07 a     | 6.00 a     | 7.91 a               | 0.60 c     | 1.69 a     | 2.83 a     | 3.81 a     | 4.53 a     | 5.74 a     | 7.23 a     | 9.41 a  |
|                    |                   | 16                   | —          | 0.44 d     | 1.32 c     | 2.04 c     | 2.23 b     | 3.45 b     | 4.16 a     | 5.79 a           | —          | 0.83 c     | 1.92 b     | 2.71 b     | 3.04 a     | 4.51 a     | 5.33 a     | 7.30 a               | 0.05 d     | 1.07 c     | 2.15 a     | 3.18 a     | 3.88 a     | 5.06 a     | 6.54 a     | 8.78 a  |
|                    |                   | 24                   | —          | —          | 0.36 e     | 1.14 e     | 1.18 d     | 2.53 d     | 3.00 c     | 4.74 c           | —          | —          | 0.88 d     | 1.68 d     | 1.90 c     | 3.50 c     | 4.09 b     | 6.17 b               | —          | —          | 0.92 c     | 2.05 c     | 2.68 c     | 3.82 c     | 5.25 a     | 7.61 a  |
|                    | 12                | 12                   | —          | 0.24 e     | 1.00 d     | 1.58 d     | 1.76 c     | 2.73 c     | 3.40 b     | 4.62 b           | —          | 0.57 d     | 1.51 c     | 2.10 c     | 2.44 c     | 3.59 c     | 4.41 a     | 5.85 a               | —          | 0.77 d     | 1.67 c     | 2.56 c     | 3.17 b     | 4.02 b     | 5.48 a     | 7.11 a  |
|                    |                   | 16                   | —          | —          | 0.40 e     | 1.03 e     | 1.10 d     | 2.17 d     | 2.67 c     | 3.98 c           | —          | —          | 0.86 d     | 1.48 d     | 1.73 d     | 2.97 d     | 3.62 b     | 5.16 b               | —          | 0.07 e     | 0.91 d     | 1.85 d     | 2.41 c     | 3.26 c     | 4.65 b     | 6.38 b  |
|                    |                   | 24                   | —          | —          | —          | 0.09 f     | —          | 1.19 e     | 1.38 e     | 2.86 e           | —          | —          | —          | 0.40 e     | 0.48 e     | 1.89 e     | 2.22 d     | 3.94 d               | —          | —          | —          | 0.62 e     | 1.08 e     | 1.95 e     | 3.17 d     | 5.08 d  |
|                    | 14                | 12                   | —          | —          | 0.30 e     | 0.80 e     | 0.88 e     | 1.70 e     | 2.18 d     | 3.13 d           | —          | —          | 0.68 e     | 1.15 e     | 1.40 d     | 2.33 d     | 2.98 c     | 4.07 c               | —          | 0.01 e     | 0.71 e     | 1.45 e     | 1.98 d     | 2.57 d     | 3.87 c     | 5.08 c  |
|                    |                   | 16                   | —          | —          | —          | 0.27 f     | 0.22 f     | 1.15 f     | 1.43 e     | 2.50 e           | —          | —          | 0.02 f     | 0.55 f     | 0.67 e     | 1.73 e     | 2.16 d     | 3.39 d               | —          | —          | —          | 0.76 e     | 1.20 e     | 1.83 e     | 2.99 d     | 4.34 d  |
|                    | 24                | —                    | —          | —          | —          | —          | 0.21 f     | 0.14 f     | 1.42 f     | —                | —          | —          | —          | —          | 0.69 f     | 0.75 e     | 2.20 e     | —                    | —          | —          | —          | —          | 0.57 f     | 1.47 e     | 3.06 e     |         |

## Notes:

- 1 Studs are assumed to be simple span.
- 2 Axial loads are assumed to pass through the geometric centroid of the section.
- 3 Use 5psf tables for interior loads.
- 4 Cells marked with an a, b, c, d, e, or f meet L/720, L/600, L/480, L/360, L/240 or L/120 respectively. Blank cells do not meet L/120. For deflection calculations, lateral loads are multiplied by 0.7 per the 2004 AISI Standard for Cold-Formed Steel Framing-Wall Stud Design except for the 5psf load which is considered an interior wall load.
- 5 A 1/3 stress increase is not used.
- 6 Provide bridging and/or bracing at 48" o.c. Allowable loads are based on weak axis and torsional bracing at 48" o.c. for axial load, and continuous support of each flange for moment.
- 7 Capacities are calculated according to the the AISI-NASPEC, 2001 with 2004 supplement. A 1-1/2" by 4" knockout spaced no closer than 24" o.c. is assumed for standard studs.
- 8 Cells marked with an "\*" have h/t > 200 and thus require bearing stiffeners. Cells are left blank when h/t > 260.

Complies with IBC 2006 &amp; AISI-NASPEC, 2001 with 2004 supplement

# ALLOWABLE COMBINED AXIAL & LATERAL LOADS

(Kips/Stud)

| Wind = 35psf       |                   |       | S162 (1-5/8" Flange) |            |            |            |            |            |            |            | S200 (2" Flange) |            |            |            |            |            |            |            | S250 (2-1/2" Flange) |            |            |            |            |            |            |            |
|--------------------|-------------------|-------|----------------------|------------|------------|------------|------------|------------|------------|------------|------------------|------------|------------|------------|------------|------------|------------|------------|----------------------|------------|------------|------------|------------|------------|------------|------------|
| Stud length (feet) | Spacing (in) o.c. |       | -33 (20ga)           | -43 (18ga) | -54 (16ga) | -54 (16ga) | -68 (14ga) | -68 (14ga) | -97 (12ga) | -97 (12ga) | -33 (20ga)       | -43 (18ga) | -54 (16ga) | -54 (16ga) | -68 (14ga) | -68 (14ga) | -97 (12ga) | -97 (12ga) | -33 (20ga)           | -43 (18ga) | -54 (16ga) | -54 (16ga) | -68 (14ga) | -68 (14ga) | -97 (12ga) | -97 (12ga) |
|                    |                   | 33ksi | 33ksi                | 33ksi      | 50ksi      | 33ksi      | 50ksi      | 33ksi      | 50ksi      | 33ksi      | 33ksi            | 33ksi      | 50ksi      | 33ksi      | 50ksi      | 33ksi      | 50ksi      | 33ksi      | 33ksi                | 33ksi      | 50ksi      | 33ksi      | 50ksi      | 33ksi      | 50ksi      |            |
| 6" Stud            | 8                 | 12    | 1.77 a               | 2.76 a     | 3.86 a     | 5.04 a     | 5.34 a     | 6.84 a     | 8.64 a     | 10.79 a    | 2.09 a           | 3.52 a     | 4.99 a     | 6.67 a     | 6.87 a     | 9.23 a     | 11.16 a    | 14.80 a    | 2.31 a               | 3.85 a     | 5.51 a     | 6.88 a     | 8.02 a     | 10.17 a    | 12.95 a    | 17.37 a    |
|                    |                   | 16    | 1.51 a               | 2.52 a     | 3.60 a     | 4.81 a     | 5.06 a     | 6.61 a     | 8.33 a     | 10.53 a    | 1.81 a           | 3.21 a     | 4.70 a     | 6.36 a     | 6.56 a     | 8.94 a     | 10.81 a    | 14.49 a    | 2.01 a               | 3.54 a     | 5.17 a     | 6.59 a     | 7.69 a     | 9.83 a     | 12.59 a    | 17.03 a    |
|                    |                   | 24    | 1.02 a               | 2.03 a     | 3.08 a     | 4.36 a     | 4.51 a     | 6.14 a     | 7.73 a     | 10.02 a    | 1.26 a           | 2.62 a     | 4.12 a     | 5.75 a     | 5.94 a     | 8.37 a     | 10.12 a    | 13.86 a    | 1.44 a               | 2.93 a     | 4.50 a     | 6.00 a     | 7.03 a     | 9.16 a     | 11.89 a    | 16.35 a    |
|                    | 9                 | 12    | 1.55 a               | 2.55 a     | 3.63 a     | 4.83 a     | 5.09 a     | 6.62 a     | 8.36 a     | 10.54 a    | 1.84 a           | 3.23 a     | 4.69 a     | 6.30 a     | 6.54 a     | 8.84 a     | 10.74 a    | 14.30 a    | 2.04 a               | 3.55 a     | 5.18 a     | 6.54 a     | 7.66 a     | 9.72 a     | 12.48 a    | 16.76 a    |
|                    |                   | 16    | 1.23 a               | 2.24 a     | 3.30 a     | 4.54 a     | 4.74 a     | 6.32 a     | 7.97 a     | 10.21 a    | 1.49 a           | 2.85 a     | 4.32 a     | 5.91 a     | 6.14 a     | 8.47 a     | 10.30 a    | 13.90 a    | 1.68 a               | 3.16 a     | 4.75 a     | 6.16 a     | 7.24 a     | 9.29 a     | 12.03 a    | 16.32 a    |
|                    |                   | 24    | 0.62 a               | 1.64 a     | 2.65 a     | 3.97 a     | 4.05 a     | 5.73 a     | 7.20 a     | 9.56 a     | 0.82 a           | 2.11 a     | 3.60 a     | 5.15 a     | 5.36 a     | 7.76 a     | 9.43 a     | 13.10 a    | 0.98 a               | 2.40 a     | 3.91 a     | 5.42 a     | 6.42 a     | 8.45 a     | 11.13 a    | 15.46 a    |
|                    | 10                | 12    | 1.31 a               | 2.31 a     | 3.37 a     | 4.59 a     | 4.81 a     | 6.37 a     | 8.04 a     | 10.26 a    | 1.57 a           | 2.90 a     | 4.35 a     | 5.88 a     | 6.15 a     | 8.38 a     | 10.25 a    | 13.70 a    | 1.75 a               | 3.22 a     | 4.79 a     | 6.14 a     | 7.25 a     | 9.20 a     | 11.94 a    | 16.04 a    |
|                    |                   | 16    | 0.93 a               | 1.93 a     | 2.96 a     | 4.23 a     | 4.37 a     | 5.99 a     | 7.55 a     | 9.83 a     | 1.15 a           | 2.44 a     | 3.90 a     | 5.40 a     | 5.66 a     | 7.93 a     | 9.70 a     | 13.20 a    | 1.32 a               | 2.75 a     | 4.27 a     | 5.68 a     | 6.73 a     | 8.67 a     | 11.38 a    | 15.49 a    |
|                    |                   | 24    | 0.20 c               | 1.21 a     | 2.18 a     | 3.53 a     | 3.52 a     | 5.26 a     | 6.60 a     | 9.01 a     | 0.35 b           | 1.57 a     | 3.03 a     | 4.49 a     | 4.72 a     | 7.06 a     | 8.64 a     | 12.22 a    | 0.49 a               | 1.84 a     | 3.26 a     | 4.79 a     | 5.73 a     | 7.65 a     | 10.28 a    | 14.43 a    |
|                    | 12                | 12    | 0.77 b               | 1.73 a     | 2.74 a     | 3.97 a     | 4.13 a     | 5.74 a     | 7.24 a     | 9.52 a     | 0.96 a           | 2.17 a     | 3.56 a     | 4.89 a     | 5.23 a     | 7.29 a     | 9.07 a     | 12.22 a    | 1.12 a               | 2.47 a     | 3.90 a     | 5.21 a     | 6.22 a     | 7.97 a     | 10.64 a    | 14.29 a    |
|                    |                   | 16    | 0.27 c               | 1.23 b     | 2.18 a     | 3.46 a     | 3.52 a     | 5.20 a     | 6.54 a     | 8.89 a     | 0.42 c           | 1.56 a     | 2.95 a     | 4.26 a     | 4.56 a     | 6.67 a     | 8.30 a     | 11.50 a    | 0.55 b               | 1.84 a     | 3.19 a     | 4.59 a     | 5.51 a     | 7.24 a     | 9.85 a     | 13.52 a    |
|                    |                   | 24    | —                    | 0.29 d     | 1.14 c     | 2.52 c     | 2.36 b     | 4.17 b     | 5.21 a     | 7.71 a     | —                | 0.45 c     | 1.82 b     | 3.07 b     | 3.31 a     | 5.50 a     | 6.84 a     | 10.15 a    | —                    | 0.66 c     | 1.86 b     | 3.41 b     | 4.16 a     | 5.88 a     | 8.34 a     | 12.06 a    |
|                    | 14                | 12    | 0.21 d               | 1.11 c     | 2.00 b     | 3.15 b     | 3.25 a     | 4.77 a     | 6.23 a     | 8.47 a     | 0.35 c           | 1.40 b     | 2.69 a     | 3.81 a     | 4.19 a     | 6.02 a     | 7.66 a     | 10.42 a    | 0.47 c               | 1.67 a     | 2.93 a     | 4.20 a     | 5.06 a     | 6.60 a     | 9.11 a     | 12.23 a    |
|                    |                   | 16    | —                    | 0.50 d     | 1.32 c     | 2.54 c     | 2.49 b     | 4.09 b     | 5.32 a     | 7.64 a     | —                | 0.68 d     | 1.96 c     | 3.05 c     | 3.37 b     | 5.26 b     | 6.69 a     | 9.53 a     | —                    | 0.91 c     | 2.06 b     | 3.43 b     | 4.18 a     | 5.70 a     | 8.10 a     | 11.27 a    |
|                    |                   | 24    | —                    | —          | 0.10 e     | 1.43 e     | 1.12 d     | 2.87 d     | 3.66 c     | 6.14 c     | —                | —          | 0.63 d     | 1.70 d     | 1.88 d     | 3.89 d     | 4.92 b     | 7.89 b     | —                    | —          | 0.49 d     | 2.03 d     | 2.57 c     | 4.08 c     | 6.25 a     | 9.49 a     |

|         |    |    |         |        |        |        |        |        |        |         |         |        |        |        |        |        |         |         |         |        |        |        |        |         |         |         |
|---------|----|----|---------|--------|--------|--------|--------|--------|--------|---------|---------|--------|--------|--------|--------|--------|---------|---------|---------|--------|--------|--------|--------|---------|---------|---------|
| 8" Stud | 8  | 12 | 1.88 a* | 2.85 a | 3.97 a | 4.99 a | 5.51 a | 6.80 a | 9.10 a | 10.92 a | 2.37 a* | 3.95 a | 5.45 a | 7.23 a | 7.42 a | 9.81 a | 11.93 a | 15.49 a | 2.64 a* | 4.33 a | 6.09 a | 7.64 a | 8.80 a | 11.21 a | 14.40 a | 19.16 a |
|         |    | 16 | 1.68 a* | 2.65 a | 3.77 a | 4.82 a | 5.30 a | 6.63 a | 8.90 a | 10.77 a | 2.15 a* | 3.74 a | 5.25 a | 7.02 a | 7.21 a | 9.62 a | 11.70 a | 15.29 a | 2.42 a* | 4.11 a | 5.86 a | 7.43 a | 8.57 a | 10.98 a | 14.15 a | 18.92 a |
|         |    | 24 | 1.28 a* | 2.26 a | 3.37 a | 4.47 a | 4.88 a | 6.28 a | 8.52 a | 10.45 a | 1.72 a* | 3.33 a | 4.86 a | 6.61 a | 6.79 a | 9.25 a | 11.25 a | 14.89 a | 1.96 a* | 3.67 a | 5.39 a | 7.00 a | 8.12 a | 10.52 a | 13.65 a | 18.46 a |
|         | 9  | 12 | 1.72 a* | 2.68 a | 3.81 a | 4.84 a | 5.33 a | 6.65 a | 8.93 a | 10.79 a | 2.19 a* | 3.77 a | 5.28 a | 7.05 a | 7.24 a | 9.65 a | 11.74 a | 15.32 a | 2.45 a* | 4.13 a | 5.88 a | 7.42 a | 8.58 a | 10.97 a | 14.13 a | 18.87 a |
|         |    | 16 | 1.46 a* | 2.43 a | 3.55 a | 4.62 a | 5.07 a | 6.43 a | 8.68 a | 10.59 a | 1.91 a* | 3.51 a | 5.03 a | 6.79 a | 6.97 a | 9.41 a | 11.44 a | 15.06 a | 2.16 a* | 3.85 a | 5.58 a | 7.15 a | 8.29 a | 10.67 a | 13.81 a | 18.57 a |
|         |    | 24 | 0.96 a* | 1.94 a | 3.05 a | 4.18 a | 4.54 a | 5.99 a | 8.19 a | 10.19 a | 1.37 a* | 2.99 a | 4.53 a | 6.26 a | 6.44 a | 8.93 a | 10.86 a | 14.54 a | 1.59 a* | 3.29 a | 4.99 a | 6.61 a | 7.71 a | 10.09 a | 13.18 a | 17.97 a |
|         | 10 | 12 | 1.53 a* | 2.50 a | 3.62 a | 4.67 a | 5.13 a | 6.48 a | 8.74 a | 10.63 a | 1.99 a* | 3.58 a | 5.09 a | 6.85 a | 7.04 a | 9.46 a | 11.51 a | 15.11 a | 2.23 a* | 3.91 a | 5.64 a | 7.17 a | 8.33 a | 10.69 a | 13.81 a | 18.53 a |
|         |    | 16 | 1.22 a* | 2.19 a | 3.30 a | 4.40 a | 4.80 a | 6.21 a | 8.43 a | 10.38 a | 1.65 a* | 3.25 a | 4.78 a | 6.51 a | 6.70 a | 9.16 a | 11.14 a | 14.78 a | 1.88 a* | 3.56 a | 5.27 a | 6.84 a | 7.97 a | 10.32 a | 13.42 a | 18.16 a |
|         |    | 24 | 0.61 a* | 1.59 a | 2.68 a | 3.85 a | 4.15 a | 5.66 a | 7.81 a | 9.88 a  | 0.99 a* | 2.61 a | 4.17 a | 5.86 a | 6.05 a | 8.56 a | 10.41 a | 14.14 a | 1.19 a* | 2.87 a | 4.55 a | 6.17 a | 7.25 a | 9.59 a  | 12.63 a | 17.41 a |
|         | 12 | 12 | 1.10 a* | 2.07 a | 3.17 a | 4.27 a | 4.66 a | 6.08 a | 8.28 a | 10.25 a | 1.52 a* | 3.11 a | 4.64 a | 6.35 a | 6.55 a | 8.99 a | 10.95 a | 14.59 a | 1.72 a* | 3.38 a | 5.07 a | 6.57 a | 7.72 a | 9.99 a  | 13.03 a | 17.67 a |
|         |    | 16 | 0.67 a* | 1.64 a | 2.72 a | 3.87 a | 4.19 a | 5.67 a | 7.83 a | 9.87 a  | 1.05 a* | 2.65 a | 4.19 a | 5.87 a | 6.07 a | 8.55 a | 10.41 a | 14.11 a | 1.23 a* | 2.89 a | 4.55 a | 6.09 a | 7.19 a | 9.46 a  | 12.45 a | 17.12 a |
|         |    | 24 | —       | 0.80 a | 1.84 a | 3.09 a | 3.26 a | 4.88 a | 6.93 a | 9.13 a  | 0.14 a* | 1.75 a | 3.31 a | 4.93 a | 5.12 a | 7.68 a | 9.35 a  | 13.15 a | 0.29 a* | 1.93 a | 3.52 a | 5.14 a | 6.17 a | 8.42 a  | 11.32 a | 16.02 a |
|         | 14 | 12 | 0.62 a* | 1.57 a | 2.64 a | 3.78 a | 4.09 a | 5.57 a | 7.71 a | 9.76 a  | 0.98 a* | 2.53 a | 4.06 a | 5.66 a | 5.92 a | 8.35 a | 10.26 a | 13.92 a | 1.15 a* | 2.76 a | 4.39 a | 5.83 a | 6.96 a | 9.08 a  | 12.03 a | 16.44 a |
|         |    | 16 | 0.06 c* | 1.00 a | 2.04 a | 3.24 a | 3.45 a | 5.02 a | 7.09 a | 9.23 a  | 0.37 a* | 1.93 a | 3.46 a | 5.02 a | 5.27 a | 7.74 a | 9.51 a  | 13.23 a | 0.53 a* | 2.12 a | 3.69 a | 5.19 a | 6.26 a | 8.36 a  | 11.25 a | 15.68 a |
|         |    | 24 | —       | —      | 0.91 b | 2.21 b | 2.24 a | 3.97 a | 5.88 a | 8.22 a  | —       | 0.78 b | 2.32 a | 3.80 a | 4.02 a | 6.57 a | 8.08 a  | 11.91 a | —       | 0.90 b | 2.37 a | 3.97 a | 4.92 a | 7.00 a  | 9.74 a  | 14.21 a |

## Notes:

- 1 Studs are assumed to be simple span.
- 2 Axial loads are assumed to pass through the geometric centroid of the section.
- 3 Use 5psf tables for interior loads.
- 4 Cells marked with an a, b, c, d, e, or f meet L/720, L/600, L/480, L/360, L/240 or L/120 respectively. Blank cells do not meet L/120. For deflection calculations, lateral loads are multiplied by 0.7 per the 2004 AISI Standard for Cold-Formed Steel Framing-Wall Stud Design except for the 5psf load which is considered an interior wall load.
- 5 A 1/3 stress increase is not used.
- 6 Provide bridging and/or bracing at 48" o.c. Allowable loads are based on weak axis and torsional bracing at 48" o.c. for axial load, and continuous support of each flange for moment.
- 7 Capacities are calculated according to the the AISI-NASPEC, 2001 with 2004 supplement. A 1-1/2" by 4" knockout spaced no closer than 24" o.c. is assumed for standard studs.
- 8 Cells marked with an "\*" have h/t > 200 and thus require bearing stiffeners. Cells are left blank when h/t > 260.

Complies with IBC 2006 & AISI-NASPEC, 2001 with 2004 supplement

Pub. No. CD-STR-TechGuide 2/12

The technical content of this literature is effective 2/1/12 and supersedes all previous information.

clarkdietrich.com

## ALLOWABLE COMBINED AXIAL &amp; LATERAL LOADS

(Kips/Stud)

| Wind = 40psf       |                   | S162 (1-5/8" Flange) |            |            |            |            |            |            |            | S200 (2" Flange) |            |            |            |            |            |            |            | S250 (2-1/2" Flange) |            |            |            |            |            |            |            |         |
|--------------------|-------------------|----------------------|------------|------------|------------|------------|------------|------------|------------|------------------|------------|------------|------------|------------|------------|------------|------------|----------------------|------------|------------|------------|------------|------------|------------|------------|---------|
| Stud length (feet) | Spacing (in) o.c. | -33 (20ga)           | -43 (18ga) | -54 (16ga) | -54 (16ga) | -68 (14ga) | -68 (14ga) | -97 (12ga) | -97 (12ga) | -33 (20ga)       | -43 (18ga) | -54 (16ga) | -54 (16ga) | -68 (14ga) | -68 (14ga) | -97 (12ga) | -97 (12ga) | -33 (20ga)           | -43 (18ga) | -54 (16ga) | -54 (16ga) | -68 (14ga) | -68 (14ga) | -97 (12ga) | -97 (12ga) |         |
|                    |                   | 33ksi                | 33ksi      | 33ksi      | 50ksi      | 33ksi      | 50ksi      | 33ksi      | 50ksi      | 33ksi            | 33ksi      | 33ksi      | 50ksi      | 33ksi      | 50ksi      | 33ksi      | 50ksi      | 33ksi                | 33ksi      | 33ksi      | 50ksi      | 33ksi      | 50ksi      | 33ksi      | 50ksi      |         |
| 3-5/8" Stud        | 8                 | 12                   | 0.56 b     | 1.39 a     | 2.15 a     | 3.01 a     | 3.06 a     | 4.17 a     | 5.04 a     | 6.61 a           | 0.78 b     | 1.77 a     | 2.85 a     | 3.72 a     | 3.96 a     | 5.36 a     | 6.28 a     | 8.21 a               | 0.95 a     | 2.10 a     | 3.28 a     | 4.26 a     | 4.84 a     | 6.14 a     | 7.50 a     | 9.69 a  |
|                    |                   | 16                   | 0.14 d     | 0.96 c     | 1.68 b     | 2.61 b     | 2.57 a     | 3.75 a     | 4.52 a     | 6.14 a           | 0.31 c     | 1.27 b     | 2.35 a     | 3.22 a     | 3.43 a     | 4.90 a     | 5.73 a     | 7.71 a               | 0.46 c     | 1.55 a     | 2.69 a     | 3.73 a     | 4.30 a     | 5.58 a     | 6.94 a     | 9.19 a  |
|                    | 9                 | 24                   | —          | 0.19 d     | 0.83 d     | 1.88 d     | 1.66 c     | 2.96 c     | 3.54 a     | 5.27 a           | —          | 0.36 d     | 1.42 c     | 2.30 c     | 2.45 b     | 4.04 b     | 4.70 a     | 6.78 a               | —          | 0.55 c     | 1.60 b     | 2.74 b     | 3.29 a     | 4.53 a     | 5.89 a     | 8.24 a  |
|                    |                   | 12                   | 0.21 d     | 0.98 c     | 1.66 b     | 2.49 b     | 2.50 a     | 3.53 a     | 4.33 a     | 5.74 a           | 0.37 c     | 1.28 b     | 2.29 a     | 3.05 a     | 3.31 a     | 4.58 a     | 5.48 a     | 7.17 a               | 0.52 c     | 1.57 a     | 2.63 a     | 3.57 a     | 4.14 a     | 5.22 a     | 6.64 a     | 8.56 a  |
|                    | 10                | 16                   | —          | 0.50 d     | 1.13 c     | 2.04 c     | 1.94 b     | 3.05 b     | 3.73 a     | 5.20 a           | —          | 0.72 c     | 1.72 c     | 2.49 c     | 2.70 a     | 4.05 a     | 4.83 a     | 6.60 a               | —          | 0.95 c     | 1.96 b     | 2.96 b     | 3.51 a     | 4.58 a     | 5.97 a     | 7.97 a  |
|                    |                   | 24                   | —          | —          | 0.18 e     | 1.22 e     | 0.92 d     | 2.17 d     | 2.61 c     | 4.21 c           | —          | —          | 0.68 d     | 1.48 d     | 1.60 c     | 3.09 c     | 3.64 b     | 5.53 b               | —          | —          | 0.74 d     | 1.85 d     | 2.36 c     | 3.41 c     | 4.74 a     | 6.87 a  |
|                    | 12                | 12                   | —          | 0.59 d     | 1.19 c     | 1.98 c     | 1.94 b     | 2.89 b     | 3.61 a     | 4.85 a           | —          | 0.81 d     | 1.74 c     | 2.40 c     | 2.66 b     | 3.81 b     | 4.65 a     | 6.13 a               | 0.12 d     | 1.05 c     | 1.99 b     | 2.89 b     | 3.42 a     | 4.32 a     | 5.74 a     | 7.40 a  |
|                    |                   | 16                   | —          | 0.08 e     | 0.62 d     | 1.49 d     | 1.33 d     | 2.37 d     | 2.94 b     | 4.26 b           | —          | 0.21 e     | 1.12 d     | 1.81 d     | 2.00 c     | 3.24 c     | 3.93 a     | 5.49 a               | —          | 0.38 d     | 1.26 c     | 2.23 c     | 2.73 b     | 3.63 b     | 4.99 a     | 6.74 a  |
|                    | 14                | 24                   | —          | —          | —          | 0.64 e     | 0.25 e     | 1.45 e     | 1.74 d     | 3.21 d           | —          | —          | 0.02 e     | 0.76 e     | 0.81 e     | 2.22 e     | 2.63 c     | 4.35 c               | —          | —          | —          | 1.04 e     | 1.48 d     | 2.39 d     | 3.62 c     | 5.54 c  |
|                    |                   | 12                   | —          | —          | 0.37 e     | 1.08 e     | 0.95 e     | 1.76 e     | 2.28 d     | 3.22 d           | —          | 0.03 e     | 0.77 e     | 1.29 e     | 1.49 d     | 2.43 d     | 3.10 c     | 4.19 c               | —          | 0.15 e     | 0.87 d     | 1.62 d     | 2.11 c     | 2.72 c     | 4.00 b     | 5.22 b  |
|                    | 16                | 16                   | —          | —          | —          | 0.58 f     | 0.30 e     | 1.23 e     | 1.55 e     | 2.61 e           | —          | —          | 0.12 e     | 0.69 e     | 0.78 e     | 1.84 e     | 2.30 d     | 3.53 d               | —          | —          | 0.10 e     | 0.94 e     | 1.35 d     | 2.00 d     | 3.16 c     | 4.51 c  |
|                    |                   | 24                   | —          | —          | —          | —          | —          | 0.30 f     | 0.29 f     | 1.55 f           | —          | —          | —          | —          | —          | 0.82 f     | 0.92 e     | 2.37 e               | —          | —          | —          | —          | 0.04 e     | 0.77 e     | 1.68 e     | 3.27 e  |
|                    |                   | 12                   | —          | —          | —          | 0.43 f     | 0.21 f     | 0.94 f     | 1.21 e     | 2.01 e           | —          | —          | 0.05 f     | 0.51 f     | 0.59 e     | 1.41 e     | 1.83 e     | 2.73 e               | —          | —          | 0.03 e     | 0.70 e     | 1.06 e     | 1.54 e     | 2.54 d     | 3.52 d  |
|                    | 18                | 16                   | —          | —          | —          | —          | —          | 0.43 f     | 0.50 f     | 1.43 f           | —          | —          | —          | —          | —          | 0.85 f     | 1.04 e     | 2.09 e               | —          | —          | —          | 0.05 f     | 0.31 f     | 0.86 f     | 1.69 e     | 2.83 e  |
|                    |                   | 24                   | —          | —          | —          | —          | —          | —          | —          | 0.44 f           | —          | —          | —          | —          | —          | —          | —          | 1.00 f               | —          | —          | —          | —          | —          | —          | 0.24 f     | 1.64 f  |
| 4" Stud            | 8                 | 12                   | 0.77 a     | 1.56 a     | 2.56 a     | 3.39 a     | 3.69 a     | 5.00 a     | 5.91 a     | 7.85 a           | 1.01 a     | 2.12 a     | 3.33 a     | 4.35 a     | 4.71 a     | 6.35 a     | 7.31 a     | 9.72 a               | 1.19 a     | 2.45 a     | 3.78 a     | 4.82 a     | 5.67 a     | 7.10 a     | 8.65 a     | 11.44 a |
|                    |                   | 16                   | 0.35 c     | 1.11 a     | 2.11 a     | 2.96 a     | 3.21 a     | 4.57 a     | 5.40 a     | 7.38 a           | 0.54 b     | 1.63 a     | 2.85 a     | 3.85 a     | 4.18 a     | 5.89 a     | 6.77 a     | 9.22 a               | 0.71 a     | 1.92 a     | 3.21 a     | 4.30 a     | 5.13 a     | 6.55 a     | 8.11 a     | 10.93 a |
|                    | 9                 | 24                   | —          | 0.29 c     | 1.27 b     | 2.16 b     | 2.29 a     | 3.77 a     | 4.42 a     | 6.50 a           | —          | 0.72 c     | 1.94 b     | 2.93 b     | 3.20 a     | 5.01 a     | 5.74 a     | 8.27 a               | —          | 0.94 b     | 2.14 a     | 3.34 a     | 4.11 a     | 5.50 a     | 7.06 a     | 9.95 a  |
|                    |                   | 12                   | 0.41 c     | 1.14 b     | 2.09 a     | 2.86 a     | 3.14 a     | 4.38 a     | 5.23 a     | 7.01 a           | 0.60 b     | 1.63 a     | 2.80 a     | 3.69 a     | 4.06 a     | 5.60 a     | 6.53 a     | 8.71 a               | 0.77 b     | 1.93 a     | 3.18 a     | 4.21 a     | 4.97 a     | 6.31 a     | 7.82 a     | 10.32 a |
|                    | 10                | 16                   | —          | 0.63 c     | 1.57 b     | 2.36 b     | 2.56 a     | 3.88 a     | 4.62 a     | 6.45 a           | 0.07 d     | 1.07 b     | 2.23 a     | 3.12 a     | 3.44 a     | 5.05 a     | 5.88 a     | 8.11 a               | 0.22 c     | 1.32 b     | 2.50 a     | 3.59 a     | 4.33 a     | 5.64 a     | 7.16 a     | 9.70 a  |
|                    |                   | 24                   | —          | —          | 0.60 d     | 1.45 d     | 1.50 c     | 2.96 c     | 3.47 b     | 5.41 b           | —          | 0.04 d     | 1.18 c     | 2.07 c     | 2.30 b     | 4.04 b     | 4.66 a     | 7.00 a               | —          | 0.20 d     | 1.27 c     | 2.46 c     | 3.15 b     | 4.42 b     | 5.90 a     | 8.55 a  |
|                    | 12                | 12                   | 0.06 d     | 0.73 c     | 1.62 b     | 2.32 b     | 2.56 a     | 3.74 a     | 4.51 a     | 6.11 a           | 0.21 d     | 1.15 c     | 2.25 a     | 3.03 a     | 3.40 a     | 4.82 a     | 5.71 a     | 7.64 a               | 0.36 c     | 1.42 b     | 2.53 a     | 3.54 a     | 4.25 a     | 5.44 a     | 6.93 a     | 9.14 a  |
|                    |                   | 16                   | —          | 0.17 d     | 1.03 d     | 1.77 d     | 1.92 c     | 3.18 c     | 3.81 a     | 5.48 a           | —          | 0.53 d     | 1.61 c     | 2.40 c     | 2.70 b     | 4.21 b     | 4.96 a     | 6.96 a               | —          | 0.73 c     | 1.78 b     | 2.85 b     | 3.52 a     | 4.69 a     | 6.16 a     | 8.43 a  |
|                    | 14                | 24                   | —          | —          | —          | 0.79 e     | 0.76 d     | 2.17 d     | 2.54 c     | 4.33 c           | —          | —          | 0.47 d     | 1.27 d     | 1.45 d     | 3.10 d     | 3.60 b     | 5.73 b               | —          | —          | 0.43 d     | 1.61 d     | 2.20 c     | 3.34 c     | 4.74 b     | 7.14 b  |
|                    |                   | 12                   | —          | —          | 0.73 e     | 1.34 e     | 1.47 d     | 2.48 d     | 3.08 c     | 4.34 c           | —          | 0.29 e     | 1.22 d     | 1.82 d     | 2.13 c     | 3.31 c     | 4.06 b     | 5.55 b               | —          | 0.46 d     | 1.33 c     | 2.25 c     | 2.84 b     | 3.68 b     | 5.12 a     | 6.79 a  |
|                    | 16                | 16                   | —          | —          | 0.09 e     | 0.75 e     | 0.76 e     | 1.87 e     | 2.28 d     | 3.64 d           | —          | —          | 0.51 e     | 1.15 e     | 1.35 d     | 2.64 d     | 3.20 c     | 4.79 c               | —          | —          | 0.50 d     | 1.48 d     | 2.01 d     | 2.87 d     | 4.21 b     | 5.99 b  |
|                    |                   | 24                   | —          | —          | —          | —          | —          | 0.81 f     | 0.88 e     | 2.42 e           | —          | —          | —          | —          | —          | 1.47 e     | 1.68 e     | 3.46 e               | —          | —          | —          | 0.15 e     | 0.56 e     | 1.44 e     | 2.59 d     | 4.57 d  |
|                    | 18                | 12                   | —          | —          | 0.03 f     | 0.57 f     | 0.58 e     | 1.46 e     | 1.85 d     | 2.85 d           | —          | —          | 0.39 e     | 0.88 e     | 1.08 e     | 2.06 e     | 2.62 d     | 3.77 d               | —          | —          | 0.37 e     | 1.15 e     | 1.63 d     | 2.24 d     | 3.48 c     | 4.75 c  |
|                    |                   | 16                   | —          | —          | —          | —          | —          | 0.87 f     | 1.04 e     | 2.17 e           | —          | —          | —          | 0.23 f     | 0.29 e     | 1.41 e     | 1.73 e     | 3.03 e               | —          | —          | —          | 0.40 f     | 0.79 e     | 1.45 e     | 2.53 d     | 3.95 d  |
|                    | 24                | —                    | —          | —          | —          | —          | —          | —          | 1.01 f     | —                | —          | —          | —          | —          | 0.30 f     | 0.21 f     | 1.75 f     | —                    | —          | —          | —          | —          | 0.09 f     | 0.89 e     | 2.57 e     |         |

## Notes:

- 1 Studs are assumed to be simple span.
- 2 Axial loads are assumed to pass through the geometric centroid of the section.
- 3 Use 5psf tables for interior loads.
- 4 Cells marked with an a, b, c, d, e, or f meet L/720, L/600, L/480, L/360, L/240 or L/120 respectively. Blank cells do not meet L/120. For deflection calculations, lateral loads are multiplied by 0.7 per the 2004 AISI Standard for Cold-Formed Steel Framing-Wall Stud Design except for the 5psf load which is considered an interior wall load.
- 5 A 1/3 stress increase is not used.
- 6 Provide bridging and/or bracing at 48" o.c. Allowable loads are based on weak axis and torsional bracing at 48" o.c. for axial load, and continuous support of each flange for moment.
- 7 Capacities are calculated according to the the AISI-NASPEC, 2001 with 2004 supplement. A 1-1/2" by 4" knockout spaced no closer than 24" o.c. is assumed for standard studs.
- 8 Cells marked with an "\*" have h/t > 200 and thus require bearing stiffeners. Cells are left blank when h/t > 260.

Complies with IBC 2006 &amp; AISI-NASPEC, 2001 with 2004 supplement

# ALLOWABLE COMBINED AXIAL & LATERAL LOADS

(Kips/Stud)

| Wind = 40psf       |                   | S162 (1-5/8" Flange) |            |            |            |            |            |            |            | S200 (2" Flange) |            |            |            |            |            |            |            | S250 (2-1/2" Flange) |            |            |            |            |            |            |            |         |
|--------------------|-------------------|----------------------|------------|------------|------------|------------|------------|------------|------------|------------------|------------|------------|------------|------------|------------|------------|------------|----------------------|------------|------------|------------|------------|------------|------------|------------|---------|
| Stud length (feet) | Spacing (in) o.c. | -33 (20ga)           | -43 (18ga) | -54 (16ga) | -54 (16ga) | -68 (14ga) | -68 (14ga) | -97 (12ga) | -97 (12ga) | -33 (20ga)       | -43 (18ga) | -54 (16ga) | -54 (16ga) | -68 (14ga) | -68 (14ga) | -97 (12ga) | -97 (12ga) | -33 (20ga)           | -43 (18ga) | -54 (16ga) | -54 (16ga) | -68 (14ga) | -68 (14ga) | -97 (12ga) | -97 (12ga) |         |
|                    |                   | 33ksi                | 33ksi      | 33ksi      | 50ksi      | 33ksi      | 50ksi      | 33ksi      | 50ksi      | 33ksi            | 33ksi      | 33ksi      | 50ksi      | 33ksi      | 50ksi      | 33ksi      | 50ksi      | 33ksi                | 33ksi      | 33ksi      | 50ksi      | 33ksi      | 50ksi      | 33ksi      | 50ksi      |         |
| 6" Stud            | 8                 | 12                   | 1.66 a     | 2.66 a     | 3.75 a     | 4.94 a     | 5.22 a     | 6.74 a     | 8.51 a     | 10.68 a          | 1.97 a     | 3.39 a     | 4.86 a     | 6.54 a     | 6.74 a     | 9.11 a     | 11.01 a    | 14.67 a              | 2.18 a     | 3.72 a     | 5.36 a     | 6.76 a     | 7.88 a     | 10.03 a    | 12.79 a    | 17.23 a |
|                    |                   | 16                   | 1.37 a     | 2.38 a     | 3.45 a     | 4.68 a     | 4.90 a     | 6.47 a     | 8.16 a     | 10.38 a          | 1.65 a     | 3.04 a     | 4.53 a     | 6.19 a     | 6.38 a     | 8.78 a     | 10.61 a    | 14.31 a              | 1.85 a     | 3.36 a     | 4.97 a     | 6.42 a     | 7.50 a     | 9.64 a     | 12.39 a    | 16.84 a |
|                    |                   | 24                   | 0.81 a     | 1.83 a     | 2.87 a     | 4.17 a     | 4.28 a     | 5.95 a     | 7.48 a     | 9.81 a           | 1.03 a     | 2.37 a     | 3.88 a     | 5.50 a     | 5.68 a     | 8.13 a     | 9.83 a     | 13.60 a              | 1.20 a     | 2.67 a     | 4.21 a     | 5.75 a     | 6.75 a     | 8.88 a     | 11.59 a    | 16.07 a |
|                    | 9                 | 12                   | 1.42 a     | 2.42 a     | 3.49 a     | 4.70 a     | 4.94 a     | 6.49 a     | 8.19 a     | 10.40 a          | 1.69 a     | 3.06 a     | 4.53 a     | 6.13 a     | 6.37 a     | 8.68 a     | 10.55 a    | 14.13 a              | 1.89 a     | 3.38 a     | 4.99 a     | 6.37 a     | 7.48 a     | 9.53 a     | 12.29 a    | 16.57 a |
|                    |                   | 16                   | 1.06 a     | 2.07 a     | 3.11 a     | 4.37 a     | 4.54 a     | 6.15 a     | 7.75 a     | 10.02 a          | 1.30 a     | 2.63 a     | 4.11 a     | 5.69 a     | 5.92 a     | 8.27 a     | 10.05 a    | 13.67 a              | 1.48 a     | 2.94 a     | 4.51 a     | 5.95 a     | 7.00 a     | 9.04 a     | 11.77 a    | 16.07 a |
|                    |                   | 24                   | 0.37 b     | 1.39 a     | 2.38 a     | 3.73 a     | 3.75 a     | 5.48 a     | 6.88 a     | 9.28 a           | 0.54 a     | 1.80 a     | 3.30 a     | 4.83 a     | 5.04 a     | 7.46 a     | 9.06 a     | 12.76 a              | 0.69 a     | 2.09 a     | 3.56 a     | 5.12 a     | 6.07 a     | 8.09 a     | 10.76 a    | 15.09 a |
|                    | 10                | 12                   | 1.14 a     | 2.15 a     | 3.19 a     | 4.43 a     | 4.62 a     | 6.21 a     | 7.83 a     | 10.07 a          | 1.39 a     | 2.70 a     | 4.15 a     | 5.67 a     | 5.94 a     | 8.19 a     | 10.02 a    | 13.49 a              | 1.57 a     | 3.02 a     | 4.57 a     | 5.94 a     | 7.03 a     | 8.97 a     | 11.70 a    | 15.80 a |
|                    |                   | 16                   | 0.72 a     | 1.72 a     | 2.74 a     | 4.03 a     | 4.12 a     | 5.78 a     | 7.27 a     | 9.60 a           | 0.92 a     | 2.19 a     | 3.65 a     | 5.14 a     | 5.39 a     | 7.68 a     | 9.40 a     | 12.91 a              | 1.08 a     | 2.48 a     | 3.97 a     | 5.42 a     | 6.44 a     | 8.37 a     | 11.06 a    | 15.18 a |
|                    |                   | 24                   | —          | 0.91 b     | 1.86 a     | 3.24 a     | 3.17 a     | 4.95 a     | 6.20 a     | 8.67 a           | 0.03 c     | 1.21 a     | 2.67 a     | 4.11 a     | 4.33 a     | 6.70 a     | 8.19 a     | 11.81 a              | 0.15 b     | 1.46 a     | 2.84 a     | 4.42 a     | 5.31 a     | 7.22 a     | 9.82 a     | 13.98 a |
|                    | 12                | 12                   | 0.55 c     | 1.51 a     | 2.50 a     | 3.75 a     | 3.86 a     | 5.51 a     | 6.94 a     | 9.25 a           | 0.73 b     | 1.90 a     | 3.30 a     | 4.61 a     | 4.94 a     | 7.02 a     | 8.73 a     | 11.91 a              | 0.87 a     | 2.20 a     | 3.59 a     | 4.94 a     | 5.91 a     | 7.66 a     | 10.29 a    | 13.95 a |
|                    |                   | 16                   | —          | 0.95 c     | 1.88 b     | 3.19 b     | 3.18 a     | 4.90 a     | 6.15 a     | 8.55 a           | 0.12 c     | 1.23 b     | 2.62 a     | 3.91 a     | 4.20 a     | 6.32 a     | 7.87 a     | 11.11 a              | 0.24 c     | 1.49 a     | 2.80 a     | 4.24 a     | 5.11 a     | 6.84 a     | 9.41 a     | 13.09 a |
|                    |                   | 24                   | —          | —          | 0.72 d     | 2.14 d     | 1.90 c     | 3.76 c     | 4.67 a     | 7.23 a           | —          | —          | 1.36 c     | 2.60 c     | 2.81 b     | 5.03 b     | 6.25 a     | 9.60 a               | —          | 0.19 c     | 1.32 b     | 2.93 b     | 3.62 a     | 5.33 a     | 7.73 a     | 11.46 a |
|                    | 14                | 12                   | —          | 0.84 d     | 1.70 c     | 2.88 c     | 2.92 a     | 4.48 a     | 5.83 a     | 8.11 a           | 0.07 d     | 1.08 c     | 2.37 b     | 3.48 b     | 3.83 a     | 5.69 a     | 7.24 a     | 10.03 a              | 0.18 d     | 1.34 b     | 2.55 a     | 3.86 a     | 4.67 a     | 6.20 a     | 8.67 a     | 11.81 a |
|                    |                   | 16                   | —          | 0.17 e     | 0.96 d     | 2.21 d     | 2.08 c     | 3.73 c     | 4.82 a     | 7.20 a           | —          | 0.30 d     | 1.56 c     | 2.65 c     | 2.93 b     | 4.85 b     | 6.17 a     | 9.04 a               | —          | 0.50 d     | 1.59 c     | 3.01 c     | 3.70 a     | 5.22 a     | 7.56 a     | 10.74 a |
|                    |                   | 24                   | —          | —          | —          | 1.00 e     | 0.57 d     | 2.38 d     | 3.00 c     | 5.55 c           | —          | —          | 0.10 e     | 1.16 e     | 1.29 d     | 3.34 d     | 4.22 c     | 7.25 c               | —          | —          | —          | 1.48 d     | 1.93 c     | 3.44 c     | 5.52 b     | 8.78 b  |
| 8" Stud            | 8                 | 12                   | 1.80 a*    | 2.76 a     | 3.89 a     | 4.92 a     | 5.42 a     | 6.73 a     | 9.02 a     | 10.86 a          | 2.28 a*    | 3.86 a     | 5.37 a     | 7.14 a     | 7.33 a     | 9.73 a     | 11.84 a    | 15.41 a              | 2.55 a*    | 4.24 a     | 5.99 a     | 7.55 a     | 8.71 a     | 11.11 a    | 14.29 a    | 19.06 a |
|                    |                   | 16                   | 1.57 a*    | 2.54 a     | 3.66 a     | 4.72 a     | 5.18 a     | 6.53 a     | 8.79 a     | 10.68 a          | 2.03 a*    | 3.62 a     | 5.14 a     | 6.91 a     | 7.09 a     | 9.52 a     | 11.57 a    | 15.18 a              | 2.29 a*    | 3.98 a     | 5.72 a     | 7.30 a     | 8.44 a     | 10.85 a    | 14.01 a    | 18.79 a |
|                    |                   | 24                   | 1.11 a*    | 2.09 a     | 3.20 a     | 4.32 a     | 4.71 a     | 6.14 a     | 8.35 a     | 10.32 a          | 1.54 a*    | 3.15 a     | 4.69 a     | 6.44 a     | 6.61 a     | 9.09 a     | 11.05 a    | 14.72 a              | 1.77 a*    | 3.48 a     | 5.19 a     | 6.82 a     | 7.92 a     | 10.32 a    | 13.44 a    | 18.26 a |
|                    | 9                 | 12                   | 1.61 a*    | 2.58 a     | 3.70 a     | 4.75 a     | 5.22 a     | 6.56 a     | 8.83 a     | 10.70 a          | 2.07 a*    | 3.66 a     | 5.18 a     | 6.94 a     | 7.12 a     | 9.54 a     | 11.61 a    | 15.21 a              | 2.32 a*    | 4.01 a     | 5.75 a     | 7.31 a     | 8.46 a     | 10.84 a    | 13.99 a    | 18.74 a |
|                    |                   | 16                   | 1.32 a*    | 2.29 a     | 3.41 a     | 4.49 a     | 4.92 a     | 6.31 a     | 8.54 a     | 10.47 a          | 1.76 a*    | 3.36 a     | 4.89 a     | 6.64 a     | 6.82 a     | 9.27 a     | 11.27 a    | 14.91 a              | 2.00 a*    | 3.69 a     | 5.41 a     | 7.00 a     | 8.12 a     | 10.50 a    | 13.63 a    | 18.40 a |
|                    |                   | 24                   | 0.75 a*    | 1.73 a     | 2.83 a     | 3.99 a     | 4.32 a     | 5.81 a     | 7.98 a     | 10.01 a          | 1.14 a*    | 2.77 a     | 4.32 a     | 6.04 a     | 6.22 a     | 8.72 a     | 10.61 a    | 14.32 a              | 1.35 a*    | 3.05 a     | 4.74 a     | 6.38 a     | 7.46 a     | 9.84 a     | 12.91 a    | 17.72 a |
|                    | 10                | 12                   | 1.40 a*    | 2.37 a     | 3.48 a     | 4.55 a     | 4.99 a     | 6.37 a     | 8.61 a     | 10.52 a          | 1.84 a*    | 3.44 a     | 4.96 a     | 6.70 a     | 6.89 a     | 9.33 a     | 11.35 a    | 14.97 a              | 2.08 a*    | 3.76 a     | 5.48 a     | 7.03 a     | 8.17 a     | 10.53 a    | 13.64 a    | 18.37 a |
|                    |                   | 16                   | 1.04 a*    | 2.02 a     | 3.12 a     | 4.24 a     | 4.62 a     | 6.05 a     | 8.25 a     | 10.23 a          | 1.46 a*    | 3.07 a     | 4.60 a     | 6.33 a     | 6.52 a     | 8.98 a     | 10.93 a    | 14.60 a              | 1.68 a*    | 3.36 a     | 5.06 a     | 6.64 a     | 7.76 a     | 10.11 a    | 13.19 a    | 17.94 a |
|                    |                   | 24                   | 0.35 a*    | 1.34 a     | 2.42 a     | 3.62 a     | 3.88 a     | 5.43 a     | 7.55 a     | 9.66 a           | 0.71 a*    | 2.34 a     | 3.91 a     | 5.59 a     | 5.77 a     | 8.31 a     | 10.10 a    | 13.86 a              | 0.90 a*    | 2.58 a     | 4.24 a     | 5.89 a     | 6.95 a     | 9.28 a     | 12.30 a    | 17.09 a |
|                    | 12                | 12                   | 0.92 a*    | 1.88 a     | 2.97 a     | 4.10 a     | 4.45 a     | 5.90 a     | 8.09 a     | 10.09 a          | 1.32 a*    | 2.91 a     | 4.45 a     | 6.14 a     | 6.34 a     | 8.80 a     | 10.72 a    | 14.38 a              | 1.51 a*    | 3.17 a     | 4.84 a     | 6.36 a     | 7.49 a     | 9.76 a     | 12.78 a    | 17.43 a |
|                    |                   | 16                   | 0.43 a*    | 1.39 a     | 2.46 a     | 3.64 a     | 3.92 a     | 5.44 a     | 7.57 a     | 9.66 a           | 0.78 a*    | 2.39 a     | 3.94 a     | 5.60 a     | 5.79 a     | 8.30 a     | 10.11 a    | 13.83 a              | 0.96 a*    | 2.61 a     | 4.25 a     | 5.81 a     | 6.90 a     | 9.16 a     | 12.12 a    | 16.80 a |
|                    |                   | 24                   | —          | 0.45 a     | 1.48 a     | 2.76 a     | 2.88 a     | 4.55 a     | 6.55 a     | 8.82 a           | —          | 1.38 a     | 2.95 a     | 4.54 a     | 4.73 a     | 7.31 a     | 8.91 a     | 12.74 a              | —          | 1.54 a     | 3.09 a     | 4.75 a     | 5.74 a     | 7.98 a     | 10.84 a    | 15.56 a |
|                    | 14                | 12                   | 0.38 b*    | 1.33 a     | 2.38 a     | 3.55 a     | 3.81 a     | 5.33 a     | 7.44 a     | 9.53 a           | 0.71 a*    | 2.27 a     | 3.80 a     | 5.38 a     | 5.64 a     | 8.09 a     | 9.94 a     | 13.63 a              | 0.88 a*    | 2.48 a     | 4.09 a     | 5.55 a     | 6.66 a     | 8.77 a     | 11.69 a    | 16.11 a |
|                    |                   | 16                   | —          | 0.69 b     | 1.71 a     | 2.94 a     | 3.10 a     | 4.71 a     | 6.73 a     | 8.94 a           | 0.04 b*    | 1.59 a     | 3.13 a     | 4.66 a     | 4.91 a     | 7.40 a     | 9.10 a     | 12.85 a              | 0.18 b*    | 1.76 a     | 3.31 a     | 4.84 a     | 5.87 a     | 7.97 a     | 10.81 a    | 15.25 a |
|                    |                   | 24                   | —          | —          | 0.44 c     | 1.79 c     | 1.74 a     | 3.53 a     | 5.38 a     | 7.80 a           | —          | 0.32 c     | 1.85 b     | 3.30 b     | 3.51 a     | 6.09 a     | 7.48 a     | 11.36 a              | —          | 0.40 b     | 1.82 a     | 3.47 a     | 4.36 a     | 6.43 a     | 9.12 a     | 13.60 a |

## Notes:

- 1 Studs are assumed to be simple span.
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- 3 Use 5psf tables for interior loads.
- 4 Cells marked with an a, b, c, d, e, or f meet L/720, L/600, L/480, L/360, L/240 or L/120 respectively. Blank cells do not meet L/120. For deflection calculations, lateral loads are multiplied by 0.7 per the 2004 AISI Standard for Cold-Formed Steel Framing-Wall Stud Design except for the 5psf load which is considered an interior wall load.
- 5 A 1/3 stress increase is not used.
- 6 Provide bridging and/or bracing at 48" o.c. Allowable loads are based on weak axis and torsional bracing at 48" o.c. for axial load, and continuous support of each flange for moment.
- 7 Capacities are calculated according to the the AISI-NASPEC, 2001 with 2004 supplement. A 1-1/2" by 4" knockout spaced no closer than 24" o.c. is assumed for standard studs.
- 8 Cells marked with an "\*" have h/t > 200 and thus require bearing stiffeners. Cells are left blank when h/t > 260.

Complies with IBC 2006 & AISI-NASPEC, 2001 with 2004 supplement

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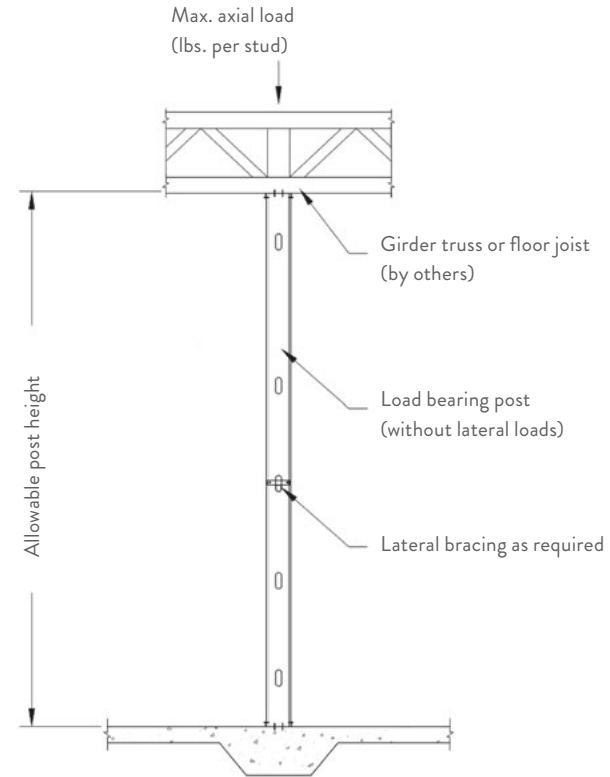
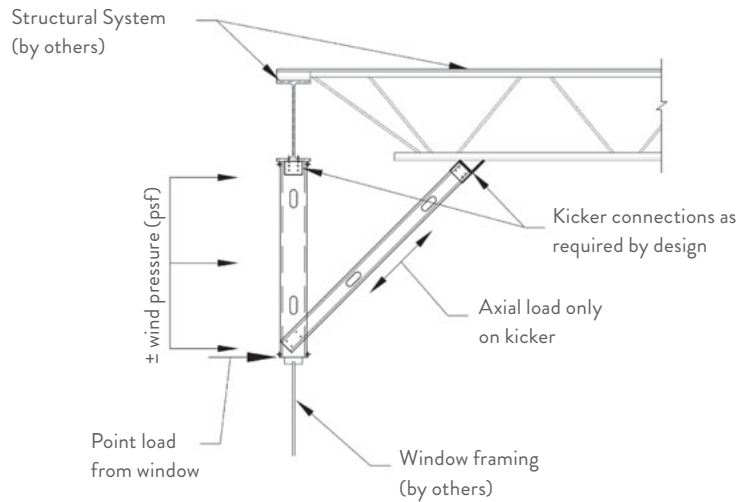
The technical content of this literature is effective 2/1/12 and supersedes all previous information.

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## Allowable Unbraced Axial Loads

### Pure axial load table notes:

- 1 Allowable loads are expressed in kips.
- 2 Allowable axial loads do not include a 1/3 allowable stress increase.
- 3 Allowable axial loads are based upon punched webs. Punchout is a 4" long by 1-1/2" high oval.
- 4 Allowable axial loads are based upon concentric (i.e., no eccentricity) axial loading.
- 5 The lengths indicated are for unbraced lengths. The addition of intermediate bracing may increase the allowable axial loads.



# ALLOWABLE UNBRACED AXIAL LOADS

Based on length (Kips)

|             | Member     | Fy (ksi) | Unbraced Length (ft) |       |       |       |       |       |       |       |      |      |      |      |      |      |      |      |      |        |        |        |        |        |        |
|-------------|------------|----------|----------------------|-------|-------|-------|-------|-------|-------|-------|------|------|------|------|------|------|------|------|------|--------|--------|--------|--------|--------|--------|
|             |            |          | 1                    | 1.5   | 2     | 2.5   | 3     | 3.5   | 4     | 5     | 6    | 7    | 8    | 9    | 10   | 11   | 12   | 13   | 14   | 15     | 16     | 17     | 18     | 19     | 20     |
| 3-5/8" Stud | 362S162-33 | 33       | 3.13                 | 3.05  | 2.95  | 2.82  | 2.67  | 2.49  | 2.29  | 1.86  | 1.47 | 1.13 | 0.91 | 0.75 | 0.63 | 0.54 | 0.46 | 0.41 | 0.37 | 0.33   | 0.30 * | 0.28 * | 0.25 * | 0.22 * | 0.20 * |
|             | 362S162-43 | 33       | 4.43                 | 4.30  | 4.12  | 3.90  | 3.66  | 3.40  | 3.13  | 2.57  | 2.06 | 1.60 | 1.27 | 1.05 | 0.89 | 0.77 | 0.68 | 0.59 | 0.51 | 0.45   | 0.39 * | 0.35 * | 0.31 * | 0.28 * | 0.25 * |
|             | 362S162-54 | 33       | 5.77                 | 5.59  | 5.36  | 5.09  | 4.78  | 4.44  | 4.10  | 3.39  | 2.71 | 2.13 | 1.73 | 1.45 | 1.21 | 1.00 | 0.84 | 0.72 | 0.62 | 0.54   | 0.47 * | 0.42 * | 0.37 * | 0.34 * | 0.30 * |
|             | 362S162-54 | 50       | 8.00                 | 7.75  | 7.44  | 6.87  | 6.25  | 5.60  | 4.96  | 3.76  | 2.75 | 2.13 | 1.73 | 1.45 | 1.21 | 1.00 | 0.84 | 0.72 | 0.62 | 0.54   | 0.47 * | 0.42 * | 0.37 * | 0.34 * | 0.30 * |
|             | 362S162-68 | 33       | 7.43                 | 7.19  | 6.87  | 6.49  | 6.08  | 5.64  | 5.19  | 4.34  | 3.58 | 2.94 | 2.28 | 1.80 | 1.46 | 1.20 | 1.01 | 0.86 | 0.74 | 0.65 * | 0.57 * | 0.50 * | 0.45 * | 0.40 * | 0.36 * |
|             | 362S162-68 | 50       | 10.78                | 10.30 | 9.67  | 8.94  | 8.15  | 7.31  | 6.45  | 4.92  | 3.70 | 2.94 | 2.28 | 1.80 | 1.46 | 1.20 | 1.01 | 0.86 | 0.74 | 0.65 * | 0.57 * | 0.50 * | 0.45 * | 0.40 * | 0.36 * |
|             | 362S162-97 | 33       | 10.28                | 9.95  | 9.52  | 9.03  | 8.51  | 7.99  | 7.47  | 6.35  | 5.08 | 3.89 | 2.98 | 2.36 | 1.91 | 1.58 | 1.32 | 1.13 | 0.97 | 0.85 * | 0.75 * | 0.66 * | 0.59 * | 0.53 * | 0.48   |
|             | 362S162-97 | 50       | 15.35                | 14.61 | 13.67 | 12.63 | 11.54 | 10.48 | 9.47  | 7.41  | 5.30 | 3.89 | 2.98 | 2.36 | 1.91 | 1.58 | 1.32 | 1.13 | 0.97 | 0.85 * | 0.75 * | 0.66 * | 0.59 * | 0.53 * | 0.48 * |
|             | 362S200-33 | 33       | 3.36                 | 3.30  | 3.21  | 3.10  | 2.98  | 2.84  | 2.68  | 2.33  | 1.95 | 1.53 | 1.21 | 0.99 | 0.82 | 0.69 | 0.59 | 0.52 | 0.46 | 0.41   | 0.37   | 0.33   | 0.31   | 0.28   | 0.26 * |
|             | 362S200-43 | 33       | 5.12                 | 5.01  | 4.87  | 4.68  | 4.47  | 4.19  | 3.89  | 3.28  | 2.67 | 2.11 | 1.66 | 1.35 | 1.12 | 0.96 | 0.83 | 0.73 | 0.65 | 0.59   | 0.54   | 0.49   | 0.46   | 0.43   | 0.40 * |
|             | 362S200-54 | 33       | 6.80                 | 6.63  | 6.40  | 6.12  | 5.79  | 5.44  | 5.06  | 4.28  | 3.47 | 2.75 | 2.18 | 1.79 | 1.51 | 1.31 | 1.15 | 1.03 | 0.93 | 0.85   | 0.78   | 0.73   | 0.68   | 0.62   | 0.56 * |
|             | 362S200-54 | 50       | 8.79                 | 8.63  | 8.42  | 8.13  | 7.70  | 7.03  | 6.31  | 4.90  | 3.62 | 2.75 | 2.18 | 1.79 | 1.51 | 1.31 | 1.15 | 1.03 | 0.93 | 0.85   | 0.78   | 0.73   | 0.68   | 0.62   | 0.56 * |
|             | 362S200-68 | 33       | 8.74                 | 8.50  | 8.18  | 7.80  | 7.36  | 6.89  | 6.39  | 5.40  | 4.46 | 3.63 | 2.94 | 2.46 | 2.11 | 1.85 | 1.65 | 1.50 | 1.37 | 1.21   | 1.06   | 0.94   | 0.84   | 0.75 * | 0.68 * |
|             | 362S200-68 | 50       | 12.42                | 12.10 | 11.63 | 10.87 | 10.02 | 9.12  | 8.14  | 6.30  | 4.72 | 3.64 | 2.94 | 2.46 | 2.11 | 1.85 | 1.65 | 1.50 | 1.37 | 1.21   | 1.06   | 0.94   | 0.84   | 0.75 * | 0.68 * |
|             | 362S200-97 | 33       | 12.15                | 11.81 | 11.38 | 10.86 | 10.28 | 9.67  | 9.05  | 7.84  | 6.74 | 5.79 | 4.99 | 4.31 | 3.63 | 3.00 | 2.52 | 2.15 | 1.85 | 1.61   | 1.42   | 1.26   | 1.12   | 1.01 * | 0.91 * |
|             | 362S200-97 | 50       | 18.19                | 17.44 | 16.47 | 15.34 | 14.13 | 12.88 | 11.65 | 9.37  | 7.46 | 5.97 | 4.99 | 4.31 | 3.63 | 3.00 | 2.52 | 2.15 | 1.85 | 1.61   | 1.42   | 1.26   | 1.12   | 1.01 * | 0.91 * |
|             | 362S250-43 | 33       | 5.25                 | 5.16  | 5.04  | 4.89  | 4.72  | 4.52  | 4.30  | 3.80  | 3.15 | 2.49 | 1.95 | 1.57 | 1.29 | 1.09 | 0.94 | 0.82 | 0.73 | 0.65   | 0.59   | 0.53   | 0.49   | 0.45   | 0.42   |
|             | 362S250-54 | 33       | 6.89                 | 6.76  | 6.64  | 6.48  | 6.31  | 6.06  | 5.75  | 4.98  | 4.05 | 3.20 | 2.51 | 2.04 | 1.70 | 1.45 | 1.26 | 1.11 | 1.00 | 0.90   | 0.82   | 0.75   | 0.70   | 0.65   | 0.61   |
|             | 362S250-54 | 50       | 9.01                 | 8.78  | 8.47  | 8.08  | 7.64  | 7.14  | 6.64  | 5.67  | 4.25 | 3.20 | 2.51 | 2.04 | 1.70 | 1.45 | 1.26 | 1.11 | 1.00 | 0.90   | 0.82   | 0.75   | 0.70   | 0.65   | 0.61   |
|             | 362S250-68 | 33       | 9.54                 | 9.34  | 9.07  | 8.75  | 8.39  | 7.98  | 7.41  | 6.26  | 5.15 | 4.14 | 3.30 | 2.72 | 2.30 | 1.99 | 1.75 | 1.56 | 1.42 | 1.29   | 1.19   | 1.11   | 1.04   | 0.97   | 0.92   |
|             | 362S250-68 | 50       | 12.43                | 12.15 | 11.77 | 11.31 | 10.79 | 9.99  | 9.13  | 7.35  | 5.46 | 4.15 | 3.30 | 2.72 | 2.30 | 1.99 | 1.75 | 1.56 | 1.42 | 1.29   | 1.19   | 1.11   | 1.04   | 0.97   | 0.92   |
|             | 362S250-97 | 33       | 13.99                | 13.62 | 13.14 | 12.55 | 11.89 | 11.19 | 10.45 | 8.98  | 7.60 | 6.38 | 5.32 | 4.51 | 3.92 | 3.47 | 3.13 | 2.85 | 2.63 | 2.44   | 2.28   | 2.14   | 1.99   | 1.78   | 1.61   |
|             | 362S250-97 | 50       | 19.71                | 19.06 | 18.22 | 17.28 | 16.33 | 14.94 | 13.48 | 10.71 | 8.31 | 6.50 | 5.32 | 4.51 | 3.92 | 3.47 | 3.13 | 2.85 | 2.63 | 2.44   | 2.28   | 2.14   | 1.99   | 1.78   | 1.61   |
| 4" Stud     | 400S162-33 | 33       | 3.15                 | 3.08  | 2.99  | 2.87  | 2.73  | 2.57  | 2.38  | 1.98  | 1.59 | 1.25 | 1.00 | 0.83 | 0.70 | 0.61 | 0.53 | 0.47 | 0.41 | 0.37   | 0.32 * | 0.29 * | 0.26 * | 0.23 * | 0.21 * |
|             | 400S162-43 | 33       | 4.48                 | 4.36  | 4.20  | 4.00  | 3.78  | 3.53  | 3.27  | 2.74  | 2.23 | 1.78 | 1.44 | 1.20 | 1.01 | 0.87 | 0.73 | 0.62 | 0.53 | 0.47   | 0.41 * | 0.36 * | 0.32 * | 0.29 * | 0.26 * |
|             | 400S162-54 | 33       | 5.87                 | 5.71  | 5.50  | 5.25  | 4.96  | 4.65  | 4.32  | 3.65  | 3.02 | 2.43 | 1.96 | 1.57 | 1.27 | 1.05 | 0.88 | 0.75 | 0.65 | 0.56 * | 0.50 * | 0.44 * | 0.39 * | 0.35 * | 0.32 * |
|             | 400S162-54 | 50       | 8.11                 | 7.88  | 7.60  | 7.10  | 6.52  | 5.90  | 5.28  | 4.10  | 3.11 | 2.43 | 1.96 | 1.57 | 1.27 | 1.05 | 0.88 | 0.75 | 0.65 | 0.56 * | 0.50 * | 0.44 * | 0.39 * | 0.35 * | 0.32 * |
|             | 400S162-68 | 33       | 7.68                 | 7.47  | 7.20  | 6.87  | 6.50  | 6.10  | 5.69  | 4.81  | 4.00 | 3.11 | 2.38 | 1.88 | 1.53 | 1.26 | 1.06 | 0.90 | 0.78 | 0.68 * | 0.60 * | 0.53 * | 0.47 * | 0.42 * | 0.38 * |
|             | 400S162-68 | 50       | 11.02                | 10.58 | 10.00 | 9.32  | 8.57  | 7.80  | 7.03  | 5.56  | 4.21 | 3.11 | 2.38 | 1.88 | 1.53 | 1.26 | 1.06 | 0.90 | 0.78 | 0.68 * | 0.60 * | 0.53 * | 0.47 * | 0.42 * | 0.38 * |
|             | 400S162-97 | 33       | 10.98                | 10.66 | 10.24 | 9.75  | 9.22  | 8.68  | 8.09  | 6.72  | 5.35 | 4.08 | 3.12 | 2.47 | 2.00 | 1.65 | 1.39 | 1.18 | 1.02 | 0.89 * | 0.78 * | 0.69 * | 0.62 * | 0.55 * | 0.50 * |
|             | 400S162-97 | 50       | 16.43                | 15.70 | 14.77 | 13.72 | 12.61 | 11.50 | 10.34 | 7.80  | 5.55 | 4.08 | 3.12 | 2.47 | 2.00 | 1.65 | 1.39 | 1.18 | 1.02 | 0.89 * | 0.78 * | 0.69 * | 0.62 * | 0.55 * | 0.50 * |
|             | 400S200-33 | 33       | 3.38                 | 3.33  | 3.25  | 3.16  | 3.04  | 2.92  | 2.77  | 2.45  | 2.10 | 1.71 | 1.36 | 1.11 | 0.93 | 0.79 | 0.69 | 0.60 | 0.53 | 0.47   | 0.42   | 0.38   | 0.35   | 0.32   | 0.30 * |
|             | 400S200-43 | 33       | 5.18                 | 5.08  | 4.95  | 4.78  | 4.59  | 4.35  | 4.07  | 3.50  | 2.92 | 2.37 | 1.90 | 1.57 | 1.31 | 1.11 | 0.96 | 0.84 | 0.75 | 0.68   | 0.61   | 0.56   | 0.52   | 0.48   | 0.45 * |
|             | 400S200-54 | 33       | 6.91                 | 6.76  | 6.55  | 6.30  | 6.00  | 5.67  | 5.32  | 4.59  | 3.86 | 3.18 | 2.54 | 2.08 | 1.75 | 1.50 | 1.32 | 1.17 | 1.06 | 0.96   | 0.88   | 0.81   | 0.73   | 0.65 * | 0.59 * |
|             | 400S200-54 | 50       | 8.90                 | 8.76  | 8.56  | 8.33  | 7.94  | 7.41  | 6.73  | 5.38  | 4.13 | 3.20 | 2.54 | 2.08 | 1.75 | 1.50 | 1.32 | 1.17 | 1.06 | 0.96   | 0.88   | 0.81   | 0.73   | 0.65 * | 0.59 * |
|             | 400S200-68 | 33       | 8.99                 | 8.79  | 8.52  | 8.19  | 7.81  | 7.39  | 6.94  | 5.98  | 5.02 | 4.15 | 3.39 | 2.82 | 2.41 | 2.11 | 1.88 | 1.69 | 1.45 | 1.27   | 1.11   | 0.99   | 0.88   | 0.79 * | 0.71 * |
|             | 400S200-68 | 50       | 12.65                | 12.37 | 11.99 | 11.30 | 10.51 | 9.68  | 8.82  | 7.12  | 5.49 | 4.22 | 3.39 | 2.82 | 2.41 | 2.11 | 1.88 | 1.69 | 1.45 | 1.27   | 1.11   | 0.99   | 0.88   | 0.79 * | 0.71 * |
|             | 400S200-97 | 33       | 12.86                | 12.55 | 12.13 | 11.63 | 11.07 | 10.47 | 9.86  | 8.63  | 7.49 | 6.49 | 5.62 | 4.69 | 3.80 | 3.14 | 2.64 | 2.25 | 1.94 | 1.69   | 1.48   | 1.31   | 1.17   | 1.05 * | 0.95 * |
|             | 400S200-97 | 50       | 19.29                | 18.58 | 17.65 | 16.56 | 15.37 | 14.12 | 12.88 | 10.54 | 8.50 | 6.84 | 5.69 | 4.69 | 3.80 | 3.14 | 2.64 | 2.25 | 1.94 | 1.69   | 1.48   | 1.31   | 1.17   | 1.05 * | 0.95 * |
|             | 400S250-43 | 33       | 5.30                 | 5.23  | 5.12  | 4.99  | 4.84  | 4.66  | 4.46  | 4.02  | 3.47 | 2.83 | 2.27 | 1.85 | 1.53 | 1.29 | 1.11 | 0.97 | 0.85 | 0.76   | 0.68   | 0.62   | 0.57   | 0.52   | 0.49   |
|             | 400S250-54 | 33       | 6.99                 | 6.88  | 6.77  | 6.63  | 6.47  | 6.30  | 6.01  | 5.38  | 4.54 | 3.74 | 2.98 | 2.41 | 2.01 | 1.71 | 1.48 | 1.30 | 1.16 | 1.04   | 0.95   | 0.87   | 0.80   | 0.75   | 0.70   |
|             | 400S250-54 | 50       | 9.13                 | 8.93  | 8.65  | 8.31  | 7.92  | 7.47  | 6.99  | 6.15  | 4.94 | 3.79 | 2.98 | 2.41 | 2.01 | 1.71 | 1.48 | 1.30 | 1.16 | 1.04   | 0.95   | 0.87   | 0.80   | 0.75   | 0.70   |
|             | 400S250-68 | 33       | 9.78                 | 9.62  | 9.40  | 9.13  | 8.83  | 8.51  | 8.04  | 6.96  | 5.85 | 4.82 | 3.90 | 3.19 | 2.69 | 2.32 | 2.03 | 1.81 | 1.63 | 1.49   | 1.37   | 1.27   | 1.18   | 1.11   | 1.05   |
|             | 400S250-68 | 50       | 12.66                | 12.41 | 12.08 | 11.68 | 11.21 | 10.58 | 9.81  | 8.37  | 6.48 | 4.92 | 3.90 | 3.19 | 2.69 | 2.32 | 2.03 | 1.81 | 1.63 | 1.49   | 1.37   | 1.27   | 1.18   | 1.11   | 1.05   |
|             | 400S250-97 | 33       | 14.71                | 14.38 | 13.93 | 13.39 | 12.77 | 12.09 | 11.38 | 9.94  | 8.54 | 7.28 | 6.17 | 5.22 | 4.52 | 3.99 | 3.58 | 3.26 | 3.00 | 2.78   | 2.60   | 2.33   | 2.07   | 1.86   | 1.68   |
|             | 400S250-97 | 50       | 20.81                | 20.20 | 19.41 | 18.50 | 17.54 | 16.40 | 14.97 | 12.18 | 9.69 | 7.62 | 6.20 | 5.22 | 4.52 | 3.99 | 3.58 | 3.26 | 3.00 | 2.78   | 2.60   | 2.33   | 2.07   | 1.86   | 1.68   |

## Notes:

- Values marked with " \* " indicate the KL/r > 300.
- Values marked with "ws" indicate that h/t > 200. This indicates that web stiffeners are required to prevent web crippling at points of concentrated loads.
- Capacities are calculated per AISI-NASPEC, 2001 with 2004 supplement.

Complies with IBC 2006 & AISI-NASPEC, 2001 with 2004 supplement

## ALLOWABLE UNBRACED AXIAL LOADS

Based on length (Kips)

|         | Member     | Fy (ksi) | Unbraced Length (ft) |       |       |       |       |       |       |       |       |       |       |      |      |      |      |      |        |        |        |        |        |        |        |
|---------|------------|----------|----------------------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|------|------|------|------|------|--------|--------|--------|--------|--------|--------|--------|
|         |            |          | 1                    | 1.5   | 2     | 2.5   | 3     | 3.5   | 4     | 5     | 6     | 7     | 8     | 9    | 10   | 11   | 12   | 13   | 14     | 15     | 16     | 17     | 18     | 19     | 20     |
| 6" Stud | 600S162-33 | 33       | 3.21                 | 3.15  | 3.07  | 2.97  | 2.85  | 2.72  | 2.56  | 2.18  | 1.80  | 1.43  | 1.14  | 0.93 | 0.78 | 0.66 | 0.57 | 0.50 | 0.44   | 0.39 * | 0.35 * | 0.32 * | 0.29 * | 0.26 * | 0.24 * |
|         | 600S162-43 | 33       | 4.60                 | 4.50  | 4.36  | 4.19  | 3.99  | 3.76  | 3.52  | 3.00  | 2.47  | 1.96  | 1.57  | 1.29 | 1.08 | 0.92 | 0.79 | 0.69 | 0.61   | 0.54 * | 0.48 * | 0.43 * | 0.38 * | 0.34 * | 0.31 * |
|         | 600S162-54 | 33       | 6.11                 | 5.97  | 5.78  | 5.55  | 5.28  | 4.98  | 4.66  | 3.97  | 3.26  | 2.58  | 2.07  | 1.69 | 1.42 | 1.21 | 1.04 | 0.89 | 0.77   | 0.67 * | 0.59 * | 0.52 * | 0.47 * | 0.42 * | 0.38 * |
|         | 600S162-54 | 50       | 8.36                 | 8.16  | 7.90  | 7.50  | 6.95  | 6.35  | 5.73  | 4.48  | 3.35  | 2.58  | 2.07  | 1.69 | 1.42 | 1.21 | 1.04 | 0.89 | 0.77   | 0.67 * | 0.59 * | 0.52 * | 0.47 * | 0.42 * | 0.38 * |
|         | 600S162-68 | 33       | 8.16                 | 7.97  | 7.72  | 7.40  | 7.04  | 6.63  | 6.19  | 5.25  | 4.29  | 3.38  | 2.70  | 2.21 | 1.81 | 1.50 | 1.26 | 1.07 | 0.93   | 0.81 * | 0.71 * | 0.63 * | 0.56 * | 0.50 * | 0.45 * |
|         | 600S162-68 | 50       | 11.52                | 11.12 | 10.58 | 9.93  | 9.19  | 8.39  | 7.56  | 5.88  | 4.39  | 3.38  | 2.70  | 2.21 | 1.81 | 1.50 | 1.26 | 1.07 | 0.93   | 0.81 * | 0.71 * | 0.63 * | 0.56 * | 0.50 * | 0.45 * |
|         | 600S162-97 | 33       | 12.81                | 12.50 | 12.08 | 11.57 | 10.96 | 10.29 | 9.57  | 8.02  | 6.45  | 4.87  | 3.73  | 2.94 | 2.38 | 1.97 | 1.66 | 1.41 | 1.22 * | 1.06 * | 0.93 * | 0.82 * | 0.74 * | 0.66 * | 0.60 * |
|         | 600S162-97 | 50       | 17.99                | 17.34 | 16.46 | 15.41 | 14.21 | 12.92 | 11.57 | 8.87  | 6.53  | 4.87  | 3.73  | 2.94 | 2.38 | 1.97 | 1.66 | 1.41 | 1.22 * | 1.06 * | 0.93 * | 0.82 * | 0.74 * | 0.66 * | 0.60 * |
|         | 600S200-33 | 33       | 3.44                 | 3.40  | 3.35  | 3.28  | 3.20  | 3.11  | 3.01  | 2.77  | 2.50  | 2.21  | 1.89  | 1.56 | 1.31 | 1.12 | 0.97 | 0.85 | 0.76   | 0.68   | 0.61   | 0.55   | 0.50   | 0.45 * | 0.41 * |
|         | 600S200-43 | 33       | 5.31                 | 5.24  | 5.15  | 5.03  | 4.89  | 4.73  | 4.54  | 4.09  | 3.60  | 3.11  | 2.64  | 2.21 | 1.86 | 1.59 | 1.37 | 1.19 | 1.05   | 0.93   | 0.84   | 0.75   | 0.68   | 0.62 * | 0.57 * |
|         | 600S200-54 | 33       | 7.17                 | 7.06  | 6.92  | 6.73  | 6.52  | 6.27  | 6.00  | 5.42  | 4.80  | 4.18  | 3.56  | 2.95 | 2.46 | 2.09 | 1.80 | 1.57 | 1.38   | 1.22   | 1.09   | 0.97   | 0.86   | 0.77 * | 0.70 * |
|         | 600S200-54 | 50       | 9.16                 | 9.05  | 8.92  | 8.75  | 8.55  | 8.23  | 7.85  | 6.71  | 5.58  | 4.51  | 3.62  | 2.95 | 2.46 | 2.09 | 1.80 | 1.57 | 1.38   | 1.22   | 1.09   | 0.97   | 0.86   | 0.77 * | 0.70 * |
|         | 600S200-68 | 33       | 9.50                 | 9.36  | 9.16  | 8.93  | 8.64  | 8.33  | 7.98  | 7.23  | 6.40  | 5.53  | 4.67  | 3.86 | 3.22 | 2.72 | 2.34 | 2.00 | 1.73   | 1.51   | 1.32   | 1.17   | 1.05   | 0.94 * | 0.85 * |
|         | 600S200-68 | 50       | 13.18                | 12.98 | 12.71 | 12.34 | 11.75 | 11.10 | 10.41 | 8.96  | 7.43  | 5.95  | 4.73  | 3.86 | 3.22 | 2.72 | 2.34 | 2.00 | 1.73   | 1.51   | 1.32   | 1.17   | 1.05   | 0.94 * | 0.85 * |
|         | 600S200-97 | 33       | 14.74                | 14.52 | 14.23 | 13.86 | 13.42 | 12.92 | 12.36 | 11.12 | 9.76  | 8.37  | 6.99  | 5.59 | 4.53 | 3.74 | 3.15 | 2.68 | 2.31   | 2.01   | 1.77   | 1.57   | 1.40 * | 1.25 * | 1.13 * |
|         | 600S200-97 | 50       | 20.96                | 20.49 | 19.86 | 19.09 | 18.18 | 17.16 | 16.05 | 13.67 | 11.23 | 8.88  | 7.03  | 5.59 | 4.53 | 3.74 | 3.15 | 2.68 | 2.31   | 2.01   | 1.77   | 1.57   | 1.40 * | 1.25 * | 1.13 * |
|         | 600S250-43 | 33       | 5.43                 | 5.38  | 5.32  | 5.24  | 5.14  | 5.02  | 4.89  | 4.59  | 4.25  | 3.87  | 3.38  | 2.89 | 2.43 | 2.07 | 1.80 | 1.58 | 1.41   | 1.26   | 1.14   | 1.04   | 0.96   | 0.88   | 0.82   |
|         | 600S250-54 | 33       | 7.24                 | 7.18  | 7.08  | 6.99  | 6.89  | 6.77  | 6.64  | 6.27  | 5.81  | 5.16  | 4.51  | 3.88 | 3.30 | 2.83 | 2.47 | 2.19 | 1.96   | 1.77   | 1.61   | 1.48   | 1.36   | 1.27   | 1.18   |
|         | 600S250-54 | 50       | 9.41                 | 9.28  | 9.11  | 8.89  | 8.63  | 8.34  | 8.01  | 7.27  | 6.63  | 5.83  | 4.75  | 3.91 | 3.30 | 2.83 | 2.47 | 2.19 | 1.96   | 1.77   | 1.61   | 1.48   | 1.36   | 1.27   | 1.18   |
|         | 600S250-68 | 33       | 10.29                | 10.19 | 10.05 | 9.87  | 9.67  | 9.44  | 9.19  | 8.57  | 7.74  | 6.90  | 6.07  | 5.29 | 4.55 | 3.94 | 3.46 | 3.09 | 2.78   | 2.53   | 2.30   | 2.05   | 1.82   | 1.64   | 1.48   |
|         | 600S250-68 | 50       | 13.19                | 13.04 | 12.83 | 12.57 | 12.25 | 11.90 | 11.52 | 10.37 | 9.21  | 7.85  | 6.45  | 5.36 | 4.55 | 3.94 | 3.46 | 3.09 | 2.78   | 2.53   | 2.30   | 2.05   | 1.82   | 1.64   | 1.48   |
|         | 600S250-97 | 33       | 16.62                | 16.41 | 16.13 | 15.78 | 15.36 | 14.90 | 14.38 | 13.27 | 12.09 | 10.90 | 9.76  | 8.69 | 7.70 | 6.60 | 5.55 | 4.73 | 4.08   | 3.55   | 3.12   | 2.76   | 2.47   | 2.21   | 2.00   |
|         | 600S250-97 | 50       | 22.49                | 22.13 | 21.65 | 21.07 | 20.41 | 19.70 | 18.99 | 16.92 | 14.70 | 12.58 | 10.63 | 8.97 | 7.74 | 6.60 | 5.55 | 4.73 | 4.08   | 3.55   | 3.12   | 2.76   | 2.47   | 2.21   | 2.00   |

|         |            |    |         |         |         |         |         |         |         |         |         |         |         |         |         |         |         |         |           |           |           |           |           |           |           |
|---------|------------|----|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|
| 8" Stud | 800S162-33 | 33 | 3.22 ws | 3.16 ws | 3.07 ws | 2.96 ws | 2.82 ws | 2.68 ws | 2.50 ws | 2.09 ws | 1.69 ws | 1.32 ws | 1.05 ws | 0.87 ws | 0.73 ws | 0.62 ws | 0.54 ws | 0.47 ws | 0.42 * ws | 0.38 * ws | 0.34 * ws | 0.31 * ws | 0.28 * ws | 0.26 * ws | 0.24 * ws |
|         | 800S162-43 | 33 | 4.63    | 4.52    | 4.36    | 4.17    | 3.95    | 3.71    | 3.44    | 2.89    | 2.33    | 1.83    | 1.47    | 1.21    | 1.02    | 0.88    | 0.76    | 0.67    | 0.59 *    | 0.53 *    | 0.48 *    | 0.43 *    | 0.40 *    | 0.36 *    | 0.33 *    |
|         | 800S162-54 | 33 | 6.17    | 6.02    | 5.81    | 5.56    | 5.26    | 4.93    | 4.58    | 3.84    | 3.10    | 2.43    | 1.96    | 1.62    | 1.37    | 1.17    | 1.02    | 0.90    | 0.79 *    | 0.71 *    | 0.64 *    | 0.58 *    | 0.52 *    | 0.46 *    | 0.42 *    |
|         | 800S162-54 | 50 | 8.41    | 8.19    | 7.91    | 7.43    | 6.83    | 6.19    | 5.52    | 4.22    | 3.13    | 2.43    | 1.96    | 1.62    | 1.37    | 1.17    | 1.02    | 0.90    | 0.79 *    | 0.71 *    | 0.64 *    | 0.58 *    | 0.52 *    | 0.46 *    | 0.42 *    |
|         | 800S162-68 | 33 | 8.30    | 8.09    | 7.81    | 7.46    | 7.06    | 6.61    | 6.14    | 5.13    | 4.13    | 3.24    | 2.61    | 2.16    | 1.82    | 1.56    | 1.35    | 1.18    | 1.03 *    | 0.90 *    | 0.79 *    | 0.70 *    | 0.62 *    | 0.56 *    | 0.50 *    |
|         | 800S162-68 | 50 | 11.64   | 11.20   | 10.60   | 9.89    | 9.08    | 8.22    | 7.33    | 5.58    | 4.15    | 3.24    | 2.61    | 2.16    | 1.82    | 1.56    | 1.35    | 1.18    | 1.03 *    | 0.90 *    | 0.79 *    | 0.70 *    | 0.62 *    | 0.56 *    | 0.50 *    |
|         | 800S162-97 | 33 | 13.26   | 12.91   | 12.45   | 11.88   | 11.21   | 10.48   | 9.69    | 8.03    | 6.39    | 4.98    | 4.00    | 3.27    | 2.65    | 2.19    | 1.84    | 1.57 *  | 1.35 *    | 1.18 *    | 1.04 *    | 0.92 *    | 0.82 *    | 0.73 *    | 0.66 *    |
|         | 800S162-97 | 50 | 18.40   | 17.68   | 16.71   | 15.55   | 14.24   | 12.84   | 11.40   | 8.56    | 6.39    | 4.98    | 4.00    | 3.27    | 2.65    | 2.19    | 1.84    | 1.57 *  | 1.35 *    | 1.18 *    | 1.04 *    | 0.92 *    | 0.82 *    | 0.73 *    | 0.66 *    |
|         | 800S200-33 | 33 | 3.46 ws | 3.42 ws | 3.37 ws | 3.30 ws | 3.23 ws | 3.13 ws | 3.03 ws | 2.80 ws | 2.52 ws | 2.22 ws | 1.89 ws | 1.55 ws | 1.29 ws | 1.10 ws | 0.94 ws | 0.83 ws | 0.73 ws   | 0.65 ws   | 0.58 ws   | 0.53 ws   | 0.48 * ws | 0.44 * ws | 0.40 * ws |
|         | 800S200-43 | 33 | 5.35    | 5.28    | 5.19    | 5.07    | 4.93    | 4.77    | 4.58    | 4.11    | 3.60    | 3.09    | 2.59    | 2.13    | 1.78    | 1.52    | 1.31    | 1.15    | 1.02      | 0.91      | 0.81      | 0.74      | 0.67 *    | 0.61 *    | 0.56 *    |
|         | 800S200-54 | 33 | 7.25    | 7.14    | 6.99    | 6.80    | 6.58    | 6.33    | 6.05    | 5.43    | 4.76    | 4.08    | 3.42    | 2.82    | 2.36    | 2.02    | 1.75    | 1.53    | 1.36      | 1.21      | 1.09      | 0.98      | 0.89 *    | 0.82 *    | 0.75 *    |
|         | 800S200-54 | 50 | 9.24    | 9.13    | 8.99    | 8.82    | 8.61    | 8.28    | 7.86    | 6.66    | 5.45    | 4.31    | 3.43    | 2.82    | 2.36    | 2.02    | 1.75    | 1.53    | 1.36      | 1.21      | 1.09      | 0.98      | 0.89 *    | 0.82 *    | 0.75 *    |
|         | 800S200-68 | 33 | 9.65    | 9.51    | 9.31    | 9.06    | 8.76    | 8.42    | 8.05    | 7.22    | 6.33    | 5.42    | 4.53    | 3.74    | 3.14    | 2.68    | 2.32    | 2.04    | 1.80      | 1.60      | 1.44      | 1.30      | 1.17 *    | 1.05 *    | 0.94 *    |
|         | 800S200-68 | 50 | 13.33   | 13.12   | 12.85   | 12.44   | 11.82   | 11.13   | 10.38   | 8.79    | 7.18    | 5.67    | 4.54    | 3.74    | 3.14    | 2.68    | 2.32    | 2.04    | 1.80      | 1.60      | 1.44      | 1.30      | 1.17 *    | 1.05 *    | 0.94 *    |
|         | 800S200-97 | 33 | 15.21   | 14.98   | 14.65   | 14.25   | 13.77   | 13.23   | 12.63   | 11.29   | 9.86    | 8.40    | 6.97    | 5.74    | 4.81    | 4.10    | 3.51    | 2.99    | 2.58      | 2.25      | 1.97      | 1.75 *    | 1.56 *    | 1.40 *    | 1.26 *    |
|         | 800S200-97 | 50 | 21.42   | 20.91   | 20.22   | 19.37   | 18.39   | 17.29   | 16.10   | 13.59   | 11.05   | 8.69    | 6.97    | 5.74    | 4.81    | 4.10    | 3.51    | 2.99    | 2.58      | 2.25      | 1.97      | 1.75 *    | 1.56 *    | 1.40 *    | 1.26 *    |
|         | 800S250-43 | 33 | 5.48    | 5.44    | 5.39    | 5.32    | 5.24    | 5.15    | 5.04    | 4.80    | 4.51    | 4.19    | 3.83    | 3.38    | 2.94    | 2.52    | 2.18    | 1.90    | 1.68      | 1.49      | 1.33      | 1.20      | 1.09      | 1.00      | 0.92      |
|         | 800S250-54 | 33 | 7.33    | 7.28    | 7.20    | 7.12    | 7.03    | 6.94    | 6.83    | 6.58    | 6.17    | 5.72    | 5.12    | 4.51    | 3.91    | 3.34    | 2.88    | 2.51    | 2.22      | 1.97      | 1.77      | 1.60      | 1.45      | 1.33      | 1.22      |
|         | 800S250-54 | 50 | 9.51    | 9.40    | 9.27    | 9.09    | 8.88    | 8.64    | 8.37    | 7.75    | 7.07    | 6.51    | 5.72    | 4.72    | 3.94    | 3.34    | 2.88    | 2.51    | 2.22      | 1.97      | 1.77      | 1.60      | 1.45      | 1.33      | 1.22      |
|         | 800S250-68 | 33 | 10.47   | 10.39   | 10.27   | 10.13   | 9.96    | 9.77    | 9.56    | 9.11    | 8.39    | 7.60    | 6.78    | 5.96    | 5.16    | 4.41    | 3.81    | 3.33    | 2.94      | 2.61      | 2.34      | 2.12      | 1.92      | 1.75      | 1.60      |
|         | 800S250-68 | 50 | 13.38   | 13.25   | 13.08   | 12.87   | 12.61   | 12.32   | 12.00   | 11.15   | 10.04   | 8.96    | 7.53    | 6.20    | 5.18    | 4.41    | 3.81    | 3.33    | 2.94      | 2.61      | 2.34      | 2.12      | 1.92      | 1.75      | 1.60      |
|         | 800S250-97 | 33 | 17.13   | 16.96   | 16.73   | 16.44   | 16.09   | 15.68   | 15.23   | 14.19   | 13.02   | 11.77   | 10.47   | 9.17    | 7.92    | 6.75    | 5.82    | 5.08    | 4.47      | 3.96      | 3.48      | 3.09      | 2.75      | 2.47      | 2.23      |
|         | 800S250-97 | 50 | 23.03   | 22.74   | 22.34   | 21.85   | 21.27   | 20.64   | 19.97   | 18.26   | 16.02   | 13.73   | 11.50   | 9.46    | 7.92    | 6.75    | 5.82    | 5.08    |           |           |           |           |           |           |           |

## Notes:

1 Values marked with " \* " indicate the KL/r &gt; 300.

2 Values marked with "ws" indicate that h/t &gt; 200. This indicates that web stiffeners are required to prevent web crippling at points of concentrated loads.

3 Capacities are calculated per AISI-NASPEC, 2001 with 2004 supplement.

Complies with IBC 2006 &amp; AISI-NASPEC, 2001 with 2004 supplement

# ALLOWABLE UNBRACED AXIAL LOADS

Based on length (Kips)

|             | Member      | Fy (ksi) | Unbraced Length (ft) |         |         |         |         |         |         |         |         |         |         |         |         |         |         |           |           |           |           |           |           |           |           |
|-------------|-------------|----------|----------------------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|
|             |             |          | 1                    | 1.5     | 2       | 2.5     | 3       | 3.5     | 4       | 5       | 6       | 7       | 8       | 9       | 10      | 11      | 12      | 13        | 14        | 15        | 16        | 17        | 18        | 19        | 20        |
| 10" Stud    | 1000S162-43 | 33       | 4.64 ws              | 4.52 ws | 4.34 ws | 4.14 ws | 3.89 ws | 3.63 ws | 3.34 ws | 2.76 ws | 2.18 ws | 1.70 ws | 1.37 ws | 1.13 ws | 0.96 ws | 0.82 ws | 0.72 ws | 0.63 * ws | 0.57 * ws | 0.51 * ws | 0.46 * ws | 0.42 * ws | 0.38 * ws | 0.35 * ws | 0.32 * ws |
|             | 1000S162-54 | 33       | 6.20                 | 6.03    | 5.80    | 5.52    | 5.20    | 4.84    | 4.46    | 3.68    | 2.91    | 2.27    | 1.84    | 1.53    | 1.30    | 1.12    | 0.98    | 0.86 *    | 0.77 *    | 0.69 *    | 0.62 *    | 0.57 *    | 0.52 *    | 0.47 *    | 0.44 *    |
|             | 1000S162-54 | 50       | 8.43                 | 8.19    | 7.88    | 7.31    | 6.66    | 5.97    | 5.27    | 3.91    | 2.91    | 2.27    | 1.84    | 1.53    | 1.30    | 1.12    | 0.98    | 0.86 *    | 0.77 *    | 0.69 *    | 0.62 *    | 0.57 *    | 0.52 *    | 0.47 *    | 0.44 *    |
|             | 1000S162-68 | 33       | 8.36                 | 8.13    | 7.82    | 7.44    | 7.00    | 6.51    | 6.00    | 4.93    | 3.88    | 3.05    | 2.47    | 2.06    | 1.75    | 1.51    | 1.32    | 1.16 *    | 1.03 *    | 0.92 *    | 0.83 *    | 0.75 *    | 0.67 *    | 0.60 *    | 0.54 *    |
|             | 1000S162-68 | 50       | 11.68                | 11.19   | 10.53   | 9.75    | 8.88    | 7.95    | 7.01    | 5.19    | 3.88    | 3.05    | 2.47    | 2.06    | 1.75    | 1.51    | 1.32    | 1.16 *    | 1.03 *    | 0.92 *    | 0.83 *    | 0.75 *    | 0.67 *    | 0.60 *    | 0.54 *    |
|             | 1000S162-97 | 33       | 13.47                | 13.08   | 12.57   | 11.94   | 11.21   | 10.41   | 9.56    | 7.80    | 6.08    | 4.79    | 3.89    | 3.23    | 2.73    | 2.33    | 1.98    | 1.68 *    | 1.45 *    | 1.26 *    | 1.11 *    | 0.98 *    | 0.88 *    | 0.79 *    | 0.71 *    |
|             | 1000S162-97 | 50       | 18.58                | 17.77   | 16.70   | 15.43   | 14.01   | 12.51   | 10.98   | 8.08    | 6.08    | 4.79    | 3.89    | 3.23    | 2.73    | 2.33    | 1.98    | 1.68 *    | 1.45 *    | 1.26 *    | 1.11 *    | 0.98 *    | 0.88 *    | 0.79 *    | 0.71 *    |
|             | 1000S200-43 | 33       | 5.36 ws              | 5.29 ws | 5.19 ws | 5.06 ws | 4.91 ws | 4.74 ws | 4.52 ws | 4.02 ws | 3.49 ws | 2.95 ws | 2.44 ws | 2.00 ws | 1.68 ws | 1.43 ws | 1.24 ws | 1.09 ws   | 0.96 ws   | 0.86 ws   | 0.78 ws   | 0.71 * ws | 0.64 * ws | 0.59 * ws | 0.54 * ws |
|             | 1000S200-54 | 33       | 7.28                 | 7.16    | 7.00    | 6.79    | 6.55    | 6.28    | 5.98    | 5.32    | 4.62    | 3.91    | 3.23    | 2.66    | 2.24    | 1.92    | 1.67    | 1.46      | 1.30      | 1.16      | 1.05      | 0.95 *    | 0.87 *    | 0.80 *    | 0.74 *    |
|             | 1000S200-54 | 50       | 9.27                 | 9.15    | 9.00    | 8.81    | 8.57    | 8.21    | 7.69    | 6.42    | 5.17    | 4.03    | 3.23    | 2.66    | 2.24    | 1.92    | 1.67    | 1.46      | 1.30      | 1.16      | 1.05      | 0.95 *    | 0.87 *    | 0.80 *    | 0.74 *    |
|             | 1000S200-68 | 33       | 9.72                 | 9.57    | 9.35    | 9.07    | 8.75    | 8.39    | 7.98    | 7.10    | 6.16    | 5.21    | 4.30    | 3.55    | 3.00    | 2.57    | 2.24    | 1.97      | 1.75      | 1.57      | 1.41      | 1.28 *    | 1.17 *    | 1.07 *    | 0.98 *    |
|             | 1000S200-68 | 50       | 13.40                | 13.17   | 12.87   | 12.39   | 11.72   | 10.97   | 10.17   | 8.50    | 6.84    | 5.34    | 4.30    | 3.55    | 3.00    | 2.57    | 2.24    | 1.97      | 1.75      | 1.57      | 1.41      | 1.28 *    | 1.17 *    | 1.07 *    | 0.98 *    |
|             | 1000S200-97 | 33       | 15.44                | 15.18   | 14.83   | 14.39   | 13.87   | 13.28   | 12.63   | 11.21   | 9.69    | 8.17    | 6.71    | 5.56    | 4.70    | 4.03    | 3.50    | 3.07      | 2.72      | 2.42      | 2.13      | 1.88 *    | 1.68 *    | 1.51 *    | 1.36 *    |
|             | 1000S200-97 | 50       | 21.62                | 21.07   | 20.32   | 19.40   | 18.33   | 17.15   | 15.88   | 13.23   | 10.60   | 8.30    | 6.71    | 5.56    | 4.70    | 4.03    | 3.50    | 3.07      | 2.72      | 2.42      | 2.13      | 1.88 *    | 1.68 *    | 1.51 *    | 1.36 *    |
|             | 1000S250-43 | 33       | 5.50 ws              | 5.46 ws | 5.40 ws | 5.34 ws | 5.25 ws | 5.16 ws | 5.05 ws | 4.80 ws | 4.50 ws | 4.17 ws | 3.78 ws | 3.30 ws | 2.83 ws | 2.40 ws | 2.07 ws | 1.81 ws   | 1.59 ws   | 1.42 ws   | 1.27 ws   | 1.15 ws   | 1.05 ws   | 0.96 ws   | 0.88 ws   |
|             | 1000S250-54 | 33       | 7.37                 | 7.31    | 7.24    | 7.15    | 7.06    | 6.96    | 6.85    | 6.58    | 6.14    | 5.63    | 4.98    | 4.35    | 3.73    | 3.18    | 2.74    | 2.40      | 2.12      | 1.89      | 1.70      | 1.54      | 1.40      | 1.29      | 1.18      |
|             | 1000S250-54 | 50       | 9.54                 | 9.44    | 9.29    | 9.11    | 8.89    | 8.64    | 8.36    | 7.71    | 7.03    | 6.37    | 5.46    | 4.47    | 3.73    | 3.18    | 2.74    | 2.40      | 2.12      | 1.89      | 1.70      | 1.54      | 1.40      | 1.29      | 1.18      |
|             | 1000S250-68 | 33       | 10.55                | 10.46   | 10.34   | 10.19   | 10.01   | 9.80    | 9.58    | 9.08    | 8.30    | 7.46    | 6.61    | 5.76    | 4.94    | 4.22    | 3.65    | 3.20      | 2.84      | 2.54      | 2.28      | 2.07      | 1.88      | 1.72      | 1.59      |
| 1000S250-68 | 50          | 13.45    | 13.32                | 13.14   | 12.92   | 12.65   | 12.34   | 11.99   | 11.03   | 9.87    | 8.65    | 7.19    | 5.89    | 4.94    | 4.22    | 3.65    | 3.20    | 2.84      | 2.54      | 2.28      | 2.07      | 1.88      | 1.72      | 1.59      |           |
| 1000S250-97 | 33          | 17.36    | 17.18                | 16.93   | 16.62   | 16.24   | 15.81   | 15.32   | 14.22   | 12.98   | 11.66   | 10.31   | 8.97    | 7.67    | 6.56    | 5.70    | 5.00    | 4.43      | 3.95      | 3.55      | 3.21      | 2.92      | 2.66      | 2.41      |           |
| 1000S250-97 | 50          | 23.26    | 22.94                | 22.51   | 21.98   | 21.37   | 20.70   | 20.00   | 18.07   | 15.72   | 13.35   | 11.05   | 9.11    | 7.67    | 6.56    | 5.70    | 5.00    | 4.43      | 3.95      | 3.55      | 3.21      | 2.92      | 2.66      | 2.41      |           |
| 12" Stud    | 1200S162-54 | 33       | 6.21 ws              | 6.02 ws | 5.77 ws | 5.47 ws | 5.12 ws | 4.73 ws | 4.33 ws | 3.50 ws | 2.71 ws | 2.12 ws | 1.72 ws | 1.44 ws | 1.22 ws | 1.06 ws | 0.93 ws | 0.82 * ws | 0.74 * ws | 0.66 * ws | 0.60 * ws | 0.55 * ws | 0.50 * ws | 0.46 * ws | 0.43 * ws |
|             | 1200S162-54 | 50       | 8.44 ws              | 8.17 ws | 7.80 ws | 7.17 ws | 6.48 ws | 5.75 ws | 5.01 ws | 3.63 ws | 2.71 ws | 2.12 ws | 1.72 ws | 1.44 ws | 1.22 ws | 1.06 ws | 0.93 ws | 0.82 * ws | 0.74 * ws | 0.66 * ws | 0.60 * ws | 0.55 * ws | 0.50 * ws | 0.46 * ws | 0.43 * ws |
|             | 1200S162-68 | 33       | 8.39                 | 8.13    | 7.79    | 7.38    | 6.90    | 6.38    | 5.83    | 4.70    | 3.64    | 2.87    | 2.34    | 1.95    | 1.67    | 1.44    | 1.27 *  | 1.12 *    | 1.00 *    | 0.90 *    | 0.81 *    | 0.74 *    | 0.68 *    | 0.62 *    | 0.57 *    |
|             | 1200S162-68 | 50       | 11.69                | 11.15   | 10.43   | 9.58    | 8.65    | 7.66    | 6.67    | 4.84    | 3.64    | 2.87    | 2.34    | 1.95    | 1.67    | 1.44    | 1.27 *  | 1.12 *    | 1.00 *    | 0.90 *    | 0.81 *    | 0.74 *    | 0.68 *    | 0.62 *    | 0.57 *    |
|             | 1200S162-97 | 33       | 13.58                | 13.16   | 12.59   | 11.90   | 11.11   | 10.25   | 9.34    | 7.48    | 5.76    | 4.57    | 3.73    | 3.12    | 2.66    | 2.29    | 2.00 *  | 1.76 *    | 1.53 *    | 1.33 *    | 1.17 *    | 1.04 *    | 0.92 *    | 0.83 *    | 0.75 *    |
|             | 1200S162-97 | 50       | 18.65                | 17.76   | 16.59   | 15.21   | 13.69   | 12.09   | 10.49   | 7.60    | 5.76    | 4.57    | 3.73    | 3.12    | 2.66    | 2.29    | 2.00 *  | 1.76 *    | 1.53 *    | 1.33 *    | 1.17 *    | 1.04 *    | 0.92 *    | 0.83 *    | 0.75 *    |
|             | 1200S200-54 | 33       | 7.29 ws              | 7.17 ws | 6.99 ws | 6.77 ws | 6.51 ws | 6.22 ws | 5.89 ws | 5.19 ws | 4.45 ws | 3.72 ws | 3.03 ws | 2.50 ws | 2.11 ws | 1.81 ws | 1.58 ws | 1.39 ws   | 1.24 ws   | 1.11 ws   | 1.01 ws   | 0.92 * ws | 0.84 * ws | 0.77 * ws | 0.71 * ws |
|             | 1200S200-54 | 50       | 9.28 ws              | 9.16 ws | 8.99 ws | 8.79 ws | 8.50 ws | 8.12 ws | 7.49 ws | 6.17 ws | 4.88 ws | 3.78 ws | 3.03 ws | 2.50 ws | 2.11 ws | 1.81 ws | 1.58 ws | 1.39 ws   | 1.24 ws   | 1.11 ws   | 1.01 ws   | 0.92 * ws | 0.84 * ws | 0.77 * ws | 0.71 * ws |
|             | 1200S200-68 | 33       | 9.76                 | 9.59    | 9.35    | 9.06    | 8.71    | 8.31    | 7.88    | 6.94    | 5.95    | 4.97    | 4.05    | 3.36    | 2.85    | 2.45    | 2.14    | 1.89      | 1.68      | 1.51      | 1.37 *    | 1.24 *    | 1.14 *    | 1.05 *    | 0.96 *    |
|             | 1200S200-68 | 50       | 13.43                | 13.18   | 12.87   | 12.30   | 11.57   | 10.78   | 9.93    | 8.17    | 6.46    | 5.03    | 4.05    | 3.36    | 2.85    | 2.45    | 2.14    | 1.89      | 1.68      | 1.51      | 1.37 *    | 1.24 *    | 1.14 *    | 1.05 *    | 0.96 *    |
|             | 1200S200-97 | 33       | 15.56                | 15.28   | 14.90   | 14.42   | 13.86   | 13.22   | 12.53   | 11.01   | 9.42    | 7.84    | 6.40    | 5.33    | 4.52    | 3.90    | 3.41    | 3.00      | 2.67      | 2.40      | 2.16 *    | 1.96 *    | 1.77 *    | 1.59 *    | 1.44 *    |
|             | 1200S200-97 | 50       | 21.72                | 21.12   | 20.31   | 19.31   | 18.16   | 16.90   | 15.56   | 12.77   | 10.05   | 7.88    | 6.40    | 5.33    | 4.52    | 3.90    | 3.41    | 3.00      | 2.67      | 2.40      | 2.16 *    | 1.96 *    | 1.77 *    | 1.59 *    | 1.44 *    |
|             | 1200S250-54 | 33       | 7.39 ws              | 7.33 ws | 7.25 ws | 7.16 ws | 7.07 ws | 6.96 ws | 6.84 ws | 6.52 ws | 6.07 ws | 5.48 ws | 4.81 ws | 4.16 ws | 3.53 ws | 3.01 ws | 2.60 ws | 2.28 ws   | 2.02 ws   | 1.81 ws   | 1.63 ws   | 1.48 ws   | 1.35 ws   | 1.24 ws   | 1.14 ws   |
|             | 1200S250-54 | 50       | 9.56 ws              | 9.45 ws | 9.29 ws | 9.10 ws | 8.86 ws | 8.59 ws | 8.29 ws | 7.60 ws | 6.92 ws | 6.18 ws | 5.16 ws | 4.22 ws | 3.53 ws | 3.01 ws | 2.60 ws | 2.28 ws   | 2.02 ws   | 1.81 ws   | 1.63 ws   | 1.48 ws   | 1.35 ws   | 1.24 ws   | 1.14 ws   |
|             | 1200S250-68 | 33       | 10.59                | 10.50   | 10.37   | 10.20   | 10.01   | 9.79    | 9.56    | 8.98    | 8.16    | 7.28    | 6.39    | 5.52    | 4.69    | 4.01    | 3.48    | 3.06      | 2.72      | 2.43      | 2.20      | 1.99      | 1.82      | 1.67      | 1.54      |
|             | 1200S250-68 | 50       | 13.50                | 13.35   | 13.16   | 12.92   | 12.63   | 12.30   | 11.93   | 10.85   | 9.66    | 8.30    | 6.80    | 5.58    | 4.69    | 4.01    | 3.48    | 3.06      | 2.72      | 2.43      | 2.20      | 1.99      | 1.82      | 1.67      | 1.54      |
|             | 1200S250-97 | 33       | 17.50                | 17.30   | 17.03   | 16.69   | 16.29   | 15.82   | 15.30   | 14.13   | 12.82   | 11.44   | 10.03   | 8.66    | 7.35    | 6.31    | 5.50    | 4.84      | 4.31      | 3.86      | 3.48      | 3.16      | 2.88      | 2.64      | 2.43 *    |
|             | 1200S250-97 | 50       | 23.38                | 23.04   | 22.58   | 22.02   | 21.37   | 20.66   | 19.93   | 17.77   | 15.31   | 12.86   | 10.53   | 8.70    | 7.35    | 6.31    | 5.50    | 4.84      | 4.31      | 3.86      | 3.48      | 3.16      | 2.88      | 2.64      | 2.43 *    |

## Notes:

- Values marked with "\*" indicate the KL/r > 300.
- Values marked with "ws" indicate that h/t > 200. This indicates that web stiffeners are required to prevent web crippling at points of concentrated loads.
- Capacities are calculated per AISI-NASPEC, 2001 with 2004 supplement.

Complies with IBC 2006 & AISI-NASPEC, 2001 with 2004 supplement



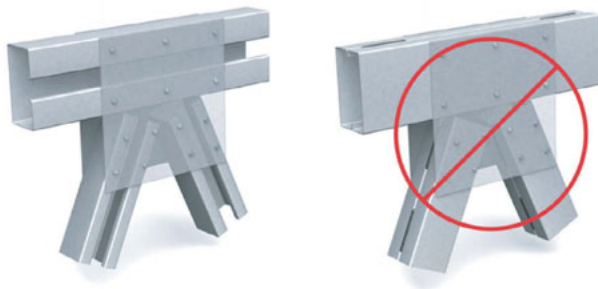
## HEAVY-DUTY STUD (HDS®) FRAMING SYSTEM

## Overview

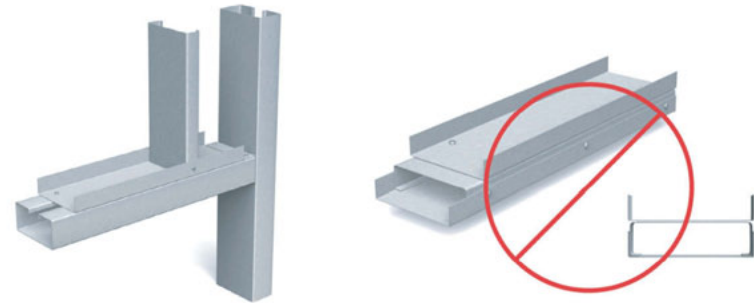
The **Heavy-Duty Stud (HDS®) Framing System** is a high-performance, cost-effective, multipurpose, heavy-duty framing stud for headers, jambs, posts and built-up tube truss chords and webs. The superior strength and carrying capacity of the HDS means higher performance with fewer members. It means eliminating box beam headers, nesting track and stud for posts and jambs and eliminating multi-member, built-up truss chords and webs. It also means improved finish quality and labor savings by eliminating excessive material and screw head buildup around doors and windows.

The HDSC header bracket is the perfect complement to the HDS framing system. This simple, yet innovative header bracket turns curtain wall header installation from a two-man job into a one-man job. Since all the fasteners are located within the wall cavity, this unique prepunched clip also eliminates fastener head buildup that can create finishing challenges. Let the light gauge framing experts at ClarkDietrich Engineering Services help you incorporate this cutting-edge framing assembly into your next project. For free HDS Preliminary Sizing, download and complete the HDS Preliminary Sizing Sheet from [www.clarkdietrich.com](http://www.clarkdietrich.com). You may also contact us at 877-832-3206.

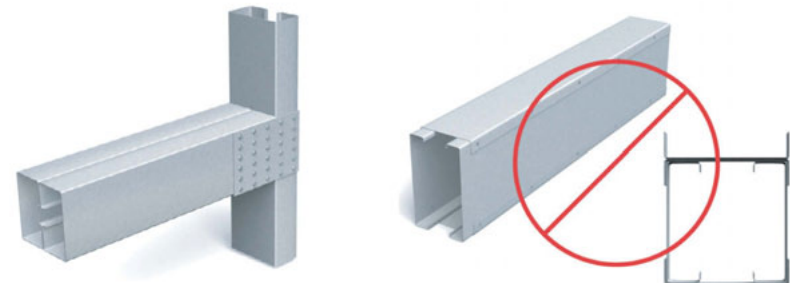
### HDS replaces built-up or tube truss chords



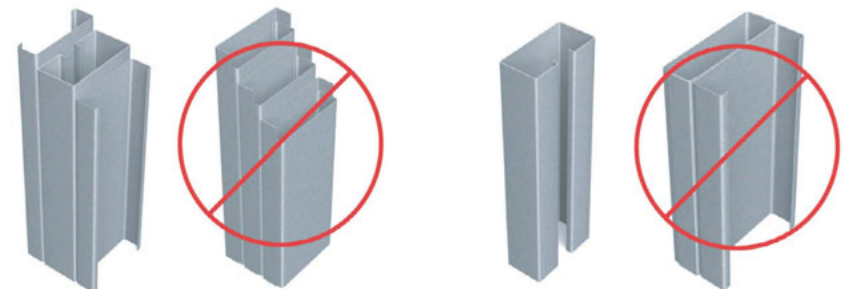
### HDS replaces built-up curtain wall headers



### HDS replaces load-bearing box beam headers



### HDS replaces or reduces jambs and posts



## Overview

The highly innovative multipurpose HDS® Framing System provides cost-effective, member-reducing framing solutions for headers, jambs, posts and heavy-duty, built-up tube truss chords and webs.

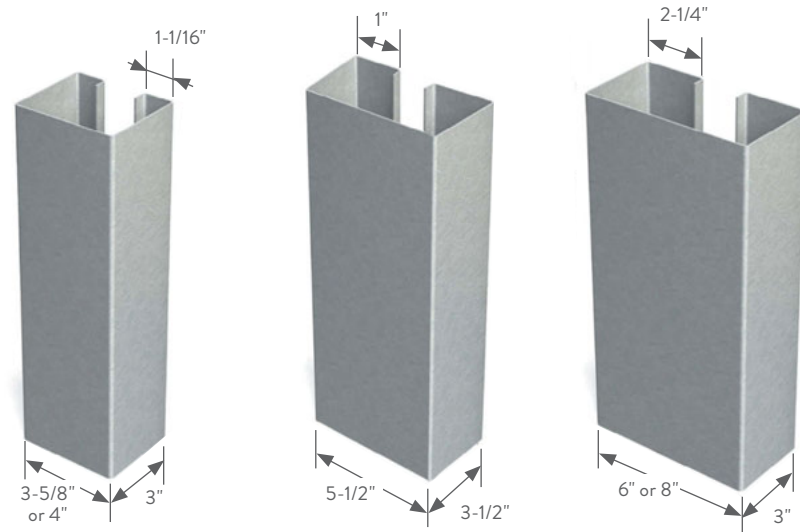
### Applications

- Curtain wall headers, jambs and sills
- Drywall headers and jambs
- Load-bearing jambs
- Trusses
- Shear wall posts
- Heavily loaded or long-span wall studs
- Any other application involving nested stud and track

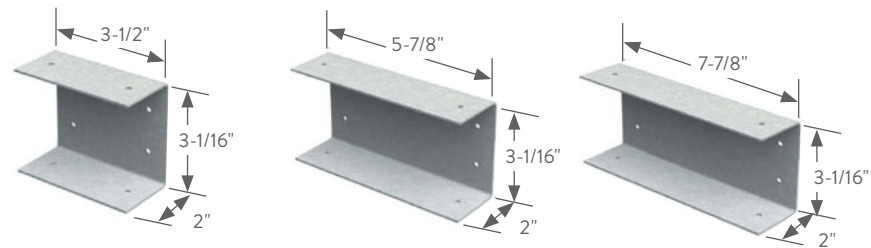
### Construction Advantages

- Outstanding bending strength in two directions
- Reduces installation time by 50%
- Eliminates box beam header assembly
- Reduces material and labor costs up to 50%
- HDS can be screw-attached from either side
- Eliminates stud-to-track nesting for post, header and jamb studs
- Openings up to 15' wide
- Eliminates multi-member built-up truss chords and webs
- Eliminates excessive bridging for load-bearing walls and posts
- Improves drywall finishing around doors and windows; no screw head buildup
- Superior axial strength

HDS



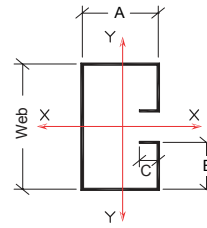
HDSC



HDSC clip is also available to fit 3-1/2" flange members.

Complies with IBC 2006 & AISI-NASPEC, 2001 with 2004 supplement

The technical content of this literature is effective 2/1/12 and supersedes all previous information.



| Web    | A      | B       | C    |
|--------|--------|---------|------|
| 3-5/8" | 3"     | 1-1/16" | 3/4" |
| 4"     | 3"     | 1-1/16" | 3/4" |
| 5-1/2" | 3-1/2" | 1"      | 3/4" |
| 6"     | 3"     | 2-1/4"  | 3/4" |
| 8"     | 3"     | 2-1/4"  | 3/4" |

## HDS® SECTION PROPERTIES

| Web size (in) | Ga  | Mils | Fy (ksi) | Design thickness (in) | Min. delivered thickness (in) | Gross Section Properties (Unperforated) |            |                                   |                                   |                     |                                   |           |                                   |                     |                           | Torsional Properties              |                     |                     |       |  |
|---------------|-----|------|----------|-----------------------|-------------------------------|-----------------------------------------|------------|-----------------------------------|-----------------------------------|---------------------|-----------------------------------|-----------|-----------------------------------|---------------------|---------------------------|-----------------------------------|---------------------|---------------------|-------|--|
|               |     |      |          |                       |                               | Area (in <sup>2</sup> )                 | Wt (lb/ft) | I <sub>x</sub> (in <sup>4</sup> ) | S <sub>x</sub> (in <sup>3</sup> ) | R <sub>x</sub> (in) | I <sub>y</sub> (in <sup>4</sup> ) | xbar (in) | S <sub>y</sub> (in <sup>3</sup> ) | R <sub>y</sub> (in) | Jx1000 (in <sup>4</sup> ) | C <sub>w</sub> (in <sup>6</sup> ) | X <sub>o</sub> (in) | R <sub>o</sub> (in) | Beta  |  |
| 3-5/8         | 20  | 33   | 33       | 0.0346                | 0.0329                        | 0.445                                   | 1.52       | 0.934                             | 0.515                             | 1.448               | 0.631                             | 1.426     | 0.405                             | 1.190               | 0.178                     | 4.624                             | -3.485              | 3.957               | 0.224 |  |
|               | 18  | 43   | 33       | 0.0451                | 0.0428                        | 0.574                                   | 1.95       | 1.198                             | 0.661                             | 1.444               | 0.805                             | 1.416     | 0.516                             | 1.184               | 0.389                     | 5.759                             | -3.483              | 3.952               | 0.223 |  |
|               | 16  | 54   | 50       | 0.0566                | 0.0538                        | 0.715                                   | 2.43       | 1.483                             | 0.818                             | 1.441               | 0.990                             | 1.406     | 0.632                             | 1.177               | 0.764                     | 6.894                             | -3.480              | 3.946               | 0.222 |  |
|               | 14  | 68   | 50       | 0.0713                | 0.0677                        | 0.888                                   | 3.02       | 1.829                             | 1.009                             | 1.436               | 1.211                             | 1.392     | 0.770                             | 1.168               | 1.503                     | 8.151                             | -3.476              | 3.938               | 0.221 |  |
|               | 12  | 97   | 50       | 0.1017                | 0.0966                        | 1.239                                   | 4.22       | 2.520                             | 1.390                             | 1.426               | 1.645                             | 1.367     | 1.039                             | 1.152               | 4.271                     | 10.420                            | -3.449              | 3.906               | 0.220 |  |
| 4             | 20  | 33   | 33       | 0.0346                | 0.0329                        | 0.458                                   | 1.56       | 1.175                             | 0.588                             | 1.601               | 0.656                             | 1.386     | 0.411                             | 1.196               | 0.183                     | 5.146                             | -3.422              | 3.963               | 0.254 |  |
|               | 18  | 43   | 33       | 0.0451                | 0.0428                        | 0.591                                   | 2.01       | 1.509                             | 0.754                             | 1.598               | 0.838                             | 1.376     | 0.523                             | 1.190               | 0.400                     | 6.425                             | -3.418              | 3.956               | 0.254 |  |
|               | 16  | 54   | 50       | 0.0566                | 0.0538                        | 0.736                                   | 2.50       | 1.869                             | 0.934                             | 1.594               | 1.031                             | 1.365     | 0.641                             | 1.183               | 0.787                     | 7.715                             | -3.414              | 3.949               | 0.253 |  |
|               | 14  | 68   | 50       | 0.0713                | 0.0677                        | 0.914                                   | 3.11       | 2.307                             | 1.154                             | 1.588               | 1.261                             | 1.351     | 0.782                             | 1.175               | 1.548                     | 9.159                             | -3.409              | 3.940               | 0.251 |  |
|               | 12  | 97   | 50       | 0.1017                | 0.0966                        | 1.277                                   | 4.35       | 3.183                             | 1.592                             | 1.579               | 1.714                             | 1.326     | 1.056                             | 1.158               | 4.403                     | 11.787                            | -3.379              | 3.905               | 0.251 |  |
| 5-1/2         | 20  | 33   | 33       | 0.0346                | 0.0329                        | 0.541                                   | 1.84       | 2.728                             | 0.992                             | 2.246               | 1.048                             | 1.462     | 0.519                             | 1.392               | 0.216                     | 10.384                            | -3.628              | 4.488               | 0.347 |  |
|               | 18  | 43   | 33       | 0.0451                | 0.0428                        | 0.698                                   | 2.38       | 3.510                             | 1.276                             | 2.242               | 1.340                             | 1.452     | 0.661                             | 1.385               | 0.472                     | 13.079                            | -3.621              | 4.479               | 0.346 |  |
|               | 16  | 54   | 50       | 0.0566                | 0.0538                        | 0.870                                   | 2.96       | 4.358                             | 1.585                             | 2.238               | 1.652                             | 1.440     | 0.813                             | 1.378               | 0.930                     | 15.860                            | -3.614              | 4.469               | 0.346 |  |
|               | 14  | 68   | 50       | 0.0713                | 0.0677                        | 1.084                                   | 3.69       | 5.397                             | 1.963                             | 2.232               | 2.027                             | 1.425     | 0.994                             | 1.368               | 1.834                     | 19.075                            | -3.605              | 4.455               | 0.345 |  |
|               | 12  | 97   | 50       | 0.1017                | 0.0966                        | 1.519                                   | 5.17       | 7.490                             | 2.724                             | 2.221               | 2.768                             | 1.398     | 1.350                             | 1.350               | 5.235                     | 25.095                            | -3.570              | 4.416               | 0.346 |  |
| 6             | 20  | 33   | 33       | 0.0346                | 0.0329                        | 0.610                                   | 2.08       | 3.034                             | 1.011                             | 2.230               | 0.993                             | 1.441     | 0.644                             | 1.276               | 0.244                     | 24.960                            | -3.636              | 4.452               | 0.333 |  |
|               | 18  | 43   | 33       | 0.0451                | 0.0428                        | 0.788                                   | 2.68       | 3.907                             | 1.302                             | 2.226               | 1.273                             | 1.433     | 0.824                             | 1.271               | 0.533                     | 31.427                            | -3.633              | 4.446               | 0.332 |  |
|               | 16  | 54   | 50       | 0.0566                | 0.0538                        | 0.984                                   | 3.35       | 4.856                             | 1.619                             | 2.222               | 1.573                             | 1.424     | 1.016                             | 1.265               | 1.052                     | 38.080                            | -3.630              | 4.440               | 0.332 |  |
|               | 14  | 68   | 50       | 0.0713                | 0.0677                        | 1.226                                   | 4.17       | 6.023                             | 2.008                             | 2.216               | 1.938                             | 1.412     | 1.249                             | 1.257               | 2.076                     | 45.721                            | -3.626              | 4.432               | 0.331 |  |
|               | 12  | 97   | 50       | 0.1017                | 0.0966                        | 1.722                                   | 5.86       | 8.380                             | 2.793                             | 2.206               | 2.662                             | 1.390     | 1.707                             | 1.243               | 5.936                     | 60.160                            | -3.602              | 4.403               | 0.331 |  |
| 8             | 20* | 33   | 33       | 0.0346                | 0.0329                        | 0.679                                   | 2.31       | 6.134                             | 1.533                             | 3.005               | 1.122                             | 1.294     | 0.665                             | 1.285               | 0.272                     | 33.350                            | -3.412              | 4.725               | 0.479 |  |
|               | 18  | 43   | 33       | 0.0451                | 0.0428                        | 0.878                                   | 2.99       | 7.909                             | 1.977                             | 3.001               | 1.439                             | 1.286     | 0.851                             | 1.280               | 0.594                     | 42.201                            | -3.406              | 4.716               | 0.478 |  |
|               | 16  | 54   | 50       | 0.0566                | 0.0538                        | 1.097                                   | 3.73       | 9.843                             | 2.461                             | 2.996               | 1.779                             | 1.277     | 1.050                             | 1.274               | 1.173                     | 51.431                            | -3.399              | 4.706               | 0.478 |  |
|               | 14  | 68   | 50       | 0.0713                | 0.0677                        | 1.369                                   | 4.66       | 12.230                            | 3.058                             | 2.989               | 2.193                             | 1.265     | 1.291                             | 1.266               | 2.317                     | 62.225                            | -3.391              | 4.694               | 0.478 |  |
|               | 12  | 97   | 50       | 0.1017                | 0.0966                        | 1.926                                   | 6.55       | 17.075                            | 4.269                             | 2.978               | 3.013                             | 1.243     | 1.766                             | 1.251               | 6.637                     | 82.848                            | -3.360              | 4.661               | 0.480 |  |

### Notes:

- 1 I<sub>x</sub> = Gross Moment Of Inertia about x-axis.
- 2 S<sub>x</sub> = Gross Section Modulus about x-axis.
- 3 R<sub>x</sub> = Gross Radius of Gyration about x-axis.
- 4 I<sub>y</sub> = Gross Moment Of Inertia about y-axis.
- 5 xbar = The distance from the web centerline to the center of gravity.

- 6 S<sub>y</sub> = Gross Section Modulus about y-axis.
- 7 R<sub>y</sub> = Gross Radius of Gyration about y-axis.
- 8 J = St. Venant Torsion Constant.
- 9 C<sub>w</sub> = Warping Torsion Constant.
- 10 X<sub>o</sub> = Distance from shear center to the centroid along the principal x-axis.

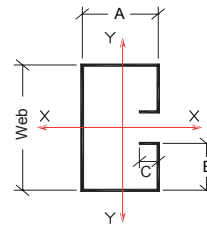
- 11 R<sub>o</sub> = Polar Radius of Gyration about the centroidal principal axis.
- 12 Beta = 1 - (X<sub>o</sub>/R<sub>o</sub>)<sup>2</sup>.
- 13 Stiffening Lip = 3/4" for all web sizes.
- 14 " \* " Indicates that h/t exceeds 200. Web stiffeners are required at bearing points. No holes in the web are permitted.

Complies with IBC 2006 & AISI-NASPEC, 2001 with 2004 supplement

Pub. No. CD-STR-TechGuide 2/12

The technical content of this literature is effective 2/1/12 and supersedes all previous information.

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| Web    | A      | B       | C    |
|--------|--------|---------|------|
| 3-5/8" | 3"     | 1-1/16" | 3/4" |
| 4"     | 3"     | 1-1/16" | 3/4" |
| 5-1/2" | 3-1/2" | 1"      | 3/4" |
| 6"     | 3"     | 2-1/4"  | 3/4" |
| 8"     | 3"     | 2-1/4"  | 3/4" |

## HDS® EFFECTIVE PROPERTIES AND CAPACITIES

| Web size<br>(in) | Ga  | Mils | Fy<br>(ksi) | Design<br>thickness<br>(in) | Min.<br>delivered<br>thickness<br>(in) | Unperforated Bending Properties |                |                           |                |                           |                | Perforated Bending Properties |                |                           |                |                           |                | Effect. Moment of Inertia |                                          |                                           | Other Properties |                            |                     |              |              |              |
|------------------|-----|------|-------------|-----------------------------|----------------------------------------|---------------------------------|----------------|---------------------------|----------------|---------------------------|----------------|-------------------------------|----------------|---------------------------|----------------|---------------------------|----------------|---------------------------|------------------------------------------|-------------------------------------------|------------------|----------------------------|---------------------|--------------|--------------|--------------|
|                  |     |      |             |                             |                                        | Sxe<br>(in <sup>3</sup> )       | Mxa<br>(in-lb) | Web in Ten.               |                | Web in Comp.              |                | Sxe<br>(in <sup>3</sup> )     | Mxa<br>(in-lb) | Web in Ten.               |                | Web in Comp.              |                | Ixe<br>(in <sup>4</sup> ) | Web in<br>ten. Iye<br>(in <sup>4</sup> ) | Web in<br>comp. Iye<br>(in <sup>4</sup> ) | Lu<br>(in)       | Un-<br>perf'd Vx<br>(kips) | Perf'd Vx<br>(kips) | Vy<br>(kips) | Px<br>(kips) | Py<br>(kips) |
|                  |     |      |             |                             |                                        |                                 |                | Sye<br>(in <sup>3</sup> ) | Mya<br>(in-lb) | Sye<br>(in <sup>3</sup> ) | Mya<br>(in-lb) |                               |                | Sye<br>(in <sup>3</sup> ) | Mya<br>(in-lb) | Sye<br>(in <sup>3</sup> ) | Mya<br>(in-lb) |                           |                                          |                                           |                  |                            |                     |              |              |              |
| 3-5/8            | 20  | 33   | 33          | 0.0346                      | 0.0329                                 | 0.397                           | 7846           | 0.401                     | 7917           | 0.294                     | 5814           | 0.367                         | 7247           | 0.313                     | 6192           | 0.243                     | 4804           | 0.851                     | 0.631                                    | 0.538                                     | 103              | 1.03                       | 0.54                | 2.05         | 0.29         | 0.38         |
|                  | 18  | 43   | 33          | 0.0451                      | 0.0428                                 | 0.565                           | 11165          | 0.516                     | 11703          | 0.425                     | 8401           | 0.540                         | 10674          | 0.400                     | 9080           | 0.342                     | 6753           | 1.161                     | 0.805                                    | 0.741                                     | 102              | 1.74                       | 0.68                | 3.09         | 0.46         | 0.61         |
|                  | 16  | 54   | 50          | 0.0566                      | 0.0538                                 | 0.711                           | 21290          | 0.632                     | 21936          | 0.535                     | 16019          | 0.683                         | 20464          | 0.492                     | 17084          | 0.429                     | 12844          | 1.449                     | 0.990                                    | 0.921                                     | 82               | 3.38                       | 1.02                | 5.77         | 1.02         | 1.38         |
|                  | 14  | 68   | 50          | 0.0713                      | 0.0677                                 | 0.958                           | 28672          | 0.770                     | 27606          | 0.733                     | 21944          | 0.939                         | 28127          | 0.603                     | 21607          | 0.572                     | 17117          | 1.829                     | 1.211                                    | 1.194                                     | 82               | 4.37                       | 1.00                | 7.06         | 1.51         | 2.08         |
| 4                | 12  | 97   | 50          | 0.1017                      | 0.0966                                 | 1.390                           | 45805          | 1.039                     | 39444          | 1.039                     | 33711          | 1.375                         | 45285          | 0.820                     | 31127          | 0.820                     | 26602          | 2.520                     | 1.645                                    | 1.645                                     | 81               | 6.05                       | 0.92                | 9.71         | 1.97         | 4.00         |
|                  | 20  | 33   | 33          | 0.0346                      | 0.0329                                 | 0.456                           | 9011           | 0.406                     | 8025           | 0.296                     | 5854           | 0.415                         | 8199           | 0.344                     | 6805           | 0.246                     | 4853           | 1.074                     | 0.656                                    | 0.542                                     | 100              | 0.97                       | 0.60                | 2.05         | 0.29         | 0.38         |
|                  | 18  | 43   | 33          | 0.0451                      | 0.0428                                 | 0.648                           | 12805          | 0.523                     | 11874          | 0.430                     | 8490           | 0.613                         | 12113          | 0.440                     | 9985           | 0.347                     | 6866           | 1.463                     | 0.838                                    | 0.750                                     | 99               | 1.74                       | 0.81                | 3.09         | 0.45         | 0.61         |
|                  | 16  | 54   | 50          | 0.0566                      | 0.0538                                 | 0.816                           | 24420          | 0.641                     | 22263          | 0.541                     | 16198          | 0.776                         | 23240          | 0.542                     | 18805          | 0.437                     | 13079          | 1.827                     | 1.031                                    | 0.933                                     | 80               | 3.38                       | 1.22                | 5.77         | 1.01         | 1.38         |
| 5-1/2            | 14  | 68   | 50          | 0.0713                      | 0.0677                                 | 1.096                           | 32820          | 0.782                     | 28027          | 0.745                     | 22312          | 1.069                         | 31998          | 0.664                     | 23811          | 0.588                     | 17616          | 2.307                     | 1.261                                    | 1.216                                     | 79               | 4.87                       | 1.36                | 7.06         | 1.50         | 2.08         |
|                  | 12  | 97   | 50          | 0.1017                      | 0.0966                                 | 1.592                           | 52437          | 1.056                     | 40069          | 1.053                     | 31517          | 1.577                         | 51966          | 0.905                     | 34366          | 0.905                     | 29163          | 3.183                     | 1.714                                    | 1.714                                     | 79               | 6.76                       | 1.26                | 9.71         | 1.96         | 4.00         |
|                  | 20  | 33   | 33          | 0.0346                      | 0.0329                                 | 0.706                           | 13945          | 0.509                     | 10058          | 0.374                     | 7383           | 0.706                         | 13945          | 0.488                     | 9639           | 0.315                     | 6226           | 2.429                     | 1.048                                    | 0.784                                     | 103              | 0.69                       | 0.69                | 2.05         | 0.28         | 0.37         |
|                  | 18  | 43   | 33          | 0.0451                      | 0.0428                                 | 1.041                           | 20578          | 0.661                     | 15129          | 0.543                     | 10728          | 1.041                         | 20578          | 0.632                     | 14459          | 0.448                     | 8851           | 3.299                     | 1.340                                    | 1.093                                     | 102              | 1.54                       | 1.20                | 3.47         | 0.44         | 0.60         |
| 6                | 16  | 54   | 50          | 0.0566                      | 0.0538                                 | 1.312                           | 39290          | 0.813                     | 28442          | 0.685                     | 20501          | 1.312                         | 39290          | 0.776                     | 27163          | 0.564                     | 16900          | 4.129                     | 1.652                                    | 1.362                                     | 83               | 3.10                       | 1.88                | 6.75         | 0.98         | 1.36         |
|                  | 14  | 68   | 50          | 0.0713                      | 0.0677                                 | 1.768                           | 52942          | 0.994                     | 35968          | 0.918                     | 27476          | 1.768                         | 52942          | 0.949                     | 34319          | 0.770                     | 23051          | 5.356                     | 2.027                                    | 1.808                                     | 82               | 5.34                       | 2.53                | 8.40         | 1.46         | 2.06         |
|                  | 12  | 97   | 50          | 0.1017                      | 0.0966                                 | 2.724                           | 88601          | 1.350                     | 51846          | 1.310                     | 39234          | 2.724                         | 88601          | 1.286                     | 49393          | 1.224                     | 36641          | 7.490                     | 2.768                                    | 2.753                                     | 81               | 9.62                       | 3.11                | 11.62        | 1.91         | 3.96         |
|                  | 20  | 33   | 33          | 0.0346                      | 0.0329                                 | 0.769                           | 15192          | 0.532                     | 10508          | 0.329                     | 6505           | 0.769                         | 15192          | 0.514                     | 10153          | 0.275                     | 5434           | 2.823                     | 0.954                                    | 0.694                                     | 125              | 0.63                       | 0.63                | 2.05         | 0.27         | 0.38         |
| 8                | 18  | 43   | 33          | 0.0451                      | 0.0428                                 | 1.150                           | 22733          | 0.762                     | 16155          | 0.483                     | 9535           | 1.150                         | 22733          | 0.697                     | 14768          | 0.394                     | 7792           | 3.797                     | 1.273                                    | 0.982                                     | 124              | 1.41                       | 1.24                | 3.09         | 0.43         | 0.61         |
|                  | 16  | 54   | 50          | 0.0566                      | 0.0538                                 | 1.449                           | 43377          | 0.927                     | 29898          | 0.610                     | 18261          | 1.449                         | 43377          | 0.865                     | 27897          | 0.498                     | 14913          | 4.753                     | 1.573                                    | 1.229                                     | 100              | 2.83                       | 1.95                | 5.77         | 0.97         | 1.38         |
|                  | 14  | 68   | 50          | 0.0713                      | 0.0677                                 | 1.925                           | 57642          | 1.226                     | 40261          | 0.854                     | 25573          | 1.925                         | 57642          | 1.078                     | 35400          | 0.686                     | 20533          | 6.023                     | 1.938                                    | 1.645                                     | 100              | 5.34                       | 2.88                | 7.06         | 1.44         | 2.08         |
|                  | 12  | 97   | 50          | 0.1017                      | 0.0966                                 | 2.793                           | 92027          | 1.707                     | 57870          | 1.429                     | 42793          | 2.793                         | 92027          | 1.484                     | 50318          | 1.122                     | 33607          | 8.380                     | 2.662                                    | 2.522                                     | 98               | 10.58                      | 3.90                | 9.71         | 1.89         | 4.00         |
| 8                | 20* | 33   | 33          | 0.0346                      | 0.0329                                 | 1.084                           | 21420          | 0.548                     | 10829          | 0.333                     | 6570           | —                             | —              | —                         | —              | —                         | —              | 5.805                     | 1.076                                    | 0.703                                     | 113              | 0.47                       | —                   | 2.05         | —            | 0.38         |
|                  | 18  | 43   | 33          | 0.0451                      | 0.0428                                 | 1.729                           | 34161          | 0.787                     | 16681          | 0.490                     | 9679           | 1.729                         | 34161          | 0.770                     | 16307          | 0.400                     | 7896           | 7.723                     | 1.439                                    | 1.001                                     | 112              | 1.05                       | 1.05                | 3.09         | 0.27         | 0.61         |
|                  | 16  | 54   | 50          | 0.0566                      | 0.0538                                 | 2.208                           | 66094          | 0.956                     | 30850          | 0.620                     | 18549          | 2.208                         | 66094          | 0.935                     | 30174          | 0.505                     | 15122          | 9.662                     | 1.779                                    | 1.254                                     | 90               | 2.09                       | 2.09                | 5.77         | 0.62         | 1.38         |
|                  | 14  | 68   | 50          | 0.0713                      | 0.0677                                 | 2.946                           | 88217          | 1.265                     | 41554          | 0.874                     | 26153          | 2.946                         | 88217          | 1.237                     | 40635          | 0.700                     | 20957          | 12.230                    | 2.193                                    | 1.690                                     | 90               | 4.21                       | 3.36                | 7.06         | 0.94         | 2.08         |
|                  | 12  | 97   | 50          | 0.1017                      | 0.0966                                 | 4.269                           | 140636         | 1.766                     | 59876          | 1.486                     | 44481          | 4.269                         | 140636         | 1.724                     | 58451          | 1.164                     | 34855          | 17.075                    | 3.013                                    | 2.631                                     | 89               | 10.88                      | 5.99                | 9.71         | 1.84         | 4.00         |

### Notes:

- 1 Sxe = Effective Section Modulus about x-axis.
- 2 Mxa = Allowable Moment about x-axis.
- 3 Sye = Effective Section Modulus about y-axis.
- 4 Mya = Allowable Moment about y-axis.
- 5 Ixe = Effective Moment of Inertia about x-axis for deflection calculations.
- 6 Iye = Effective Moment of Inertia about y-axis for deflection calculations.

- 7 Lu = Maximum unbraced length to attain Mxa.
- 8 Vx = Allowable Shear for bending about x-axis.
- 9 Vy = Allowable Shear for bending about y-axis.
- 10 Px and Py are the allowable reactions based on web crippling with Py being for members bent about the y-axis.
- 11 Px = For members having a web depth of less than 8" and also having a thickness less than 97mil, allowable web crippling has been

determined in accordance with AISI Standard for CFS Framing Wall Stud Design - 2004. This value assumes the web resists web crippling and the HDS is nested in track having the same or greater thickness. For other members, allowable End One Flange Web Crippling is calculated in accordance with AISI NASPEC-2001 with 2004 supplement. Both calculation procedures use a bearing length of 1-1/4."

- 12 Py = Allowable End One Flange Web Crippling per AISI NASPEC-2001 with 2004 supplement. This value assumes two flanges resist web crippling for a bearing length of 1-1/4."
- 13 Unless otherwise noted, properties are computed according to the AISI-NASPEC, 2001 with 2004 supplement.

- 14 Perforated properties are based on the standard 1-1/2" x 4" oval ClarkDietrich web knockout. The knockout is centered about the web, and is spaced no less than 24" o.c.
- 15 Stiffening Lip = 3/4" for all web sizes.
- 16 " \* " Indicates that h/t exceeds 200. Web stiffeners are required at bearing points. No holes in the web are permitted.

Complies with IBC 2006 & AISI-NASPEC, 2001 with 2004 supplement

# ALLOWABLE HDS LIMITING HEIGHTS (FT-IN)

| Member size (in) | Ga | Mils | Fy (ksi) | Spacing (in) | 5psf     |         |         | 15psf    |         |         | 20psf    |          |         | 25psf     |          |         | 30psf     |          |         | 35psf     |           |         | 40psf    |          |         |
|------------------|----|------|----------|--------------|----------|---------|---------|----------|---------|---------|----------|----------|---------|-----------|----------|---------|-----------|----------|---------|-----------|-----------|---------|----------|----------|---------|
|                  |    |      |          |              | 120      | 240     | 360     | 240      | 360     | 600     | 240      | 360      | 600     | 240       | 360      | 600     | 240       | 360      | 600     | 240       | 360       | 600     | 240      | 360      | 600     |
| 3-5/8            | 20 | 33   | 33       | 12           | 28' 2"   | 22' 4"  | 19' 6"  | 17' 5"   | 15' 3"  | 12' 10" | 15' 7" f | 13' 10"  | 11' 8"  | 13' 11" f | 12' 10"  | 10' 10" | 12' 8" f  | 12' 1"   | 10' 2"  | 11' 9" f  | 11' 6"    | 9' 8"   | 11' 0" f | 11' 0" f | 9' 3"   |
|                  |    |      |          | 16           | 25' 7"   | 20' 4"  | 17' 9"  | 15' 7" f | 13' 10" | 11' 8"  | 13' 6" f | 12' 7"   | 10' 7"  | 12' 0" f  | 11' 8"   | 9' 10"  | 11' 0" f  | 11' 0" f | 9' 3"   | 10' 2" f  | 10' 2" f  | 8' 10"  | 9' 6" f  | 9' 6" f  | 8' 5"   |
|                  |    |      |          | 24           | 22' 0" f | 17' 9"  | 15' 6"  | 12' 8" f | 12' 1"  | 10' 2"  | 11' 0" f | 11' 0" f | 9' 3"   | 9' 10" f  | 9' 10" f | 8' 7"   | 9' 0" f   | 9' 0" f  | 8' 1"   | 8' 4" f   | 8' 4" f   | 7' 8"   | 7' 9" f  | 7' 9" f  | 7' 4"   |
|                  | 18 | 43   | 33       | 12           | 31' 3"   | 24' 9"  | 21' 8"  | 19' 4"   | 16' 11" | 14' 3"  | 17' 7"   | 15' 4"   | 12' 11" | 16' 4"    | 14' 3"   | 12' 0"  | 15' 4"    | 13' 5"   | 11' 4"  | 14' 3" f  | 12' 9"    | 10' 9"  | 13' 4" f | 12' 2"   | 10' 3"  |
|                  |    |      |          | 16           | 28' 4"   | 22' 6"  | 19' 8"  | 17' 7"   | 15' 4"  | 12' 11" | 16' 0"   | 13' 11"  | 11' 9"  | 14' 7" f  | 12' 11"  | 10' 11" | 13' 4" f  | 12' 2"   | 10' 3"  | 12' 4" f  | 11' 7"    | 9' 9"   | 11' 7" f | 11' 1"   | 9' 4"   |
|                  |    |      |          | 24           | 24' 9"   | 19' 8"  | 17' 2"  | 15' 4"   | 13' 5"  | 11' 4"  | 13' 4" f | 12' 2"   | 10' 3"  | 11' 11" f | 11' 4"   | 9' 7"   | 10' 11" f | 10' 8"   | 9' 0"   | 10' 1" f  | 10' 1" f  | 8' 6"   | 9' 5" f  | 9' 5" f  | 8' 2"   |
|                  | 16 | 54   | 50       | 12           | 33' 7"   | 26' 8"  | 23' 4"  | 20' 10"  | 18' 2"  | 15' 4"  | 18' 11"  | 16' 6"   | 13' 11" | 17' 7"    | 15' 4"   | 12' 11" | 16' 6"    | 14' 5"   | 12' 2"  | 15' 9"    | 13' 9"    | 11' 7"  | 15' 0"   | 13' 2"   | 11' 1"  |
|                  |    |      |          | 16           | 30' 7"   | 24' 3"  | 21' 2"  | 18' 11"  | 16' 6"  | 13' 11" | 17' 2"   | 15' 0"   | 12' 8"  | 16' 0"    | 13' 11"  | 11' 9"  | 15' 0"    | 13' 2"   | 11' 1"  | 14' 3"    | 12' 6"    | 10' 6"  | 13' 8"   | 11' 11"  | 10' 1"  |
|                  |    |      |          | 24           | 26' 8"   | 21' 2"  | 18' 6"  | 16' 6"   | 14' 5"  | 12' 2"  | 15' 0"   | 13' 2"   | 11' 1"  | 13' 11"   | 12' 2"   | 10' 3"  | 13' 2"    | 11' 6"   | 9' 8"   | 12' 6"    | 10' 11"   | 9' 2"   | 11' 11"  | 10' 5"   | 8' 9"   |
|                  | 14 | 68   | 50       | 12           | 36' 4"   | 28' 10" | 25' 2"  | 22' 6"   | 19' 8"  | 16' 7"  | 20' 6"   | 17' 10"  | 15' 1"  | 19' 0"    | 16' 7"   | 14' 0"  | 17' 10"   | 15' 7"   | 13' 2"  | 17' 0"    | 14' 10"   | 12' 6"  | 16' 3"   | 14' 2"   | 12' 0"  |
|                  |    |      |          | 16           | 33' 0"   | 26' 2"  | 22' 11" | 20' 6"   | 17' 10" | 15' 1"  | 18' 7"   | 16' 3"   | 13' 8"  | 17' 3"    | 15' 1"   | 12' 9"  | 16' 3"    | 14' 2"   | 12' 0"  | 15' 5"    | 13' 6"    | 11' 4"  | 14' 9"   | 12' 11"  | 10' 10" |
|                  |    |      |          | 24           | 28' 10"  | 22' 11" | 20' 0"  | 17' 10"  | 15' 7"  | 13' 2"  | 16' 3"   | 14' 2"   | 12' 0"  | 15' 1"    | 13' 2"   | 11' 1"  | 14' 2"    | 12' 5"   | 10' 5"  | 13' 6"    | 11' 9"    | 9' 11"  | 12' 11"  | 11' 3"   | 9' 6"   |
|                  | 12 | 97   | 50       | 12           | 40' 5"   | 32' 1"  | 28' 0"  | 25' 1"   | 21' 11" | 18' 6"  | 22' 9"   | 19' 11"  | 16' 9"  | 21' 2"    | 18' 6"   | 15' 7"  | 19' 11"   | 17' 4"   | 14' 8"  | 18' 11"   | 16' 6"    | 13' 11" | 18' 1"   | 15' 9"   | 13' 4"  |
|                  |    |      |          | 16           | 36' 9"   | 29' 2"  | 25' 6"  | 22' 9"   | 19' 11" | 16' 9"  | 20' 8"   | 18' 1"   | 15' 3"  | 19' 2"    | 16' 9"   | 14' 2"  | 18' 1"    | 15' 9"   | 13' 4"  | 17' 2"    | 15' 0"    | 12' 8"  | 16' 5"   | 14' 4"   | 12' 1"  |
|                  |    |      |          | 24           | 32' 1"   | 25' 6"  | 22' 3"  | 19' 11"  | 17' 4"  | 14' 8"  | 18' 1"   | 15' 9"   | 13' 4"  | 16' 9"    | 14' 8"   | 12' 4"  | 15' 9"    | 13' 9"   | 11' 8"  | 15' 0"    | 13' 1"    | 11' 1"  | 14' 4"   | 12' 6"   | 10' 7"  |
| 4                | 20 | 33   | 33       | 12           | 30' 5"   | 24' 2"  | 21' 1"  | 18' 10"  | 16' 6"  | 13' 11" | 16' 6" f | 15' 0"   | 12' 8"  | 14' 9" f  | 13' 11"  | 11' 9"  | 13' 6" f  | 13' 1"   | 11' 0"  | 12' 6" f  | 12' 5"    | 10' 6"  | 11' 8" f | 11' 8" f | 10' 0"  |
|                  |    |      |          | 16           | 27' 8"   | 21' 11" | 19' 2"  | 16' 6" f | 15' 0"  | 12' 8"  | 14' 4" f | 13' 7"   | 11' 6"  | 12' 10" f | 12' 8"   | 10' 8"  | 11' 8" f  | 11' 8" f | 10' 0"  | 10' 10" f | 10' 10" f | 9' 6"   | 10' 1" f | 10' 1" f | 9' 1"   |
|                  |    |      |          | 24           | 23' 5" f | 19' 2"  | 16' 9"  | 13' 6" f | 13' 1"  | 11' 0"  | 11' 8" f | 11' 8" f | 10' 0"  | 10' 5" f  | 10' 5" f | 9' 4"   | 9' 7" f   | 9' 7" f  | 8' 9"   | 8' 10" f  | 8' 10" f  | 8' 4"   | 8' 3" f  | 8' 3" f  | 7' 11"  |
|                  | 18 | 43   | 33       | 12           | 33' 9"   | 26' 9"  | 23' 5"  | 20' 11"  | 18' 3"  | 15' 5"  | 19' 0"   | 16' 7"   | 14' 0"  | 17' 8"    | 15' 5"   | 13' 0"  | 16' 5" f  | 14' 6"   | 12' 3"  | 15' 2" f  | 13' 9"    | 11' 7"  | 14' 3" f | 13' 2"   | 11' 1"  |
|                  |    |      |          | 16           | 30' 8"   | 24' 4"  | 21' 3"  | 19' 0"   | 16' 7"  | 14' 0"  | 17' 3"   | 15' 1"   | 12' 9"  | 15' 7" f  | 14' 0"   | 11' 10" | 14' 3" f  | 13' 2"   | 11' 1"  | 13' 2" f  | 12' 6"    | 10' 7"  | 12' 4" f | 12' 0"   | 10' 1"  |
|                  |    |      |          | 24           | 26' 9"   | 21' 3"  | 18' 7"  | 16' 5" f | 14' 6"  | 12' 3"  | 14' 3" f | 13' 2"   | 11' 1"  | 12' 9" f  | 12' 3"   | 10' 4"  | 11' 7" f  | 11' 6"   | 9' 8"   | 10' 9" f  | 10' 9" f  | 9' 3"   | 10' 1" f | 10' 1" f | 8' 10"  |
|                  | 16 | 54   | 50       | 12           | 36' 4"   | 28' 10" | 25' 2"  | 22' 6"   | 19' 8"  | 16' 7"  | 20' 5"   | 17' 10"  | 15' 1"  | 19' 0"    | 16' 7"   | 14' 0"  | 17' 10"   | 15' 7"   | 13' 2"  | 17' 0"    | 14' 10"   | 12' 6"  | 16' 3"   | 14' 2"   | 12' 0"  |
|                  |    |      |          | 16           | 33' 0"   | 26' 2"  | 22' 11" | 20' 5"   | 17' 10" | 15' 1"  | 18' 7"   | 16' 3"   | 13' 8"  | 17' 3"    | 15' 1"   | 12' 9"  | 16' 3"    | 14' 2"   | 12' 0"  | 15' 5"    | 13' 6"    | 11' 4"  | 14' 9"   | 12' 11"  | 10' 10" |
|                  |    |      |          | 24           | 28' 10"  | 22' 11" | 20' 0"  | 17' 10"  | 15' 7"  | 13' 2"  | 16' 3"   | 14' 2"   | 12' 0"  | 15' 1"    | 13' 2"   | 11' 1"  | 14' 2"    | 12' 5"   | 10' 5"  | 13' 6"    | 11' 9"    | 9' 11"  | 12' 11"  | 11' 3"   | 9' 6"   |
|                  | 14 | 68   | 50       | 12           | 39' 3"   | 31' 2"  | 27' 3"  | 24' 4"   | 21' 3"  | 17' 11" | 22' 1"   | 19' 4"   | 16' 3"  | 20' 6"    | 17' 11"  | 15' 1"  | 19' 4"    | 16' 10"  | 14' 3"  | 18' 4"    | 16' 0"    | 13' 6"  | 17' 7"   | 15' 4"   | 12' 11" |
|                  |    |      |          | 16           | 35' 8"   | 28' 4"  | 24' 9"  | 22' 1"   | 19' 4"  | 16' 3"  | 20' 1"   | 17' 7"   | 14' 10" | 18' 8"    | 16' 3"   | 13' 9"  | 17' 7"    | 15' 4"   | 12' 11" | 16' 8"    | 14' 7"    | 12' 3"  | 15' 11"  | 13' 11"  | 11' 9"  |
|                  |    |      |          | 24           | 31' 2"   | 24' 9"  | 21' 7"  | 19' 4"   | 16' 10" | 14' 3"  | 17' 7"   | 15' 4"   | 12' 11" | 16' 3"    | 14' 3"   | 12' 0"  | 15' 4"    | 13' 5"   | 11' 4"  | 14' 7"    | 12' 9"    | 10' 9"  | 13' 11"  | 12' 2"   | 10' 3"  |
|                  | 12 | 97   | 50       | 12           | 43' 8"   | 34' 8"  | 30' 4"  | 27' 1"   | 23' 8"  | 19' 11" | 24' 7"   | 21' 6"   | 18' 2"  | 22' 10"   | 19' 11"  | 16' 10" | 21' 6"    | 18' 9"   | 15' 10" | 20' 5"    | 17' 10"   | 15' 1"  | 19' 6"   | 17' 1"   | 14' 5"  |
|                  |    |      |          | 16           | 39' 8"   | 31' 6"  | 27' 6"  | 24' 7"   | 21' 6"  | 18' 2"  | 22' 4"   | 19' 6"   | 16' 6"  | 20' 9"    | 18' 2"   | 15' 4"  | 19' 6"    | 17' 1"   | 14' 5"  | 18' 7"    | 16' 3"    | 13' 8"  | 17' 9"   | 15' 6"   | 13' 1"  |
|                  |    |      |          | 24           | 34' 8"   | 27' 6"  | 24' 1"  | 21' 6"   | 18' 9"  | 15' 10" | 19' 6"   | 17' 1"   | 14' 5"  | 18' 2"    | 15' 10"  | 13' 4"  | 17' 1"    | 14' 11"  | 12' 7"  | 16' 3"    | 14' 2"    | 11' 11" | 15' 6"   | 13' 7"   | 11' 5"  |

## Notes:

- Table values of 120, 240, 360 and 600 represent the allowable deflection limit.
- Studs are checked for simple-span deflection and stress. Stress calculations are made for mid-span fully braced moment, end shear through the unperforated section, and shear moment interaction through the perforated section 10" away from the end bearing.
- Wind loads are multiplied by 0.7 for deflection calculations per Section B1 of the AISI Wall Stud Design Standard except for the 5psf load which is considered an interior wall load.

- A 1/3 stress increase is not used.
- Limiting heights are based on continuous lateral support of each flange over the full height of the stud for lateral bracing.
- Heights are based on steel properties only. Composite effects of sheathing were not used.
- Check end reactions for web crippling.

- Cells having an "f" indicate the limiting height is controlled by stress. Cells having an " " have h/t > 200 and thus require bearing stiffeners designed in accordance with the AISI-NASPEC, 2001 with the 2004 supplement.
- Perforated properties are based on the standard 1-1/2" x 4" oval ClarkDietrich web knockout. The knockout is centered about the web, and is spaced no less than 24" o.c.
- Yield strength of 20 and 18 gauge members is 33ksi; 16 gauge and heavier are 50ksi.

Complies with IBC 2006 & AISI-NASPEC, 2001 with 2004 supplement

Pub. No. CD-STR-TechGuide 2/12

The technical content of this literature is effective 2/1/12 and supersedes all previous information.

clarkdietrich.com

## ALLOWABLE HDS LIMITING HEIGHTS (FT-IN)

| Member size (in) | Ga | Mils | Fy (ksi) | Spacing (in) | 5psf      |          |          | 15psf     |           |          | 20psf     |           |          | 25psf     |           |          | 30psf     |           |          | 35psf     |          |          | 40psf     |           |           |
|------------------|----|------|----------|--------------|-----------|----------|----------|-----------|-----------|----------|-----------|-----------|----------|-----------|-----------|----------|-----------|-----------|----------|-----------|----------|----------|-----------|-----------|-----------|
|                  |    |      |          |              | 120       | 240      | 360      | 240       | 360       | 600      | 240       | 360       | 600      | 240       | 360       | 600      | 240       | 360       | 600      | 240       | 360      | 600      | 240       | 360       | 600       |
| 6                | 20 | 33   | 33       | 12           | 42' 0"    | 33' 4"   | 29' 1"   | 26' 0" f  | 22' 9"    | 19' 2"   | 22' 6" f  | 20' 8"    | 17' 5"   | 20' 2" f  | 19' 2"    | 16' 2"   | 18' 4" f  | 18' 1"    | 15' 3"   | 17' 0" f  | 17' 0" f | 14' 5"   | 15' 11" f | 15' 11" f | 13' 10"   |
|                  |    |      |          | 16           | 38' 2"    | 30' 3"   | 26' 5"   | 22' 6" f  | 20' 8"    | 17' 5"   | 19' 6" f  | 18' 9"    | 15' 10"  | 17' 5" f  | 17' 5"    | 14' 8"   | 15' 11" f | 15' 11" f | 13' 10"  | 14' 9" f  | 14' 9" f | 13' 9"   | 13' 9" f  | 13' 9" f  | 12' 7"    |
|                  |    |      |          | 24           | 31' 10" f | 26' 5"   | 23' 1"   | 18' 4" f  | 18' 1"    | 15' 3"   | 15' 11" f | 15' 11" f | 13' 10"  | 14' 3" f  | 14' 3" f  | 12' 10"  | 13' 0" f  | 13' 0" f  | 12' 1"   | 12' 0" f  | 12' 0" f | 11' 6"   | 11' 3" f  | 11' 3" f  | 11' 0"    |
|                  | 18 | 43   | 33       | 12           | 46' 4"    | 36' 9"   | 32' 2"   | 28' 9"    | 25' 1"    | 21' 2"   | 26' 1"    | 22' 10"   | 19' 3"   | 24' 3"    | 21' 2"    | 17' 10"  | 22' 6" f  | 19' 11"   | 16' 10"  | 20' 10" f | 18' 11"  | 16' 0"   | 19' 6" f  | 18' 1"    | 15' 3"    |
|                  |    |      |          | 16           | 42' 1"    | 33' 5"   | 29' 2"   | 26' 1"    | 22' 10"   | 19' 3"   | 23' 9"    | 20' 9"    | 17' 6"   | 21' 4" f  | 19' 3"    | 16' 3"   | 19' 6" f  | 18' 1"    | 15' 3"   | 18' 0" f  | 17' 2"   | 14' 6"   | 16' 10" f | 16' 5"    | 13' 10"   |
|                  |    |      |          | 24           | 36' 9"    | 29' 2"   | 25' 6"   | 22' 6" f  | 19' 11"   | 16' 10"  | 19' 6" f  | 18' 1"    | 15' 3"   | 17' 5" f  | 16' 10"   | 14' 2"   | 15' 11" f | 15' 10"   | 13' 4"   | 14' 9" f  | 14' 9" f | 12' 8"   | 13' 9" f  | 13' 9" f  | 12' 1"    |
|                  | 16 | 54   | 50       | 12           | 49' 11"   | 39' 8"   | 34' 8"   | 31' 0"    | 27' 1"    | 22' 10"  | 28' 2"    | 24' 7"    | 20' 9"   | 26' 1"    | 22' 10"   | 19' 3"   | 24' 7"    | 21' 6"    | 18' 1"   | 23' 4"    | 20' 5"   | 17' 2"   | 22' 4"    | 19' 6"    | 16' 5"    |
|                  |    |      |          | 16           | 45' 5"    | 36' 0"   | 31' 6"   | 28' 2"    | 24' 7"    | 20' 9"   | 25' 7"    | 22' 4"    | 18' 10"  | 23' 9"    | 20' 9"    | 17' 6"   | 22' 4"    | 19' 6"    | 16' 5"   | 21' 2"    | 18' 6"   | 15' 8"   | 20' 3"    | 17' 9"    | 14' 11"   |
|                  |    |      |          | 24           | 39' 8"    | 31' 6"   | 27' 6"   | 24' 7"    | 21' 6"    | 18' 1"   | 22' 4"    | 19' 6"    | 16' 5"   | 20' 9"    | 18' 1"    | 15' 3"   | 19' 6"    | 17' 0"    | 14' 4"   | 18' 6"    | 16' 2"   | 13' 8"   | 17' 9"    | 15' 6"    | 13' 1"    |
|                  | 14 | 68   | 50       | 12           | 54' 1"    | 42' 11"  | 37' 6"   | 33' 6"    | 29' 3"    | 24' 8"   | 30' 5"    | 26' 7"    | 22' 5"   | 28' 3"    | 24' 8"    | 20' 10"  | 26' 7"    | 23' 3"    | 19' 7"   | 25' 3"    | 22' 1"   | 18' 7"   | 24' 2"    | 21' 1"    | 17' 10"   |
|                  |    |      |          | 16           | 49' 1"    | 39' 0"   | 34' 1"   | 30' 5"    | 26' 7"    | 22' 5"   | 27' 8"    | 24' 2"    | 20' 5"   | 25' 8"    | 22' 5"    | 18' 11"  | 24' 2"    | 21' 1"    | 17' 10"  | 22' 11"   | 20' 1"   | 16' 11"  | 21' 11"   | 19' 2"    | 16' 2"    |
|                  |    |      |          | 24           | 42' 11"   | 34' 1"   | 29' 9"   | 26' 7"    | 23' 3"    | 19' 7"   | 24' 2"    | 21' 1"    | 17' 10"  | 22' 5"    | 19' 7"    | 16' 6"   | 21' 1"    | 18' 5"    | 15' 7"   | 20' 1"    | 17' 6"   | 14' 9"   | 19' 2"    | 16' 9"    | 14' 2"    |
|                  | 12 | 97   | 50       | 12           | 60' 4"    | 47' 11"  | 41' 10"  | 37' 5"    | 32' 8"    | 27' 7"   | 34' 0"    | 29' 8"    | 25' 0"   | 31' 7"    | 27' 7"    | 23' 3"   | 29' 8"    | 25' 11"   | 21' 10"  | 28' 2"    | 24' 8"   | 20' 9"   | 27' 0"    | 23' 7"    | 19' 10"   |
|                  |    |      |          | 16           | 54' 10"   | 43' 6"   | 38' 0"   | 34' 0"    | 29' 8"    | 25' 0"   | 30' 10"   | 27' 0"    | 22' 9"   | 28' 8"    | 25' 0"    | 21' 1"   | 27' 0"    | 23' 7"    | 19' 10"  | 25' 7"    | 22' 5"   | 18' 11"  | 24' 6"    | 21' 5"    | 18' 1"    |
|                  |    |      |          | 24           | 47' 11"   | 38' 0"   | 33' 3"   | 29' 8"    | 25' 11"   | 21' 10"  | 27' 0"    | 23' 7"    | 19' 10"  | 25' 0"    | 21' 10"   | 18' 5"   | 23' 7"    | 20' 7"    | 17' 4"   | 22' 5"    | 19' 7"   | 16' 6"   | 21' 5"    | 18' 8"    | 15' 9"    |
| 8                | 20 | 33   | 33       | 12           | 53' 5" *  | 42' 5" * | 37' 0" * | 30' 10" f | 28' 11" * | 24' 5" * | 26' 9" f  | 26' 3" *  | 22' 2" * | 23' 11" f | 23' 11" f | 20' 7" * | 21' 10" f | 21' 10" f | 19' 4" * | 20' 2" f  | 20' 2" f | 18' 5" * | 18' 11" f | 18' 11" f | 17' 7" *  |
|                  |    |      |          | 16           | 46' 3" f  | 38' 6" * | 33' 8" * | 26' 9" f  | 26' 3" *  | 22' 2" * | 23' 2" f  | 23' 2" f  | 20' 2" * | 20' 8" f  | 20' 8" f  | 18' 8" * | 18' 11" f | 18' 11" f | 17' 7" * | 17' 6" f  | 17' 6" f | 16' 8" * | 16' 4" f  | 16' 4" f  | 16' 0" *  |
|                  |    |      |          | 24           | 37' 9" f  | 33' 8" * | 29' 5" * | 21' 10" f | 21' 10" f | 19' 4" * | 18' 11" f | 18' 11" f | 17' 7" * | 16' 11" f | 16' 11" f | 16' 4" * | 15' 5" f  | 15' 5" f  | 15' 4" * | 13' 6" f  | 13' 6" f | 13' 6" f | 11' 10" f | 11' 10" f | 11' 10" f |
|                  | 18 | 43   | 33       | 12           | 58' 9"    | 46' 7"   | 40' 9"   | 36' 5"    | 31' 10"   | 26' 10"  | 33' 1"    | 28' 11"   | 24' 4"   | 30' 2" f  | 26' 10"   | 22' 7"   | 27' 7" f  | 25' 3"    | 21' 3"   | 25' 6" f  | 24' 0"   | 20' 3"   | 23' 10" f | 22' 11"   | 19' 4"    |
|                  |    |      |          | 16           | 53' 4"    | 42' 4"   | 37' 0"   | 33' 1"    | 28' 11"   | 24' 4"   | 29' 3" f  | 26' 3"    | 22' 2"   | 26' 2" f  | 24' 4"    | 20' 7"   | 23' 10" f | 22' 11"   | 19' 4"   | 22' 1" f  | 21' 9"   | 18' 4"   | 20' 8" f  | 20' 8" f  | 17' 7"    |
|                  |    |      |          | 24           | 46' 7"    | 37' 0"   | 32' 4"   | 27' 7" f  | 25' 3"    | 21' 3"   | 23' 10" f | 22' 11"   | 19' 4"   | 21' 4" f  | 21' 3"    | 17' 11"  | 19' 6" f  | 19' 6" f  | 16' 11"  | 18' 0" f  | 18' 0" f | 16' 1"   | 16' 10" f | 16' 10" f | 15' 4"    |
|                  | 16 | 54   | 50       | 12           | 63' 3"    | 50' 3"   | 43' 10"  | 39' 3"    | 34' 3"    | 28' 11"  | 35' 8"    | 31' 2"    | 26' 3"   | 33' 1"    | 28' 11"   | 24' 4"   | 31' 2"    | 27' 2"    | 22' 11"  | 29' 7"    | 25' 10"  | 21' 9"   | 28' 3"    | 24' 8"    | 20' 10"   |
|                  |    |      |          | 16           | 57' 6"    | 45' 8"   | 39' 10"  | 35' 8"    | 31' 2"    | 26' 3"   | 32' 4"    | 28' 3"    | 23' 10"  | 30' 1"    | 26' 3"    | 22' 2"   | 28' 3"    | 24' 8"    | 20' 10"  | 26' 10"   | 23' 6"   | 19' 10"  | 25' 8"    | 22' 5"    | 18' 11"   |
|                  |    |      |          | 24           | 50' 3"    | 39' 10"  | 34' 10"  | 31' 2"    | 27' 2"    | 22' 11"  | 28' 3"    | 24' 8"    | 20' 10"  | 26' 3"    | 22' 11"   | 19' 4"   | 24' 8"    | 21' 7"    | 18' 2"   | 23' 6"    | 20' 6"   | 17' 4"   | 22' 5"    | 19' 7"    | 16' 6"    |
|                  | 14 | 68   | 50       | 12           | 68' 5"    | 54' 4"   | 47' 6"   | 42' 5"    | 37' 1"    | 31' 3"   | 38' 7"    | 33' 8"    | 28' 5"   | 35' 9"    | 31' 3"    | 26' 4"   | 33' 8"    | 29' 5"    | 24' 10"  | 32' 0"    | 27' 11"  | 23' 7"   | 30' 7"    | 26' 9"    | 22' 6"    |
|                  |    |      |          | 16           | 62' 2"    | 49' 4"   | 43' 1"   | 38' 7"    | 33' 8"    | 28' 5"   | 35' 0"    | 30' 7"    | 25' 10"  | 32' 6"    | 28' 5"    | 23' 11"  | 30' 7"    | 26' 9"    | 22' 6"   | 29' 1"    | 25' 5"   | 21' 5"   | 27' 10"   | 24' 3"    | 20' 6"    |
|                  |    |      |          | 24           | 54' 4"    | 43' 1"   | 37' 8"   | 33' 8"    | 29' 5"    | 24' 10"  | 30' 7"    | 26' 9"    | 22' 6"   | 28' 5"    | 24' 10"   | 20' 11"  | 26' 9"    | 23' 4"    | 19' 8"   | 25' 5"    | 22' 2"   | 18' 8"   | 24' 3"    | 21' 3"    | 17' 11"   |
|                  | 12 | 97   | 50       | 12           | 76' 6"    | 60' 9"   | 53' 1"   | 47' 5"    | 41' 5"    | 34' 11"  | 43' 1"    | 37' 8"    | 31' 9"   | 40' 0"    | 34' 11"   | 29' 6"   | 37' 8"    | 32' 11"   | 27' 9"   | 35' 9"    | 31' 3"   | 26' 4"   | 34' 2"    | 29' 10"   | 25' 2"    |
|                  |    |      |          | 16           | 69' 6"    | 55' 2"   | 48' 2"   | 43' 1"    | 37' 8"    | 31' 9"   | 39' 2"    | 34' 2"    | 28' 10"  | 36' 4"    | 31' 9"    | 26' 9"   | 34' 2"    | 29' 10"   | 25' 2"   | 32' 6"    | 28' 4"   | 23' 11"  | 31' 1"    | 27' 2"    | 22' 11"   |
|                  |    |      |          | 24           | 60' 9"    | 48' 2"   | 42' 1"   | 37' 8"    | 32' 11"   | 27' 9"   | 34' 2"    | 29' 10"   | 25' 2"   | 31' 9"    | 27' 9"    | 23' 5"   | 29' 10"   | 26' 1"    | 22' 0"   | 28' 4"    | 24' 9"   | 20' 11"  | 27' 2"    | 23' 8"    | 20' 0"    |

## Notes:

- Table values of 120, 240 and 360 represent the allowable deflection limit.
- Studs are checked for simple-span deflection and stress. Stress calculations are made for mid-span fully braced moment, end shear through the unperforated section, and shear moment interaction through the perforated section 10" away from the end bearing.
- Wind loads are multiplied by 0.7 for deflection calculations per Section B1 of the AISI Wall Stud Design Standard except for the 5psf load which is considered an interior wall load.
- A 1/3 stress increase is not used.
- Limiting heights are based on continuous lateral support of each flange over the full height of the stud for lateral bracing.
- Heights are based on steel properties only. Composite effects of sheathing were not used.
- Check end reactions for web crippling.
- Cells having an "f" indicate the limiting height is controlled by stress. Cells having an "\*" have h/t > 200 and thus require bearing stiffeners designed in accordance with the AISI-NASPEC, 2001 with the 2004 supplement.
- Perforated properties are based on the standard 1-1/2" x 4" oval ClarkDietrich web knockout. The knockout is centered about the web, and is spaced no less than 24" o.c.
- Yield strength of 20 and 18 gauge members is 33ksi; 16 gauge and heavier are 50ksi.

Complies with IBC 2006 &amp; AISI-NASPEC, 2001 with 2004 supplement

## ALLOWABLE HDS AXIAL LOADS (KIPS)

| Member length (ft) | Spacing (in) | 5psf               |         |         |         |         |                |         |         |         |         |
|--------------------|--------------|--------------------|---------|---------|---------|---------|----------------|---------|---------|---------|---------|
|                    |              | 3-5/8" HDS Members |         |         |         |         | 4" HDS Members |         |         |         |         |
|                    |              | Gauge (Mils)       |         |         |         |         |                |         |         |         |         |
|                    |              | 20 (33)            | 18 (43) | 16 (54) | 14 (68) | 12 (97) | 20 (33)        | 18 (43) | 16 (54) | 14 (68) | 12 (97) |
| 8                  | 12           | 3.34 a             | 5.06 a  | 8.20 a  | 10.45 a | 14.35 a | 3.55 a         | 5.39 a  | 8.96 a  | 11.81 a | 16.42 a |
|                    | 16           | 3.24 a             | 4.96 a  | 8.10 a  | 10.36 a | 14.27 a | 3.46 a         | 5.30 a  | 8.87 a  | 11.72 a | 16.34 a |
|                    | 24           | 3.05 a             | 4.75 a  | 7.92 a  | 10.19 a | 14.11 a | 3.29 a         | 5.11 a  | 8.70 a  | 11.55 a | 16.18 a |
| 9                  | 12           | 3.12 a             | 4.75 a  | 7.58 a  | 9.56 a  | 13.16 a | 3.36 a         | 5.13 a  | 8.43 a  | 11.03 a | 15.31 a |
|                    | 16           | 3.00 a             | 4.62 a  | 7.46 a  | 9.45 a  | 13.06 a | 3.25 a         | 5.01 a  | 8.32 a  | 10.92 a | 15.21 a |
|                    | 24           | 2.76 a             | 4.36 a  | 7.23 a  | 9.23 a  | 12.85 a | 3.03 a         | 4.78 a  | 8.10 a  | 10.71 a | 15.01 a |
| 10                 | 12           | 2.88 a             | 4.41 a  | 6.93 a  | 8.63 a  | 11.92 a | 3.15 a         | 4.83 a  | 7.84 a  | 10.19 a | 14.14 a |
|                    | 16           | 2.73 a             | 4.25 a  | 6.78 a  | 8.50 a  | 11.79 a | 3.01 a         | 4.69 a  | 7.71 a  | 10.06 a | 14.01 a |
|                    | 24           | 2.45 a             | 3.94 a  | 6.50 a  | 8.24 a  | 11.55 a | 2.75 a         | 4.40 a  | 7.44 a  | 9.80 a  | 13.77 a |
| 11                 | 12           | 2.63 a             | 4.05 a  | 6.17 a  | 7.68 a  | 10.64 a | 2.92 a         | 4.51 a  | 7.23 a  | 9.30 a  | 12.92 a |
|                    | 16           | 2.46 a             | 3.86 a  | 6.00 a  | 7.53 a  | 10.49 a | 2.76 a         | 4.34 a  | 7.07 a  | 9.14 a  | 12.77 a |
|                    | 24           | 2.14 a             | 3.51 a  | 5.69 a  | 7.25 a  | 10.22 a | 2.46 a         | 4.01 a  | 6.76 a  | 8.84 a  | 12.48 a |
| 12                 | 12           | 2.37 a             | 3.67 a  | 5.42 a  | 6.79 a  | 9.46 a  | 2.68 a         | 4.17 a  | 6.56 a  | 8.38 a  | 11.68 a |
|                    | 16           | 2.18 a             | 3.46 a  | 5.24 a  | 6.63 a  | 9.30 a  | 2.5 a          | 3.97 a  | 6.38 a  | 8.21 a  | 11.52 a |
|                    | 24           | 1.83 a             | 3.08 a  | 4.91 a  | 6.32 a  | 9.00 a  | 2.16 a         | 3.60 a  | 6.03 a  | 7.87 a  | 11.19 a |
| 14                 | 12           | 1.85 a             | 2.93 a  | 4.17 a  | 5.31 a  | 7.49 a  | 2.19 a         | 3.47 a  | 5.19 a  | 6.64 a  | 9.35 a  |
|                    | 16           | 1.64 a             | 2.69 a  | 3.98 a  | 5.13 a  | 7.31 a  | 1.98 a         | 3.23 a  | 4.99 a  | 6.44 a  | 9.16 a  |
|                    | 24           | 1.26 c             | 2.27 b  | 3.64 a  | 4.79 a  | 6.97 a  | 1.59 b         | 2.79 a  | 4.61 a  | 6.07 a  | 8.79 a  |
| 16                 | 12           | 1.38 b             | 2.22 a  | 3.23 a  | 4.17 a  | 5.96 a  | 1.72 a         | 2.78 a  | 4.11 a  | 5.27 a  | 7.52 a  |
|                    | 16           | 1.17 c             | 1.99 b  | 3.04 a  | 3.98 a  | 5.77 a  | 1.49 b         | 2.52 a  | 3.89 a  | 5.06 a  | 7.30 a  |
|                    | 24           | 0.79 e             | 1.57 d  | 2.70 c  | 3.65 b  | 5.42 a  | 1.08 d         | 2.07 c  | 3.50 b  | 4.68 a  | 6.91 a  |

| Member<br>length (ft) | Spacing<br>(in) | 15psf              |         |         |         |         |                |         |         |         |         |
|-----------------------|-----------------|--------------------|---------|---------|---------|---------|----------------|---------|---------|---------|---------|
|                       |                 | 3-5/8" HDS Members |         |         |         |         | 4" HDS Members |         |         |         |         |
|                       |                 | Gauge (Mils)       |         |         |         |         |                |         |         |         |         |
|                       |                 | 20 (33)            | 18 (43) | 16 (54) | 14 (68) | 12 (97) | 20 (33)        | 18 (43) | 16 (54) | 14 (68) | 12 (97) |
| 8                     | 12              | 2.77 a             | 4.46 a  | 7.64 a  | 9.93 a  | 13.86 a | 3.03 a         | 4.85 a  | 8.45 a  | 11.31 a | 15.94 a |
|                       | 16              | 2.51 a             | 4.17 a  | 7.38 a  | 9.67 a  | 13.62 a | 2.78 a         | 4.58 a  | 8.21 a  | 11.07 a | 15.71 a |
|                       | 24              | 2.00 a             | 3.62 a  | 6.87 a  | 9.18 a  | 13.15 a | 2.31 a         | 4.08 a  | 7.73 a  | 10.59 a | 15.26 a |
| 9                     | 12              | 2.42 a             | 4.00 a  | 6.89 a  | 8.91 a  | 12.55 a | 2.72 a         | 4.44 a  | 7.78 a  | 10.40 a | 14.72 a |
|                       | 16              | 2.10 a             | 3.65 a  | 6.57 a  | 8.61 a  | 12.25 a | 2.41 a         | 4.12 a  | 7.48 a  | 10.10 a | 14.43 a |
|                       | 24              | 1.51 a             | 3.01 a  | 5.96 a  | 8.03 a  | 11.69 a | 1.85 a         | 3.51 a  | 6.89 a  | 9.510 a | 13.86 a |
| 10                    | 12              | 2.06 a             | 3.52 a  | 6.11 a  | 7.87 a  | 11.19 a | 2.38 a         | 4.00 a  | 7.06 a  | 9.43 a  | 13.41 a |
|                       | 16              | 1.70 a             | 3.12 a  | 5.74 a  | 7.53 a  | 10.85 a | 2.03 a         | 3.62 a  | 6.70 a  | 9.07 a  | 13.06 a |
|                       | 24              | 1.04 b             | 2.40 a  | 5.06 a  | 6.87 a  | 10.2 a  | 1.38 a         | 2.92 a  | 6.02 a  | 8.40 a  | 12.40 a |
| 11                    | 12              | 1.71 a             | 3.03 a  | 5.26 a  | 6.84 a  | 9.82 a  | 2.04 a         | 3.55 a  | 6.32 a  | 8.42 a  | 12.07 a |
|                       | 16              | 1.31 b             | 2.60 a  | 4.87 a  | 6.46 a  | 9.44 a  | 1.65 a         | 3.12 a  | 5.91 a  | 8.01 a  | 11.67 a |
|                       | 24              | 0.61 d             | 1.82 b  | 4.15 a  | 5.77 a  | 8.74 a  | 0.94 b         | 2.34 a  | 5.16 a  | 7.27 a  | 10.93 a |
| 12                    | 12              | 1.37 a             | 2.56 a  | 4.46 a  | 5.89 a  | 8.57 a  | 1.70 a         | 3.09 a  | 5.55 a  | 7.41 a  | 10.74 a |
|                       | 16              | 0.95 c             | 2.10 a  | 4.06 a  | 5.50 a  | 8.17 a  | 1.28 b         | 2.62 a  | 5.11 a  | 6.97 a  | 10.30 a |
|                       | 24              | 0.23 d             | 1.30 c  | 3.34 b  | 4.79 a  | 7.44 a  | 0.53 d         | 1.79 b  | 4.32 a  | 6.19 a  | 9.50 a  |
| 14                    | 12              | 0.77 d             | 1.73 b  | 3.18 a  | 4.35 a  | 6.51 a  | 1.08 c         | 2.22 a  | 4.10 a  | 5.57 a  | 8.28 a  |
|                       | 16              | 0.35 e             | 1.25 d  | 2.78 c  | 3.95 a  | 6.09 a  | 0.63 d         | 1.72 c  | 3.65 a  | 5.12 a  | 7.81 a  |
|                       | 24              | —                  | 0.45 e  | 2.08 d  | 3.24 c  | 5.34 b  | —              | 0.84 d  | 2.86 c  | 4.32 b  | 6.97 a  |
| 16                    | 12              | 0.32 e             | 1.05 d  | 2.26 c  | 3.20 b  | 4.95 a  | 0.56 d         | 1.48 c  | 3.00 b  | 4.18 a  | 6.39 a  |
|                       | 16              | —                  | 0.60 e  | 1.88 d  | 2.82 c  | 4.53 b  | 0.11 e         | 0.98 d  | 2.56 c  | 3.73 b  | 5.92 a  |
|                       | 24              | —                  | —       | 1.22 e  | 2.14 e  | 3.80 d  | —              | 0.12 e  | 1.80 e  | 2.96 d  | 5.08 c  |

| Member length (ft) | Spacing (in) | 20psf              |         |         |         |         |                |         |         |         |         |
|--------------------|--------------|--------------------|---------|---------|---------|---------|----------------|---------|---------|---------|---------|
|                    |              | 3-5/8" HDS Members |         |         |         |         | 4" HDS Members |         |         |         |         |
|                    |              | Gauge (Mils)       |         |         |         |         |                |         |         |         |         |
|                    |              | 20 (33)            | 18 (43) | 16 (54) | 14 (68) | 12 (97) | 20 (33)        | 18 (43) | 16 (54) | 14 (68) | 12 (97) |
| 8                  | 12           | 2.51 a             | 4.17 a  | 7.38 a  | 9.67 a  | 13.62 a | 2.78 a         | 4.58 a  | 8.21 a  | 11.07 a | 15.71 a |
|                    | 16           | 2.16 a             | 3.80 a  | 7.03 a  | 9.34 a  | 13.31 a | 2.46 a         | 4.24 a  | 7.88 a  | 10.75 a | 15.41 a |
|                    | 24           | 1.52 a             | 3.11 a  | 6.38 a  | 8.71 a  | 12.70 a | 1.85 a         | 3.59 a  | 7.26 a  | 10.13 a | 14.81 a |
| 9                  | 12           | 2.10 a             | 3.65 a  | 6.57 a  | 8.61 a  | 12.25 a | 2.41 a         | 4.12 a  | 7.48 a  | 10.10 a | 14.43 a |
|                    | 16           | 1.70 a             | 3.22 a  | 6.16 a  | 8.22 a  | 11.87 a | 2.03 a         | 3.71 a  | 7.08 a  | 9.71 a  | 14.05 a |
|                    | 24           | 0.97 b             | 2.41 a  | 5.40 a  | 7.48 a  | 11.14 a | 1.32 a         | 2.93 a  | 6.34 a  | 8.96 a  | 13.32 a |
| 10                 | 12           | 1.70 a             | 3.12 a  | 5.74 a  | 7.53 a  | 10.85 a | 2.03 a         | 3.62 a  | 6.70 a  | 9.07 a  | 13.06 a |
|                    | 16           | 1.25 b             | 2.63 a  | 5.28 a  | 7.08 a  | 10.41 a | 1.59 a         | 3.14 a  | 6.24 a  | 8.62 a  | 12.62 a |
|                    | 24           | 0.45 d             | 1.74 b  | 4.44 a  | 6.27 a  | 9.59 a  | 0.79 b         | 2.27 a  | 5.40 a  | 7.76 a  | 11.77 a |
| 11                 | 12           | 1.31 b             | 2.60 a  | 4.87 a  | 6.46 a  | 9.44 a  | 1.65 a         | 3.12 a  | 5.91 a  | 8.01 a  | 11.67 a |
|                    | 16           | 0.84 c             | 2.07 a  | 4.38 a  | 5.99 a  | 8.97 a  | 1.17 b         | 2.59 a  | 5.40 a  | 7.51 a  | 11.17 a |
|                    | 24           | —                  | 1.13 c  | 3.51 b  | 5.14 a  | 8.09 a  | 0.31 d         | 1.63 b  | 4.48 a  | 6.58 a  | 10.23 a |
| 12                 | 12           | 0.95 c             | 2.10 a  | 4.06 a  | 5.50 a  | 8.17 a  | 1.28 b         | 2.62 a  | 5.11 a  | 6.97 a  | 10.30 a |
|                    | 16           | 0.46 d             | 1.55 c  | 3.57 b  | 5.01 a  | 7.67 a  | 0.77 c         | 2.05 b  | 4.58 a  | 6.44 a  | 9.76 a  |
|                    | 24           | —                  | 0.60 d  | 2.70 d  | 4.15 c  | 6.77 a  | —              | 1.05 d  | 3.62 c  | 5.47 a  | 8.76 a  |
| 14                 | 12           | 0.35 e             | 1.25 d  | 2.78 c  | 3.95 a  | 6.09 a  | 0.63 d         | 1.72 c  | 3.65 a  | 5.12 a  | 7.81 a  |
|                    | 16           | —                  | 0.70 e  | 2.30 d  | 3.46 c  | 5.58 a  | 0.09 e         | 1.12 d  | 3.11 c  | 4.57 b  | 7.24 a  |
|                    | 24           | —                  | —       | 1.48 e  | 2.62 d  | 4.67 c  | —              | 0.08 e  | 2.17 d  | 3.62 d  | 6.22 b  |
| 16                 | 12           | —                  | 0.60 e  | 1.88 d  | 2.82 c  | 4.53 b  | 0.11 e         | 0.98 d  | 2.56 c  | 3.73 b  | 5.92 a  |
|                    | 16           | —                  | 0.08 f  | 1.43 e  | 2.36 d  | 4.03 c  | —              | 0.39 e  | 2.04 d  | 3.20 d  | 5.35 b  |
|                    | 24           | —                  | —       | 0.66 f  | 1.56 e  | 3.16 e  | —              | —       | 1.14 e  | 2.29 e  | 4.35 d  |

### Notes:

|   | TL Defl. |
|---|----------|
| a | L/720    |
| b | L/600    |
| c | L/480    |
| d | L/360    |
| e | L/240    |
| f | L/120    |

Blank cells do not meet L/120.

- 1 Studs are assumed to be simple span.
- 2 Axial loads are assumed to pass through the geometric centroid of the section.
- 3 Allowable axial loads when combined with 5psf lateral load are applicable for interior use only (no lateral wind loading).
- 4 Wind loads are multiplied by 0.7 for deflection calculations per Section B1 of the AISI Wall Stud Design Standard except for the 5psf load which is considered an interior wall load.
- 5 A 1/3 stress increase is not used.
- 6 Provide bridging and/or bracing at 5' o.c. maximum. Allowable loads are based on weak axis and torsional bracing at 5' o.c. maximum for axial load, and continuous support of each flange for moment.
- 7 Perforated properties are based on the standard 1-1/2" x 4" oval ClarkDietrich web knockout. The knockout is centered about the web, and is spaced no less than 24" o.c.
- 8 Yield strength of 20 and 18 gauge members is 33ksi; 16 gauge and heavier are 50ksi.
- 9 Cells marked with an " \* " have h/t > 200 and thus require bearing stiffeners designed in accordance with AISI-NASPEC, 2001 with the 2004 supplement.

Complies with IBC 2006 & AISI-NASPEC, 2001 with 2004 supplement

## ALLOWABLE HDS AXIAL LOADS (KIPS)

| Member length (ft) | Spacing (in) | 25psf              |         |         |         |         |                |         |         |         |         |
|--------------------|--------------|--------------------|---------|---------|---------|---------|----------------|---------|---------|---------|---------|
|                    |              | 3-5/8" HDS Members |         |         |         |         | 4" HDS Members |         |         |         |         |
|                    |              | Gauge (Mils)       |         |         |         |         |                |         |         |         |         |
|                    |              | 20 (33)            | 18 (43) | 16 (54) | 14 (68) | 12 (97) | 20 (33)        | 18 (43) | 16 (54) | 14 (68) | 12 (97) |
| 8                  | 12           | 2.25 a             | 3.89 a  | 7.12 a  | 9.43 a  | 13.39 a | 2.54 a         | 4.33 a  | 7.96 a  | 10.83 a | 15.48 a |
|                    | 16           | 1.83 a             | 3.45 a  | 6.70 a  | 9.02 a  | 13.00 a | 2.15 a         | 3.91 a  | 7.57 a  | 10.44 a | 15.11 a |
|                    | 24           | 1.06 a             | 2.62 a  | 5.91 a  | 8.26 a  | 12.25 a | 1.42 a         | 3.12 a  | 6.82 a  | 9.68 a  | 14.38 a |
| 9                  | 12           | 1.80 a             | 3.32 a  | 6.26 a  | 8.31 a  | 11.97 a | 2.13 a         | 3.81 a  | 7.18 a  | 9.80 a  | 14.14 a |
|                    | 16           | 1.32 a             | 2.80 a  | 5.77 a  | 7.84 a  | 11.50 a | 1.67 a         | 3.31 a  | 6.70 a  | 9.33 a  | 13.68 a |
|                    | 24           | 0.46 c             | 1.85 b  | 4.86 a  | 6.96 a  | 10.62 a | 0.81 b         | 2.38 a  | 5.81 a  | 8.43 a  | 12.79 a |
| 10                 | 12           | 1.36 a             | 2.75 a  | 5.39 a  | 7.19 a  | 10.52 a | 1.70 a         | 3.26 a  | 6.36 a  | 8.73 a  | 12.73 a |
|                    | 16           | 0.84 c             | 2.17 a  | 4.84 a  | 6.67 a  | 9.99 a  | 1.18 a         | 2.69 a  | 5.81 a  | 8.18 a  | 12.19 a |
|                    | 24           | —                  | 1.14 c  | 3.86 b  | 5.71 a  | 9.01 a  | 0.24 c         | 1.66 b  | 4.81 a  | 7.17 a  | 11.17 a |
| 11                 | 12           | 0.95 c             | 2.20 a  | 4.50 a  | 6.11 a  | 9.09 a  | 1.28 a         | 2.72 a  | 5.53 a  | 7.63 a  | 11.29 a |
|                    | 16           | 0.40 d             | 1.58 c  | 3.93 a  | 5.55 a  | 8.52 a  | 0.72 c         | 2.09 a  | 4.93 a  | 7.03 a  | 10.69 a |
|                    | 24           | —                  | 0.51 d  | 2.93 c  | 4.56 b  | 7.49 a  | —              | 0.98 c  | 3.86 b  | 5.95 a  | 9.57 a  |
| 12                 | 12           | 0.58 d             | 1.69 b  | 3.68 a  | 5.13 a  | 7.79 a  | 0.89 c         | 2.19 a  | 4.71 a  | 6.57 a  | 9.89 a  |
|                    | 16           | 0.01 e             | 1.06 d  | 3.12 c  | 4.57 b  | 7.21 a  | 0.3 d          | 1.53 c  | 4.08 b  | 5.94 a  | 9.24 a  |
|                    | 24           | —                  | —       | 2.12 d  | 3.57 d  | 6.15 b  | —              | 0.38 d  | 2.98 d  | 4.82 b  | 8.07 a  |
| 14                 | 12           | —                  | 0.83 d  | 2.42 d  | 3.58 c  | 5.70 a  | 0.22 e         | 1.26 d  | 3.24 c  | 4.71 a  | 7.38 a  |
|                    | 16           | —                  | 0.21 e  | 1.87 e  | 3.03 d  | 5.11 b  | —              | 0.58 e  | 2.62 d  | 4.08 c  | 6.71 a  |
|                    | 24           | —                  | —       | 0.94 f  | 2.07 e  | 4.07 d  | —              | —       | 1.54 e  | 2.98 d  | 5.53 c  |
| 16                 | 12           | —                  | 0.21 e  | 1.53 e  | 2.47 d  | 4.15 c  | —              | 0.53 e  | 2.16 d  | 3.33 c  | 5.48 b  |
|                    | 16           | —                  | —       | 1.02 f  | 1.94 e  | 3.58 d  | —              | —       | 1.57 e  | 2.73 d  | 4.83 c  |
|                    | 24           | —                  | —       | 0.15 f  | 1.05 f  | 2.59 e  | —              | —       | 0.56 f  | 1.69 e  | 3.69 e  |

| Member length (ft) | Spacing (in) | 30psf              |         |         |         |         |                |         |         |         |         |
|--------------------|--------------|--------------------|---------|---------|---------|---------|----------------|---------|---------|---------|---------|
|                    |              | 3-5/8" HDS Members |         |         |         |         | 4" HDS Members |         |         |         |         |
|                    |              | Gauge (Mils)       |         |         |         |         |                |         |         |         |         |
|                    |              | 20 (33)            | 18 (43) | 16 (54) | 14 (68) | 12 (97) | 20 (33)        | 18 (43) | 16 (54) | 14 (68) | 12 (97) |
| 8                  | 12           | 2.00 a             | 3.62 a  | 6.87 a  | 9.18 a  | 13.15 a | 2.31 a         | 4.08 a  | 7.73 a  | 10.59 a | 15.26 a |
|                    | 16           | 1.52 a             | 3.11 a  | 6.38 a  | 8.71 a  | 12.70 a | 1.85 a         | 3.59 a  | 7.26 a  | 10.13 a | 14.81 a |
|                    | 24           | 0.63 b             | 2.15 a  | 5.46 a  | 7.82 a  | 11.82 a | 1.00 a         | 2.67 a  | 6.38 a  | 9.25 a  | 13.95 a |
| 9                  | 12           | 1.51 a             | 3.01 a  | 5.96 a  | 8.03 a  | 11.69 a | 1.85 a         | 3.51 a  | 6.89 a  | 9.51 a  | 13.86 a |
|                    | 16           | 0.97 b             | 2.41 a  | 5.40 a  | 7.48 a  | 11.14 a | 1.32 a         | 2.93 a  | 6.34 a  | 8.96 a  | 13.32 a |
|                    | 24           | —                  | 1.33 c  | 4.36 a  | 6.46 a  | 10.12 a | 0.34 c         | 1.86 a  | 5.31 a  | 7.92 a  | 12.28 a |
| 10                 | 12           | 1.04 b             | 2.40 a  | 5.06 a  | 6.87 a  | 10.20 a | 1.38 a         | 2.92 a  | 6.02 a  | 8.40 a  | 12.40 a |
|                    | 16           | 0.45 d             | 1.74 b  | 4.44 a  | 6.27 a  | 9.59 a  | 0.79 b         | 2.27 a  | 5.40 a  | 7.76 a  | 11.77 a |
|                    | 24           | —                  | 0.58 d  | 3.33 c  | 5.18 b  | 8.46 a  | —              | 1.09 c  | 4.25 b  | 6.60 a  | 10.59 a |
| 11                 | 12           | 0.61 d             | 1.82 b  | 4.15 a  | 5.77 a  | 8.74 a  | 0.94 b         | 2.34 a  | 5.16 a  | 7.27 a  | 10.93 a |
|                    | 16           | —                  | 1.13 c  | 3.51 b  | 5.14 a  | 8.09 a  | 0.31 d         | 1.63 b  | 4.48 a  | 6.58 a  | 10.23 a |
|                    | 24           | —                  | —       | 2.39 d  | 4.02 c  | 6.92 b  | —              | 0.38 d  | 3.27 c  | 5.35 b  | 8.95 a  |
| 12                 | 12           | 0.23 d             | 1.30 c  | 3.34 b  | 4.79 a  | 7.44 a  | 0.53 d         | 1.79 b  | 4.32 a  | 6.19 a  | 9.50 a  |
|                    | 16           | —                  | 0.60 d  | 2.70 d  | 4.15 c  | 6.77 a  | —              | 1.05 d  | 3.62 c  | 5.47 a  | 8.76 a  |
|                    | 24           | —                  | —       | 1.60 e  | 3.04 d  | 5.58 c  | —              | —       | 2.39 d  | 4.21 c  | 7.43 b  |
| 14                 | 12           | —                  | 0.45 e  | 2.08 d  | 3.24 c  | 5.34 b  | —              | 0.84 d  | 2.86 c  | 4.32 b  | 6.97 a  |
|                    | 16           | —                  | —       | 1.48 e  | 2.62 d  | 4.67 c  | —              | 0.08 e  | 2.17 d  | 3.62 d  | 6.22 b  |
|                    | 24           | —                  | —       | 0.44 f  | 1.56 e  | 3.51 e  | —              | —       | 0.98 e  | 2.39 e  | 4.89 d  |
| 16                 | 12           | —                  | —       | 1.22 e  | 2.14 e  | 3.80 d  | —              | 0.12 e  | 1.80 e  | 2.96 d  | 5.08 c  |
|                    | 16           | —                  | —       | 0.66 f  | 1.56 e  | 3.16 e  | —              | —       | 1.14 e  | 2.29 e  | 4.35 d  |
|                    | 24           | —                  | —       | —       | 0.57 f  | 2.07 f  | —              | —       | 0.03 f  | 1.14 f  | 3.08 e  |

| Member length (ft) | Spacing (in) | 35psf              |         |         |         |         |                |         |         |         |         |
|--------------------|--------------|--------------------|---------|---------|---------|---------|----------------|---------|---------|---------|---------|
|                    |              | 3-5/8" HDS Members |         |         |         |         | 4" HDS Members |         |         |         |         |
|                    |              | Gauge (Mils)       |         |         |         |         |                |         |         |         |         |
|                    |              | 20 (33)            | 18 (43) | 16 (54) | 14 (68) | 12 (97) | 20 (33)        | 18 (43) | 16 (54) | 14 (68) | 12 (97) |
| 8                  | 12           | 1.75 a             | 3.36 a  | 6.62 a  | 8.95 a  | 12.92 a | 2.08 a         | 3.83 a  | 7.49 a  | 10.36 a | 15.03 a |
|                    | 16           | 1.21 a             | 2.78 a  | 6.07 a  | 8.41 a  | 12.40 a | 1.56 a         | 3.28 a  | 6.96 a  | 9.83 a  | 14.52 a |
|                    | 24           | 0.22 c             | 1.70 a  | 5.03 a  | 7.39 a  | 11.39 a | 0.60 b         | 2.24 a  | 5.96 a  | 8.82 a  | 13.53 a |
| 9                  | 12           | 1.23 a             | 2.70 a  | 5.67 a  | 7.75 a  | 11.41 a | 1.58 a         | 3.21 a  | 6.61 a  | 9.23 a  | 13.59 a |
|                    | 16           | 0.62 c             | 2.04 a  | 5.04 a  | 7.13 a  | 10.79 a | 0.98 b         | 2.56 a  | 5.98 a  | 8.60 a  | 12.96 a |
|                    | 24           | —                  | 0.83 c  | 3.88 b  | 5.98 a  | 9.63 a  | —              | 1.37 b  | 4.82 a  | 7.43 a  | 11.78 a |
| 10                 | 12           | 0.74 c             | 2.06 a  | 4.74 a  | 6.57 a  | 9.89 a  | 1.08 b         | 2.58 a  | 5.71 a  | 8.07 a  | 12.08 a |
|                    | 16           | 0.09 d             | 1.34 c  | 4.05 b  | 5.89 a  | 9.20 a  | 0.42 c         | 1.86 b  | 5.00 a  | 7.36 a  | 11.36 a |
|                    | 24           | —                  | 0.06 d  | 2.82 d  | 4.68 c  | 7.94 a  | —              | 0.55 d  | 3.73 c  | 6.06 a  | 10.03 a |
| 11                 | 12           | 0.30 d             | 1.47 c  | 3.82 b  | 5.45 a  | 8.41 a  | 0.62 c         | 1.98 b  | 4.82 a  | 6.92 a  | 10.57 a |
|                    | 16           | —                  | 0.71 d  | 3.12 c  | 4.75 b  | 7.69 a  | —              | 1.19 c  | 4.06 b  | 6.15 a  | 9.79 a  |
|                    | 24           | —                  | —       | 1.88 e  | 3.51 d  | 6.38 b  | —              | —       | 2.72 d  | 4.78 c  | 8.36 a  |
| 12                 | 12           | —                  | 0.94 d  | 3.01 c  | 4.46 b  | 7.10 a  | 0.19 d         | 1.41 c  | 3.96 b  | 5.82 a  | 9.12 a  |
|                    | 16           | —                  | 0.17 e  | 2.31 d  | 3.76 c  | 6.35 b  | —              | 0.60 d  | 3.19 c  | 5.03 b  | 8.30 a  |
|                    | 24           | —                  | —       | 1.10 e  | 2.54 e  | 5.04 d  | —              | —       | 1.83 e  | 3.65 d  | 6.82 c  |
| 14                 | 12           | —                  | 0.09 e  | 1.77 e  | 2.92 d  | 4.99 c  | —              | 0.45 e  | 2.50 d  | 3.96 c  | 6.58 a  |
|                    | 16           | —                  | —       | 1.11 e  | 2.25 e  | 4.26 d  | —              | —       | 1.75 e  | 3.18 d  | 5.75 c  |
|                    | 24           | —                  | —       | —       | 1.09 f  | 2.99 e  | —              | —       | 0.45 f  | 1.85 e  | 4.30 d  |
| 16                 | 12           | —                  | —       | 0.93 f  | 1.84 e  | 3.47 d  | —              | —       | 1.46 e  | 2.61 d  | 4.70 c  |
|                    | 16           | —                  | —       | 0.32 f  | 1.21 f  | 2.78 e  | —              | —       | 0.75 f  | 1.88 e  | 3.90 d  |
|                    | 24           | —                  | —       | —       | 0.14 f  | 1.58 f  | —              | —       | —       | 0.63 f  | 2.52 e  |

| Member length (ft) | Spacing (in) | 40psf              |         |         |         |         |                |         |         |         |         |
|--------------------|--------------|--------------------|---------|---------|---------|---------|----------------|---------|---------|---------|---------|
|                    |              | 3-5/8" HDS Members |         |         |         |         | 4" HDS Members |         |         |         |         |
|                    |              | Gauge (Mils)       |         |         |         |         |                |         |         |         |         |
|                    |              | 20 (33)            | 18 (43) | 16 (54) | 14 (68) | 12 (97) | 20 (33)        | 18 (43) | 16 (54) | 14 (68) | 12 (97) |
| 8                  | 12           | 1.52 a             | 3.11 a  | 6.38 a  | 8.71 a  | 12.70 a | 1.85 a         | 3.59 a  | 7.26 a  | 10.13 a | 14.81 a |
|                    | 16           | 0.92 b             | 2.46 a  | 5.76 a  | 8.11 a  | 12.11 a | 1.28 a         | 2.97 a  | 6.67 a  | 9.54 a  | 14.23 a |
|                    | 24           | —                  | 1.26 b  | 4.62 a  | 6.98 a  | 10.98 a | 0.21 c         | 1.81 a  | 5.55 a  | 8.41 a  | 13.12 a |
| 9                  | 12           | 0.97 b             | 2.41 a  | 5.40 a  | 7.48 a  | 11.14 a | 1.32 a         | 2.93 a  | 6.34 a  | 8.96 a  | 13.32 a |
|                    | 16           | 0.30 c             | 1.68 b  | 4.69 a  | 6.79 a  | 10.45 a | 0.65 b         | 2.21 a  | 5.64 a  | 8.26 a  | 12.62 a |
|                    | 24           | —                  | 0.36 d  | 3.42 c  | 5.53 b  | 9.16 a  | —              | 0.89 c  | 4.36 b  | 6.95 a  | 11.30 a |
| 10                 | 12           | 0.45 d             | 1.74 b  | 4.44 a  | 6.27 a  | 9.59 a  | 0.79 b         | 2.27 a  | 5.40 a  | 7.76 a  | 11.77 a |
|                    | 16           | —                  | 0.95 c  | 3.68 b  | 5.53 a  | 8.83 a  | 0.07 d         | 1.47 b  | 4.62 a  | 6.97 a  | 10.97 a |
|                    | 24           | —                  | —       | 2.35 d  | 4.20 c  | 7.44 b  | —              | 0.04 d  | 3.22 c  | 5.54 b  | 9.5 a   |
| 11                 | 12           | —                  | 1.13 c  | 3.51 b  | 5.14 a  | 8.09 a  | 0.31 d         | 1.63 b  | 4.48 a  | 6.58 a  | 10.23 a |
|                    | 16           | —                  | 0.31 d  | 2.74 d  | 4.38 c  | 7.30 a  | —              | 0.78 d  | 3.66 c  | 5.74 a  | 9.36 a  |
|                    | 24           | —                  | —       | 1.41 e  | 3.03 d  | 5.87 c  | —              | —       | 2.20 d  | 4.25 c  | 7.79 b  |
| 12                 | 12           | —                  | 0.60 d  | 2.70 d  | 4.15 c  | 6.77 a  | —              | 1.05 d  | 3.62 c  | 5.47 a  | 8.76 a  |
|                    | 16           | —                  | —       | 1.94 e  | 3.39 d  | 5.96 b  | —              | 0.17 e  | 2.78 d  | 4.61 c  | 7.85 a  |
|                    | 24           | —                  | —       | 0.64 f  | 2.06 e  | 4.53 d  | —              | —       | 1.31 e  | 3.11 d  | 6.24 c  |
| 14                 | 12           | —                  | —       | 1.48 e  | 2.62 d  | 4.67 c  | —              | 0.08 e  | 2.17 d  | 3.62 d  | 6.22 b  |
|                    | 16           | —                  | —       | 0.77 f  | 1.90 e  | 3.88 d  | —              | —       | 1.35 e  | 2.78 e  | 5.31 c  |
|                    | 24           | —                  | —       | —       | 0.65 f  | 2.50 e  | —              | —       | —       | 1.33 f  | 3.73 e  |
| 16                 | 12           | —                  | —       | 0.66 f  | 1.56 e  | 3.16 e  | —              | —       | 1.14 e  | 2.29 e  | 4.35 d  |
|                    | 16           | —                  | —       | —       | 0.88 f  | 2.41 e  | —              | —       | 0.38 f  | 1.50 f  | 3.48 e  |
|                    | 24           | —                  | —       | —       | —       | 1.12 f  | —              | —       | —       | 0.15 f  | 1.99 f  |

See table notes on page 66.

Complies with IBC 2006 &amp; AISI-NASPEC, 2001 with 2004 supplement

## ALLOWABLE HDS AXIAL LOADS (KIPS)

| Member length (ft) | Spacing (in) | 5psf           |         |         |         |         |                |         |         |         |         |
|--------------------|--------------|----------------|---------|---------|---------|---------|----------------|---------|---------|---------|---------|
|                    |              | 6" HDS Members |         |         |         |         | 8" HDS Members |         |         |         |         |
|                    |              | Gauge (Mils)   |         |         |         |         |                |         |         |         |         |
|                    |              | 20 (33)        | 18 (43) | 16 (54) | 14 (68) | 12 (97) | 20 (33)        | 18 (43) | 16 (54) | 14 (68) | 12 (97) |
| 8                  | 12           | 5.09 a         | 8.10 a  | 14.77 a | 20.74 a | 30.98 a | 5.31 a*        | 8.47 a  | 15.60 a | 22.27 a | 33.77 a |
|                    | 16           | 5.03 a         | 8.04 a  | 14.71 a | 20.67 a | 30.90 a | 5.27 a*        | 8.43 a  | 15.56 a | 22.23 a | 33.72 a |
|                    | 24           | 4.90 a         | 7.90 a  | 14.57 a | 20.53 a | 30.75 a | 5.19 a*        | 8.34 a  | 15.47 a | 22.14 a | 33.63 a |
| 9                  | 12           | 4.96 a         | 7.92 a  | 14.49 a | 20.11 a | 29.97 a | 5.24 a*        | 8.38 a  | 15.40 a | 21.95 a | 33.25 a |
|                    | 16           | 4.89 a         | 7.84 a  | 14.40 a | 20.02 a | 29.87 a | 5.19 a*        | 8.32 a  | 15.35 a | 21.89 a | 33.19 a |
|                    | 24           | 4.73 a         | 7.67 a  | 14.23 a | 19.83 a | 29.67 a | 5.08 a*        | 8.21 a  | 15.24 a | 21.78 a | 33.07 a |
| 10                 | 12           | 4.82 a         | 7.72 a  | 14.09 a | 19.40 a | 28.84 a | 5.16 a*        | 8.27 a  | 15.18 a | 21.58 a | 32.65 a |
|                    | 16           | 4.73 a         | 7.61 a  | 13.98 a | 19.29 a | 28.72 a | 5.10 a*        | 8.20 a  | 15.11 a | 21.50 a | 32.57 a |
|                    | 24           | 4.54 a         | 7.40 a  | 13.76 a | 19.05 a | 28.47 a | 4.96 a*        | 8.06 a  | 14.97 a | 21.36 a | 32.42 a |
| 11                 | 12           | 4.67 a         | 7.49 a  | 13.57 a | 18.62 a | 27.62 a | 5.07 a*        | 8.14 a  | 14.92 a | 21.15 a | 31.97 a |
|                    | 16           | 4.55 a         | 7.36 a  | 13.43 a | 18.47 a | 27.47 a | 4.99 a*        | 8.06 a  | 14.84 a | 21.06 a | 31.88 a |
|                    | 24           | 4.32 a         | 7.11 a  | 13.16 a | 18.18 a | 27.16 a | 4.83 a*        | 7.89 a  | 14.67 a | 20.88 a | 31.69 a |
| 12                 | 12           | 4.50 a         | 7.24 a  | 13.00 a | 17.71 a | 26.32 a | 4.97 a*        | 8.00 a  | 14.69 a | 20.68 a | 31.22 a |
|                    | 16           | 4.36 a         | 7.08 a  | 12.80 a | 17.53 a | 26.13 a | 4.87 a*        | 7.90 a  | 14.59 a | 20.57 a | 31.10 a |
|                    | 24           | 4.08 a         | 6.78 a  | 12.51 a | 17.18 a | 25.75 a | 4.68 a*        | 7.71 a  | 14.39 a | 20.35 a | 30.87 a |
| 14                 | 12           | 4.12 a         | 6.67 a  | 11.67 a | 15.75 a | 23.51 a | 4.74 a*        | 7.68 a  | 14.14 a | 19.60 a | 29.51 a |
|                    | 16           | 3.93 a         | 6.45 a  | 11.44 a | 15.51 a | 23.25 a | 4.60 a*        | 7.54 a  | 14.00 a | 19.45 a | 29.34 a |
|                    | 24           | 3.57 a         | 6.04 a  | 11.00 a | 15.03 a | 22.73 a | 4.34 a*        | 7.27 a  | 13.72 a | 19.15 a | 29.02 a |
| 16                 | 12           | 3.69 a         | 6.02 a  | 10.24 a | 13.70 a | 20.56 a | 4.47 a*        | 7.30 a  | 13.31 a | 18.33 a | 27.57 a |
|                    | 16           | 3.46 a         | 5.75 a  | 9.95 a  | 13.40 a | 20.21 a | 4.29 a*        | 7.12 a  | 13.12 a | 18.13 a | 27.35 a |
|                    | 24           | 3.01 a         | 5.24 a  | 9.42 a  | 12.82 a | 19.56 a | 3.95 a*        | 6.77 a  | 12.75 a | 17.73 a | 26.92 a |

| Member length (ft) | Spacing (in) | 15psf          |         |         |         |         |                |         |         |         |         |
|--------------------|--------------|----------------|---------|---------|---------|---------|----------------|---------|---------|---------|---------|
|                    |              | 6" HDS Members |         |         |         |         | 8" HDS Members |         |         |         |         |
|                    |              | Gauge (Mils)   |         |         |         |         |                |         |         |         |         |
|                    |              | 20 (33)        | 18 (43) | 16 (54) | 14 (68) | 12 (97) | 20 (33)        | 18 (43) | 16 (54) | 14 (68) | 12 (97) |
| 8                  | 12           | 4.72 a         | 7.71 a  | 14.38 a | 20.31 a | 30.53 a | 5.06 a*        | 8.22 a  | 15.35 a | 22.00 a | 33.48 a |
|                    | 16           | 4.54 a         | 7.51 a  | 14.18 a | 20.10 a | 30.30 a | 4.93 a*        | 8.09 a  | 15.22 a | 21.87 a | 33.34 a |
|                    | 24           | 4.19 a         | 7.13 a  | 13.79 a | 19.67 a | 29.86 a | 4.68 a*        | 7.83 a  | 14.97 a | 21.60 a | 33.06 a |
| 9                  | 12           | 4.50 a         | 7.42 a  | 13.97 a | 19.55 a | 29.38 a | 4.92 a*        | 8.05 a  | 15.08 a | 21.60 a | 32.88 a |
|                    | 16           | 4.27 a         | 7.17 a  | 13.71 a | 19.28 a | 29.09 a | 4.76 a*        | 7.89 a  | 14.92 a | 21.43 a | 32.70 a |
|                    | 24           | 3.83 a         | 6.68 a  | 13.21 a | 18.73 a | 28.51 a | 4.44 a*        | 7.56 a  | 14.60 a | 21.08 a | 32.33 a |
| 10                 | 12           | 4.25 a         | 7.09 a  | 13.43 a | 18.70 a | 28.10 a | 4.76 a*        | 7.86 a  | 14.77 a | 21.14 a | 32.19 a |
|                    | 16           | 3.97 a         | 6.79 a  | 13.11 a | 18.35 a | 27.74 a | 4.56 a*        | 7.66 a  | 14.57 a | 20.92 a | 31.96 a |
|                    | 24           | 3.43 a         | 6.19 a  | 12.48 a | 17.68 a | 27.02 a | 4.17 a*        | 7.26 a  | 14.18 a | 20.49 a | 31.50 a |
| 11                 | 12           | 3.98 a         | 6.73 a  | 12.76 a | 17.75 a | 26.70 a | 4.58 a*        | 7.65 a  | 14.42 a | 20.61 a | 31.40 a |
|                    | 16           | 3.65 a         | 6.36 a  | 12.37 a | 17.33 a | 26.26 a | 4.34 a*        | 7.40 a  | 14.18 a | 20.35 a | 31.12 a |
|                    | 24           | 3.01 a         | 5.65 a  | 11.62 a | 16.52 a | 25.38 a | 3.87 a*        | 6.92 a  | 13.70 a | 19.82 a | 30.56 a |
| 12                 | 12           | 3.69 a         | 6.33 a  | 12.04 a | 16.67 a | 25.21 a | 4.39 a*        | 7.41 a  | 14.10 a | 20.03 a | 30.53 a |
|                    | 16           | 3.30 a         | 5.90 a  | 11.58 a | 16.17 a | 24.67 a | 4.10 a*        | 7.12 a  | 13.80 a | 19.71 a | 30.19 a |
|                    | 24           | 2.57 a         | 5.08 a  | 10.70 a | 15.22 a | 23.64 a | 3.55 a*        | 6.54 a  | 13.22 a | 19.08 a | 29.51 a |
| 14                 | 12           | 3.05 a         | 5.46 a  | 10.38 a | 14.36 a | 21.99 a | 3.95 a*        | 6.87 a  | 13.30 a | 18.70 a | 28.54 a |
|                    | 16           | 2.57 a         | 4.91 a  | 9.80 a  | 13.73 a | 21.28 a | 3.57 a*        | 6.47 a  | 12.89 a | 18.26 a | 28.07 a |
|                    | 24           | 1.68 a         | 3.89 a  | 8.72 a  | 12.55 a | 19.96 a | 2.84 a*        | 5.71 a  | 12.10 a | 17.40 a | 27.14 a |
| 16                 | 12           | 2.40 a         | 4.54 a  | 8.68 a  | 12.02 a | 18.66 a | 3.46 a*        | 6.25 a  | 12.20 a | 17.14 a | 26.28 a |
|                    | 16           | 1.85 a         | 3.90 a  | 8.01 a  | 11.30 a | 17.82 a | 2.99 a*        | 5.75 a  | 11.68 a | 16.57 a | 25.66 a |
|                    | 24           | 0.85 c         | 2.75 b  | 6.82 a  | 9.99 a  | 16.32 a | 2.09 a*        | 4.79 a  | 10.67 a | 15.48 a | 24.46 a |

| Member length (ft) | Spacing (in) | 20psf          |         |         |         |         |                |         |         |         |         |
|--------------------|--------------|----------------|---------|---------|---------|---------|----------------|---------|---------|---------|---------|
|                    |              | 6" HDS Members |         |         |         |         | 8" HDS Members |         |         |         |         |
|                    |              | Gauge (Mils)   |         |         |         |         |                |         |         |         |         |
|                    |              | 20 (33)        | 18 (43) | 16 (54) | 14 (68) | 12 (97) | 20 (33)        | 18 (43) | 16 (54) | 14 (68) | 12 (97) |
| 8                  | 12           | 4.54 a         | 7.51 a  | 14.18 a | 20.10 a | 30.30 a | 4.93 a*        | 8.09 a  | 15.22 a | 21.87 a | 33.34 a |
|                    | 16           | 4.31 a         | 7.25 a  | 13.92 a | 19.81 a | 30.00 a | 4.76 a*        | 7.92 a  | 15.06 a | 21.69 a | 33.15 a |
|                    | 24           | 3.84 a         | 6.75 a  | 13.40 a | 19.25 a | 29.41 a | 4.42 a*        | 7.58 a  | 14.73 a | 21.33 a | 32.77 a |
| 9                  | 12           | 4.27 a         | 7.17 a  | 13.71 a | 19.28 a | 29.09 a | 4.76 a*        | 7.89 a  | 14.92 a | 21.43 a | 32.70 a |
|                    | 16           | 3.98 a         | 6.84 a  | 13.38 a | 18.91 a | 28.71 a | 4.54 a*        | 7.67 a  | 14.71 a | 21.2 a  | 32.45 a |
|                    | 24           | 3.39 a         | 6.20 a  | 12.71 a | 18.19 a | 27.95 a | 4.12 a*        | 7.24 a  | 14.29 a | 20.74 a | 31.97 a |
| 10                 | 12           | 3.97 a         | 6.79 a  | 13.11 a | 18.35 a | 27.74 a | 4.56 a*        | 7.66 a  | 14.57 a | 20.92 a | 31.96 a |
|                    | 16           | 3.61 a         | 6.39 a  | 12.69 a | 17.90 a | 27.26 a | 4.30 a*        | 7.39 a  | 14.31 a | 20.63 a | 31.65 a |
|                    | 24           | 2.91 a         | 5.61 a  | 11.87 a | 17.02 a | 26.31 a | 3.78 a*        | 6.86 a  | 13.78 a | 20.06 a | 31.04 a |
| 11                 | 12           | 3.65 a         | 6.36 a  | 12.37 a | 17.33 a | 26.26 a | 4.34 a*        | 7.40 a  | 14.18 a | 20.35 a | 31.12 a |
|                    | 16           | 3.22 a         | 5.89 a  | 11.87 a | 16.78 a | 25.67 a | 4.03 a*        | 7.08 a  | 13.86 a | 20.00 a | 30.74 a |
|                    | 24           | 2.40 a         | 4.97 a  | 10.90 a | 15.73 a | 24.53 a | 3.40 a*        | 6.44 a  | 13.22 a | 19.30 a | 30.00 a |
| 12                 | 12           | 3.30 a         | 5.90 a  | 11.58 a | 16.17 a | 24.67 a | 4.10 a*        | 7.12 a  | 13.80 a | 19.71 a | 30.19 a |
|                    | 16           | 2.81 a         | 5.35 a  | 10.99 a | 15.53 a | 23.98 a | 3.73 a*        | 6.73 a  | 13.41 a | 19.29 a | 29.74 a |
|                    | 24           | 1.88 a         | 4.30 a  | 9.87 a  | 14.32 a | 22.65 a | 3.00 a*        | 5.98 a  | 12.65 a | 18.46 a | 28.84 a |
| 14                 | 12           | 2.57 a         | 4.91 a  | 9.80 a  | 13.73 a | 21.28 a | 3.57 a*        | 6.47 a  | 12.89 a | 18.26 a | 28.07 a |
|                    | 16           | 1.97 a         | 4.22 a  | 9.07 a  | 12.93 a | 20.39 a | 3.08 a*        | 5.96 a  | 12.36 a | 17.68 a | 27.44 a |
|                    | 24           | 0.87 c         | 2.96 a  | 7.74 a  | 11.48 a | 18.74 a | 2.14 a*        | 4.97 a  | 11.33 a | 16.56 a | 26.23 a |
| 16                 | 12           | 1.85 a         | 3.90 a  | 8.01 a  | 11.30 a | 17.82 a | 2.99 a*        | 5.75 a  | 11.68 a | 16.57 a | 25.66 a |
|                    | 16           | 1.17 c         | 3.11 a  | 7.20 a  | 10.41 a | 16.80 a | 2.38 a*        | 5.10 a  | 11.00 a | 15.84 a | 24.86 a |
|                    | 24           | —              | 1.72 c  | 5.76 b  | 8.83 a  | 14.97 a | 1.24 a*        | 3.88 a  | 9.72 a  | 14.44 a | 23.32 a |

### Notes:

|   | TL Defl. |
|---|----------|
| a | L/720    |
| b | L/600    |
| c | L/480    |
| d | L/360    |
| e | L/240    |
| f | L/120    |

Blank cells do not meet L/120.

- 1 Studs are assumed to be simple span.
- 2 Axial loads are assumed to pass through the geometric centroid of the section.
- 3 Allowable axial loads when combined with 5psf lateral load are applicable for interior use only (no lateral wind loading).
- 4 Wind loads are multiplied by 0.7 for deflection calculations per Section B1 of the AISI Wall Stud Design Standard except for the 5psf load which is considered an interior wall load.
- 5 A 1/3 stress increase is not used.
- 6 Provide bridging and/or bracing at 5' o.c. maximum. Allowable loads are based on weak axis and torsional bracing at 5' o.c. maximum for axial load, and continuous support of each flange for moment.
- 7 Perforated properties are based on the standard 1-1/2" x 4" oval ClarkDietrich web knockout. The knockout is centered about the web, and is spaced no less than 24" o.c.
- 8 Yield strength of 20 and 18 gauge members is 33ksi; 16 gauge and heavier are 50ksi.
- 9 Cells marked with an " \* " have h/t > 200 and thus require bearing stiffeners designed in accordance with AISI-NASPEC, 2001 with the 2004 supplement.

Complies with IBC 2006 & AISI-NASPEC, 2001 with 2004 supplement

## ALLOWABLE HDS AXIAL LOADS (KIPS)

| Member length (ft) | Spacing (in) | 25psf          |         |         |         |         |                |         |         |         |         |
|--------------------|--------------|----------------|---------|---------|---------|---------|----------------|---------|---------|---------|---------|
|                    |              | 6" HDS Members |         |         |         |         | 8" HDS Members |         |         |         |         |
|                    |              | Gauge (Mils)   |         |         |         |         |                |         |         |         |         |
|                    |              | 20 (33)        | 18 (43) | 16 (54) | 14 (68) | 12 (97) | 20 (33)        | 18 (43) | 16 (54) | 14 (68) | 12 (97) |
| 8                  | 12           | 4.36 a         | 7.32 a  | 13.98 a | 19.88 a | 30.08 a | 4.80 a*        | 7.96 a  | 15.10 a | 21.73 a | 33.20 a |
|                    | 16           | 4.07 a         | 7.00 a  | 13.66 a | 19.53 a | 29.71 a | 4.59 a*        | 7.75 a  | 14.89 a | 21.51 a | 32.96 a |
|                    | 24           | 3.49 a         | 6.37 a  | 13.02 a | 18.83 a | 28.97 a | 4.17 a*        | 7.33 a  | 14.48 a | 21.06 a | 32.49 a |
| 9                  | 12           | 4.05 a         | 6.93 a  | 13.46 a | 19.00 a | 28.80 a | 4.6 a*         | 7.72 a  | 14.76 a | 21.25 a | 32.52 a |
|                    | 16           | 3.68 a         | 6.52 a  | 13.04 a | 18.55 a | 28.32 a | 4.33 a*        | 7.46 a  | 14.50 a | 20.97 a | 32.21 a |
|                    | 24           | 2.96 a         | 5.73 a  | 12.23 a | 17.67 a | 27.39 a | 3.80 a*        | 6.92 a  | 13.97 a | 20.39 a | 31.6 a  |
| 10                 | 12           | 3.70 a         | 6.49 a  | 12.79 a | 18.01 a | 27.37 a | 4.36 a*        | 7.46 a  | 14.38 a | 20.70 a | 31.73 a |
|                    | 16           | 3.26 a         | 5.99 a  | 12.28 a | 17.45 a | 26.78 a | 4.04 a*        | 7.12 a  | 14.05 a | 20.35 a | 31.35 a |
|                    | 24           | 2.40 a         | 5.04 a  | 11.28 a | 16.37 a | 25.62 a | 3.39 a*        | 6.47 a  | 13.39 a | 19.63 a | 30.59 a |
| 11                 | 12           | 3.33 a         | 6.00 a  | 11.99 a | 16.92 a | 25.82 a | 4.10 a*        | 7.16 a  | 13.94 a | 20.08 a | 30.84 a |
|                    | 16           | 2.80 a         | 5.42 a  | 11.38 a | 16.25 a | 25.10 a | 3.71 a*        | 6.76 a  | 13.54 a | 19.65 a | 30.37 a |
|                    | 24           | 1.82 a         | 4.32 a  | 10.20 a | 14.97 a | 23.71 a | 2.94 a*        | 5.97 a  | 12.75 a | 18.78 a | 29.45 a |
| 12                 | 12           | 2.93 a         | 5.48 a  | 11.13 a | 15.69 a | 24.15 a | 3.82 a*        | 6.83 a  | 13.51 a | 19.39 a | 29.85 a |
|                    | 16           | 2.34 a         | 4.82 a  | 10.42 a | 14.92 a | 23.30 a | 3.36 a*        | 6.35 a  | 13.03 a | 18.87 a | 29.29 a |
|                    | 24           | 1.23 a         | 3.57 a  | 9.09 a  | 13.46 a | 21.70 a | 2.47 a*        | 5.43 a  | 12.09 a | 17.84 a | 28.18 a |
| 14                 | 12           | 2.12 a         | 4.39 a  | 9.24 a  | 13.13 a | 20.61 a | 3.20 a*        | 6.09 a  | 12.49 a | 17.82 a | 27.6 a  |
|                    | 16           | 1.41 b         | 3.58 a  | 8.38 a  | 12.18 a | 19.54 a | 2.60 a*        | 5.46 a  | 11.84 a | 17.12 a | 26.83 a |
|                    | 24           | 0.12 d         | 2.10 b  | 6.83 a  | 10.48 a | 17.60 a | 1.46 a*        | 4.25 a  | 10.58 a | 15.75 a | 25.35 a |
| 16                 | 12           | 1.33 b         | 3.30 a  | 7.40 a  | 10.62 a | 17.05 a | 2.53 a*        | 5.26 a  | 11.17 a | 16.02 a | 25.06 a |
|                    | 16           | 0.54 d         | 2.39 b  | 6.45 a  | 9.59 a  | 15.85 a | 1.80 a*        | 4.48 a  | 10.35 a | 15.13 a | 24.08 a |
|                    | 24           | —              | 0.79 d  | 4.80 c  | 7.77 b  | 13.74 a | 0.44 b*        | 3.02 a  | 8.82 a  | 13.45 a | 22.21 a |

| Member<br>length (ft) | Spacing<br>(in) | 30psf          |         |         |         |         |                |         |         |         |         |
|-----------------------|-----------------|----------------|---------|---------|---------|---------|----------------|---------|---------|---------|---------|
|                       |                 | 6" HDS Members |         |         |         |         | 8" HDS Members |         |         |         |         |
|                       |                 | Gauge (Mils)   |         |         |         |         |                |         |         |         |         |
|                       |                 | 20 (33)        | 18 (43) | 16 (54) | 14 (68) | 12 (97) | 20 (33)        | 18 (43) | 16 (54) | 14 (68) | 12 (97) |
| 8                     | 12              | 4.19 a         | 7.13 a  | 13.79 a | 19.67 a | 29.86 a | 4.68 a*        | 7.83 a  | 14.97 a | 21.60 a | 33.06 a |
|                       | 16              | 3.84 a         | 6.75 a  | 13.40 a | 19.25 a | 29.41 a | 4.42 a*        | 7.58 a  | 14.73 a | 21.33 a | 32.77 a |
|                       | 24              | 3.15 a         | 6.00 a  | 12.64 a | 18.42 a | 28.54 a | 3.92 a*        | 7.07 a  | 14.23 a | 20.79 a | 32.20 a |
| 9                     | 12              | 3.83 a         | 6.68 a  | 13.21 a | 18.73 a | 28.51 a | 4.44 a*        | 7.56 a  | 14.60 a | 21.08 a | 32.33 a |
|                       | 16              | 3.39 a         | 6.20 a  | 12.71 a | 18.19 a | 27.95 a | 4.12 a*        | 7.24 a  | 14.29 a | 20.74 a | 31.97 a |
|                       | 24              | 2.54 a         | 5.27 a  | 11.75 a | 17.15 a | 26.83 a | 3.49 a*        | 6.60 a  | 13.66 a | 20.05 a | 31.24 a |
| 10                    | 12              | 3.43 a         | 6.19 a  | 12.48 a | 17.68 a | 27.02 a | 4.17 a*        | 7.26 a  | 14.18 a | 20.49 a | 31.50 a |
|                       | 16              | 2.91 a         | 5.61 a  | 11.87 a | 17.02 a | 26.31 a | 3.78 a*        | 6.86 a  | 13.78 a | 20.06 a | 31.04 a |
|                       | 24              | 1.91 a         | 4.49 a  | 10.70 a | 15.74 a | 24.94 a | 3.01 a*        | 6.08 a  | 13.01 a | 19.21 a | 30.14 a |
| 11                    | 12              | 3.01 a         | 5.65 a  | 11.62 a | 16.52 a | 25.38 a | 3.87 a*        | 6.92 a  | 13.7 a  | 19.82 a | 30.56 a |
|                       | 16              | 2.40 a         | 4.97 a  | 10.9 a  | 15.73 a | 24.53 a | 3.40 a*        | 6.44 a  | 13.22 a | 19.30 a | 30.00 a |
|                       | 24              | 1.26 a         | 3.68 a  | 9.53 a  | 14.24 a | 22.91 a | 2.49 a*        | 5.50 a  | 12.28 a | 18.27 a | 28.90 a |
| 12                    | 12              | 2.57 a         | 5.08 a  | 10.70 a | 15.22 a | 23.64 a | 3.55 a*        | 6.54 a  | 13.22 a | 19.08 a | 29.51 a |
|                       | 16              | 1.88 a         | 4.30 a  | 9.87 a  | 14.32 a | 22.65 a | 3.00 a*        | 5.98 a  | 12.65 a | 18.46 a | 28.84 a |
|                       | 24              | 0.61 b         | 2.86 a  | 8.34 a  | 12.64 a | 20.79 a | 1.95 a*        | 4.88 a  | 11.54 a | 17.24 a | 27.53 a |
| 14                    | 12              | 1.68 a         | 3.89 a  | 8.72 a  | 12.55 a | 19.96 a | 2.84 a*        | 5.71 a  | 12.10 a | 17.40 a | 27.14 a |
|                       | 16              | 0.87 c         | 2.96 a  | 7.74 a  | 11.48 a | 18.74 a | 2.14 a*        | 4.97 a  | 11.33 a | 16.56 a | 26.23 a |
|                       | 24              | —              | 1.30 c  | 5.97 b  | 9.54 a  | 16.52 a | 0.81 a*        | 3.56 a  | 9.86 a  | 14.96 a | 24.48 a |
| 16                    | 12              | 0.85 c         | 2.75 b  | 6.82 a  | 9.99 a  | 16.32 a | 2.09 a*        | 4.79 a  | 10.67 a | 15.48 a | 24.46 a |
|                       | 16              | —              | 1.72 c  | 5.76 b  | 8.83 a  | 14.97 a | 1.24 a*        | 3.88 a  | 9.72 a  | 14.44 a | 23.32 a |
|                       | 24              | —              | —       | 3.91 d  | 6.80 c  | 12.60 a | —              | 2.20 b  | 7.96 a  | 12.50 a | 21.15 a |

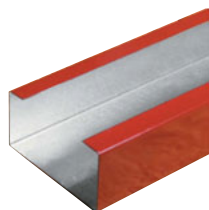
| Member length (ft) | Spacing (in) | 35psf          |         |         |         |         |                |         |         |         |         |
|--------------------|--------------|----------------|---------|---------|---------|---------|----------------|---------|---------|---------|---------|
|                    |              | 6" HDS Members |         |         |         |         | 8" HDS Members |         |         |         |         |
|                    |              | Gauge (Mils)   |         |         |         |         |                |         |         |         |         |
|                    |              | 20 (33)        | 18 (43) | 16 (54) | 14 (68) | 12 (97) | 20 (33)        | 18 (43) | 16 (54) | 14 (68) | 12 (97) |
| 8                  | 12           | 4.01 a         | 6.94 a  | 13.59 a | 19.46 a | 29.63 a | 4.55 a*        | 7.71 a  | 14.85 a | 21.46 a | 32.91 a |
|                    | 16           | 3.60 a         | 6.49 a  | 13.15 a | 18.97 a | 29.12 a | 4.26 a*        | 7.41 a  | 14.56 a | 21.15 a | 32.58 a |
|                    | 24           | 2.81 a         | 5.63 a  | 12.26 a | 18.01 a | 28.10 a | 3.67 a*        | 6.82 a  | 13.98 a | 20.52 a | 31.92 a |
| 9                  | 12           | 3.61 a         | 6.44 a  | 12.96 a | 18.46 a | 28.23 a | 4.28 a*        | 7.40 a  | 14.44 a | 20.91 a | 32.15 a |
|                    | 16           | 3.10 a         | 5.89 a  | 12.39 a | 17.84 a | 27.57 a | 3.91 a*        | 7.03 a  | 14.08 a | 20.51 a | 31.72 a |
|                    | 24           | 2.13 a         | 4.82 a  | 11.28 a | 16.64 a | 26.29 a | 3.18 a*        | 6.29 a  | 13.34 a | 19.71 a | 30.88 a |
| 10                 | 12           | 3.17 a         | 5.90 a  | 12.18 a | 17.34 a | 26.66 a | 3.97 a*        | 7.06 a  | 13.98 a | 20.27 a | 31.27 a |
|                    | 16           | 2.57 a         | 5.23 a  | 11.48 a | 16.59 a | 25.85 a | 3.52 a*        | 6.60 a  | 13.52 a | 19.78 a | 30.74 a |
|                    | 24           | 1.43 a         | 3.96 a  | 10.13 a | 15.13 a | 24.28 a | 2.63 a*        | 5.69 a  | 12.62 a | 18.79 a | 29.69 a |
| 11                 | 12           | 2.70 a         | 5.31 a  | 11.26 a | 16.12 a | 24.96 a | 3.63 a*        | 6.68 a  | 13.46 a | 19.56 a | 30.28 a |
|                    | 16           | 2.01 a         | 4.53 a  | 10.43 a | 15.22 a | 23.98 a | 3.09 a*        | 6.12 a  | 12.90 a | 18.95 a | 29.63 a |
|                    | 24           | 0.71 b         | 3.07 a  | 8.88 a  | 13.53 a | 22.13 a | 2.05 a*        | 5.04 a  | 11.82 a | 17.76 a | 28.35 a |
| 12                 | 12           | 2.22 a         | 4.69 a  | 10.28 a | 14.77 a | 23.14 a | 3.27 a*        | 6.26 a  | 12.93 a | 18.77 a | 29.18 a |
|                    | 16           | 1.45 a         | 3.81 a  | 9.35 a  | 13.75 a | 22.01 a | 2.64 a*        | 5.61 a  | 12.28 a | 18.05 a | 28.40 a |
|                    | 24           | 0.02 c         | 2.19 b  | 7.62 a  | 11.85 a | 19.91 a | 1.43 a*        | 4.35 a  | 10.99 a | 16.65 a | 26.89 a |
| 14                 | 12           | 1.27 b         | 3.42 a  | 8.22 a  | 12.00 a | 19.34 a | 2.49 a*        | 5.34 a  | 11.71 a | 16.98 a | 26.68 a |
|                    | 16           | 0.37 c         | 2.38 b  | 7.12 a  | 10.80 a | 17.97 a | 1.68 a*        | 4.49 a  | 10.83 a | 16.02 a | 25.64 a |
|                    | 24           | —              | 0.53 d  | 5.17 c  | 8.65 b  | 15.50 a | 0.18 b*        | 2.89 a  | 9.16 a  | 14.20 a | 23.63 a |
| 16                 | 12           | 0.39 d         | 2.22 c  | 6.28 a  | 9.40 a  | 15.63 a | 1.66 a*        | 4.33 a  | 10.19 a | 14.95 a | 23.88 a |
|                    | 16           | —              | 1.09 d  | 5.11 c  | 8.12 b  | 14.14 a | 0.71 b*        | 3.30 a  | 9.12 a  | 13.78 a | 22.58 a |
|                    | 24           | —              | —       | 3.08 d  | 5.89 d  | 11.53 b | —              | 1.41 b  | 7.13 a  | 11.59 a | 20.12 a |

| Member length (ft) | Spacing (in) | 40psf          |         |         |         |         |                |         |         |         |         |
|--------------------|--------------|----------------|---------|---------|---------|---------|----------------|---------|---------|---------|---------|
|                    |              | 6" HDS Members |         |         |         |         | 8" HDS Members |         |         |         |         |
|                    |              | Gauge (Mils)   |         |         |         |         |                |         |         |         |         |
|                    |              | 20 (33)        | 18 (43) | 16 (54) | 14 (68) | 12 (97) | 20 (33)        | 18 (43) | 16 (54) | 14 (68) | 12 (97) |
| 8                  | 12           | 3.84 a         | 6.75 a  | 13.40 a | 19.25 a | 29.41 a | 4.42 a*        | 7.58 a  | 14.73 a | 21.33 a | 32.77 a |
|                    | 16           | 3.37 a         | 6.24 a  | 12.89 a | 18.70 a | 28.83 a | 4.09 a*        | 7.24 a  | 14.40 a | 20.97 a | 32.39 a |
|                    | 24           | 2.48 a         | 5.26 a  | 11.89 a | 17.61 a | 27.67 a | 3.43 a*        | 6.57 a  | 13.74 a | 20.26 a | 31.64 a |
| 9                  | 12           | 3.39 a         | 6.20 a  | 12.71 a | 18.19 a | 27.95 a | 4.12 a*        | 7.24 a  | 14.29 a | 20.74 a | 31.97 a |
|                    | 16           | 2.82 a         | 5.58 a  | 12.07 a | 17.49 a | 27.20 a | 3.70 a*        | 6.81 a  | 13.87 a | 20.28 a | 31.48 a |
|                    | 24           | 1.73 a         | 4.37 a  | 10.81 a | 16.13 a | 25.74 a | 2.87 a*        | 5.97 a  | 13.03 a | 19.37 a | 30.52 a |
| 10                 | 12           | 2.91 a         | 5.61 a  | 11.87 a | 17.02 a | 26.31 a | 3.78 a*        | 6.86 a  | 13.78 a | 20.06 a | 31.04 a |
|                    | 16           | 2.23 a         | 4.86 a  | 11.08 a | 16.16 a | 25.39 a | 3.26 a*        | 6.34 a  | 13.26 a | 19.49 a | 30.44 a |
|                    | 24           | 0.96 a         | 3.44 a  | 9.58 a  | 14.53 a | 23.62 a | 2.26 a*        | 5.31 a  | 12.24 a | 18.37 a | 29.24 a |
| 11                 | 12           | 2.40 a         | 4.97 a  | 10.90 a | 15.73 a | 24.53 a | 3.40 a*        | 6.44 a  | 13.22 a | 19.30 a | 30.00 a |
|                    | 16           | 1.63 a         | 4.10 a  | 9.98 a  | 14.72 a | 23.44 a | 2.79 a*        | 5.81 a  | 12.59 a | 18.61 a | 29.26 a |
|                    | 24           | 0.19 c         | 2.48 a  | 8.25 a  | 12.84 a | 21.37 a | 1.61 a*        | 4.59 a  | 11.36 a | 17.26 a | 27.81 a |
| 12                 | 12           | 1.88 a         | 4.30 a  | 9.87 a  | 14.32 a | 22.65 a | 3.00 a*        | 5.98 a  | 12.65 a | 18.46 a | 28.84 a |
|                    | 16           | 1.02 b         | 3.33 a  | 8.83 a  | 13.19 a | 21.39 a | 2.29 a*        | 5.24 a  | 11.90 a | 17.64 a | 27.97 a |
|                    | 24           | —              | 1.54 b  | 6.93 a  | 11.09 a | 19.06 a | 0.93 a*        | 3.83 a  | 10.46 a | 16.06 a | 26.25 a |
| 14                 | 12           | 0.87 c         | 2.96 a  | 7.74 a  | 11.48 a | 18.74 a | 2.14 a*        | 4.97 a  | 11.33 a | 16.56 a | 26.23 a |
|                    | 16           | —              | 1.83 c  | 6.54 a  | 10.16 a | 17.23 a | 1.24 a*        | 4.02 a  | 10.34 a | 15.49 a | 25.05 a |
|                    | 24           | —              | —       | 4.41 c  | 7.81 b  | 14.53 a | —              | 2.23 a  | 8.47 a  | 13.45 a | 22.80 a |
| 16                 | 12           | —              | 1.72 c  | 5.76 b  | 8.83 a  | 14.97 a | 1.24 a*        | 3.88 a  | 9.72 a  | 14.44 a | 23.32 a |
|                    | 16           | —              | 0.50 d  | 4.49 c  | 7.44 b  | 13.35 a | 0.19 c*        | 2.74 a  | 8.53 a  | 13.13 a | 21.85 a |
|                    | 24           | —              | —       | 2.30 e  | 5.03 d  | 10.53 c | —              | 0.66 c  | 6.33 b  | 10.71 a | 19.13 a |

## RedHeader RO™ Introduction

### For exterior curtain wall and interior nonload-bearing framing.

RedHeader RO™ from ClarkDietrich can cut your labor time in half. It's designed to replace lay-in and boxed headers, and there is no need for built-up jambs. This also results in the ability to install insulation more easily. Headers are pre-cut to length and painted red to identify quickly on the jobsite. The adjustable Drop 'N Lock™ clip makes field adjustments a snap, as well as provides a flat surface for a smooth drywall finish. It also saves you money by reducing the number of components, weight and screws.



Header width is 1/8" less than jamb depth to fit inside Drop 'N Lock clip.

### HEADER

#### Header widths:

- 3-1/2" (used with 3-5/8" jamb and clip)
- 3-7/8" (used with 4" jamb and clip)
- 5-7/8" (used with 6" jamb and clip)
- 7-7/8" (used with 8" jamb and clip)

#### Header flanges:

- 3" and 3-1/2"

#### Header lip/return:

- 1"

#### Header thicknesses:

- 54mil (16ga)
- 68mil (14ga)
- 97mil (12ga)
- All material 50ksi
- CP60 (G90 available)

**All headers are unpunched**

#### Ordering information:

- HEADER LENGTHS SHOULD BE ORDERED 1/2" SHORTER TO FIT INSIDE CLIPS (header length = inside of jamb to inside of jamb minus 1/2")
- Pre-cut headers (4'0" and over) are available based on minimum quantity orders



### JAMB

#### Jamb widths:

- 3-5/8", 4", 6" and 8"

#### Jamb flanges:

- 3" and 3-1/2"

#### Jamb thicknesses:

- 54mil (16ga)
- 68mil (14ga)
- 97mil (12ga)
- All material 50ksi
- CP60 (G90 available)



### DROP 'N LOCK™ CLIP

#### Clip widths: 3-5/8", 4", 6" and 8"

#### Clip height: 3"

#### Clip thickness: 14ga

#### All clip material: 50ksi, G90 material

| Framing size | Thickness mils (ga) | Clip name                | Clips per box |
|--------------|---------------------|--------------------------|---------------|
| 3-5/8"       | 68mil (14ga)        | Drop 'N Lock clip 362-68 | 24            |
| 4"           | 68mil (14ga)        | Drop 'N Lock clip 400-68 | 24            |
| 6"           | 68mil (14ga)        | Drop 'N Lock clip 600-68 | 24            |
| 8"           | 68mil (14ga)        | Drop 'N Lock clip 800-68 | 16            |

## ProX Header® Introduction

### A superior and cost-effective solution for a wide range of openings.

The Brady Innovations ProX Header® System provides a direct solution to the many problems associated with traditional headers that have troubled architects, engineers, contractors and inspectors for decades. ProX Header is a superior and cost-effective alternative to the limited span capabilities of a single track, and the excessive build-up of traditional box headers. The ProX Header is designed for all interior and exterior door and window wall openings in the 3 to 12 foot wide range. The ProX Clip's offset tabs enable the ProX header to "snap" and hold itself in place during installation. After installation, all screw connections remain flush and ready for a smooth drywall finish.



ProX Header

#### HEADER

##### Header widths:

3-5/8"  
4"  
6"  
8"

##### Header flange:

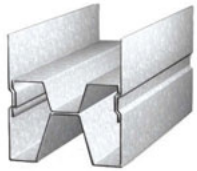
4-1/4"

##### Header lip/return:

1-5/8"

##### Header thicknesses:

33mil (20ga)  
43mil (18ga)  
54mil (16ga)  
68mil (14ga)  
33ksi or 50ksi  
CP60



ProX Header with Insert

#### ProX INSERT (OPTIONAL)

##### Insert widths:

3.464"  
3.839"  
5.839"  
7.839"

##### Insert flange:

1-5/8"

##### Insert thicknesses:

33mil (20ga)  
43mil (18ga)  
54mil (16ga)  
68mil (14ga)  
33ksi or 50ksi  
CP60



ProX Clip

#### ProX CLIP

**Clip widths:** 3-5/8", 4", 6" and 8"

**Clip height:** 1-1/2"

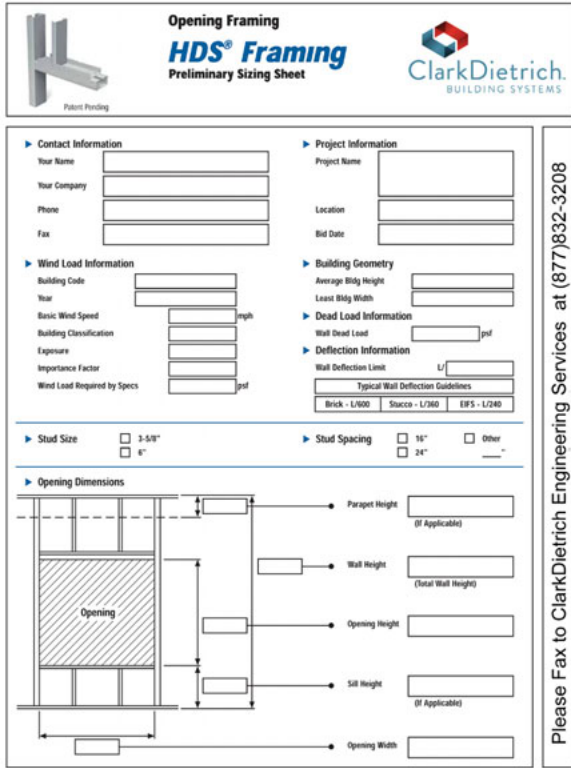
**Clip thickness:** 16ga

**All clip material:** 50ksi, CP60 material



# Opening Sizing Sheets

Sizing and ordering HDS® Framing, RedHeader RO™ and ProX Header® Framing Systems are easy. You can find the preliminary sizing sheets and submittals shown below at clarkdietrich.com.



**Opening Framing**  
**HDS® Framing**  
Preliminary Sizing Sheet

**ClarkDietrich**  
BUILDING SYSTEMS

**Contact Information**  
Your Name: \_\_\_\_\_  
Your Company: \_\_\_\_\_  
Phone: \_\_\_\_\_  
Fax: \_\_\_\_\_

**Project Information**  
Project Name: \_\_\_\_\_  
Location: \_\_\_\_\_  
Bid Date: \_\_\_\_\_

**Wind Load Information**  
Building Code: \_\_\_\_\_  
Year: \_\_\_\_\_  
Basic Wind Speed: \_\_\_\_\_ mph  
Building Classification: \_\_\_\_\_  
Exposure: \_\_\_\_\_  
Importance Factor: \_\_\_\_\_  
Wind Load Required by Specs: \_\_\_\_\_ psf

**Building Geometry**  
Average Bldg Height: \_\_\_\_\_  
Least Bldg Width: \_\_\_\_\_

**Dead Load Information**  
Wall Dead Load: \_\_\_\_\_ psf

**Deflection Information**  
Wall Deflection Limit: L/\_\_\_\_\_  
Typical Wall Deflection Guidelines  
Brick - L/600   Stucco - L/360   EPS - L/240

**Stud Size** ☐ 3-5/8" ☐ 4" ☐ 6"

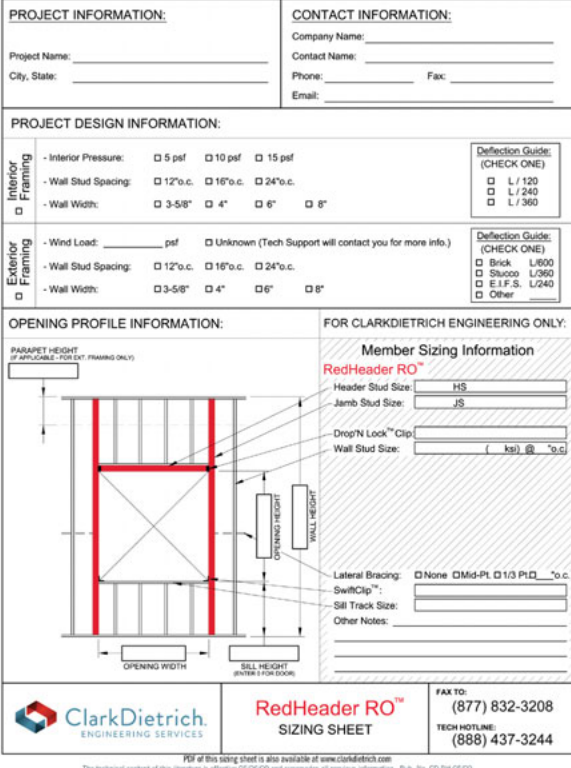
**Stud Spacing** ☐ 16" ☐ 24" ☐ Other \_\_\_\_\_

**Opening Dimensions**  
Parapet Height: \_\_\_\_\_ (If Applicable)  
Wall Height: \_\_\_\_\_ (Total Wall Height)  
Opening Height: \_\_\_\_\_  
Sill Height: \_\_\_\_\_ (If Applicable)  
Opening Width: \_\_\_\_\_

**Diagram:** A cross-section diagram of a wall with an opening. Labels include: Parapet Height, Wall Height, Opening Height, Sill Height, Opening Width, and Opening.

**Please Fax to ClarkDietrich Engineering Services at (877) 832-3208**

Example: HDS Framing sizing sheet



**PROJECT INFORMATION:**  
Project Name: \_\_\_\_\_  
City, State: \_\_\_\_\_

**CONTACT INFORMATION:**  
Company Name: \_\_\_\_\_  
Contact Name: \_\_\_\_\_  
Phone: \_\_\_\_\_ Fax: \_\_\_\_\_  
Email: \_\_\_\_\_

**PROJECT DESIGN INFORMATION:**  
Interior Framing  
- Interior Pressure: ☐ 5 psf ☐ 10 psf ☐ 15 psf  
- Wall Stud Spacing: ☐ 12" o.c. ☐ 16" o.c. ☐ 24" o.c.  
- Wall Width: ☐ 3-5/8" ☐ 4" ☐ 6" ☐ 8"

**Deflection Guide: (CHECK ONE)**  
☐ L / 120  
☐ L / 240  
☐ L / 360

Exterior Framing  
- Wind Load: \_\_\_\_\_ psf ☐ Unknown (Tech Support will contact you for more info.)  
- Wall Stud Spacing: ☐ 12" o.c. ☐ 16" o.c. ☐ 24" o.c.  
- Wall Width: ☐ 3-5/8" ☐ 4" ☐ 6" ☐ 8"

**Deflection Guide: (CHECK ONE)**  
☐ Brick L/600  
☐ Stucco L/360  
☐ E.I.F.S. L/240  
☐ Other \_\_\_\_\_

**OPENING PROFILE INFORMATION:**  
PARAPET HEIGHT (IF APPLICABLE - FOR EXT. FRAMING ONLY)  
\_\_\_\_\_

**FOR CLARKDIETRICH ENGINEERING ONLY:**  
**Member Sizing Information**  
Header Stud Size: HS \_\_\_\_\_  
Jamb Stud Size: JS \_\_\_\_\_  
Drop'N Lock™ Clip: \_\_\_\_\_  
Wall Stud Size: \_\_\_\_\_ (\_\_\_\_\_) @ \_\_\_\_\_ o.c.  
Lateral Bracing: ☐ None ☐ Mid-Pl. ☐ 1/3 Pl. @ \_\_\_\_\_ o.c.  
SwiftClip™: \_\_\_\_\_  
Sill Track Size: \_\_\_\_\_  
Other Notes: \_\_\_\_\_

**Diagram:** A cross-section diagram of a wall with an opening. Labels include: Parapet Height, Opening Height, Wall Height, Opening Width, and Sill Height (interior door).

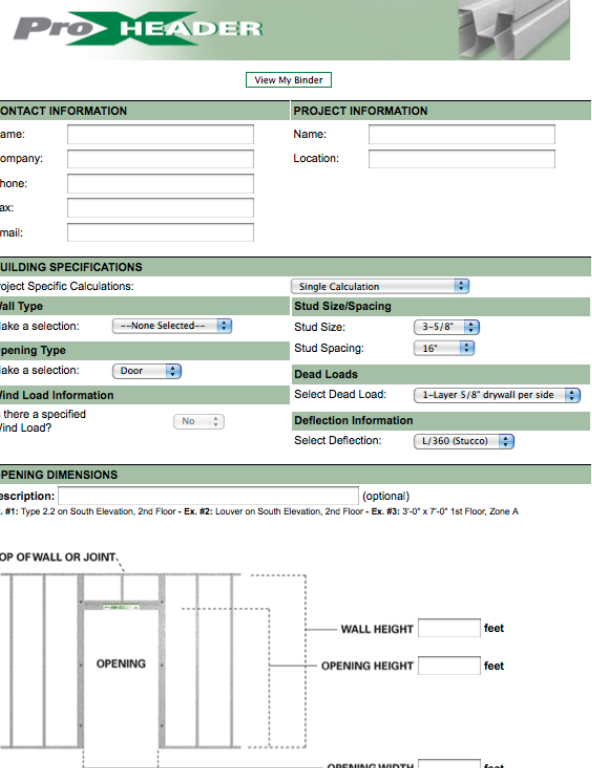
**ClarkDietrich**  
ENGINEERING SERVICES

**RedHeader RO™**  
SIZING SHEET

**FAX TO:** (877) 832-3208  
**TECH HOTLINE:** (888) 437-3244

PDF of this sizing sheet is also available at [www.clarkdietrich.com](http://www.clarkdietrich.com)  
The technical content of this literature is effective 05/06/09 and supersedes all previous information. Pub. No. CD-RH (05/09)

Example: RedHeader RO sizing sheet



**Welcome** **The System** **Animation** **Cost Savings** **Engineering** **Submittal Package** **Member Selector** **Contact Us**

**ProX HEADER**

**View My Binder**

**CONTACT INFORMATION**  
Name: \_\_\_\_\_  
Company: \_\_\_\_\_  
Phone: \_\_\_\_\_  
Fax: \_\_\_\_\_  
Email: \_\_\_\_\_

**PROJECT INFORMATION**  
Name: \_\_\_\_\_  
Location: \_\_\_\_\_

**BUILDING SPECIFICATIONS**  
Project Specific Calculations: Single Calculation  
**Wall Type**  
Make a selection:  **Stud Size/Spacing**  
Stud Size: 3-5/8" **Stud Spacing:** 16"  
**Opening Type**  
Make a selection: Door **Dead Loads**  
Select Dead Load: 1-Layer 5/8" drywall per side  
**Wind Load Information**  
Is there a specified Wind Load? No **Deflection Information**  
Select Deflection: L/360 (Stucco)

**OPENING DIMENSIONS**  
**Description:** \_\_\_\_\_ (optional)  
Ex. #1: Type 2.2 on South Elevation, 2nd Floor - Ex. #2: Louver on South Elevation, 2nd Floor - Ex. #3: 3'-0" x 7'-0" 1st Floor, Zone A

**TOP OF WALL OR JOINT:**  
WALL HEIGHT: \_\_\_\_\_ feet  
OPENING HEIGHT: \_\_\_\_\_ feet  
OPENING WIDTH: \_\_\_\_\_ feet

**Find Pro-X Options**

Example: ProX Header sizing sheet

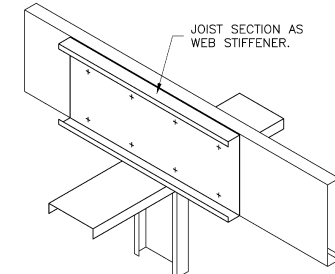
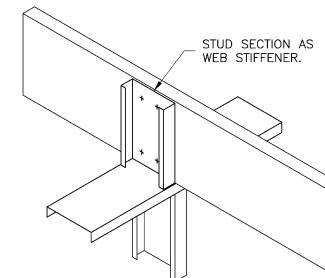
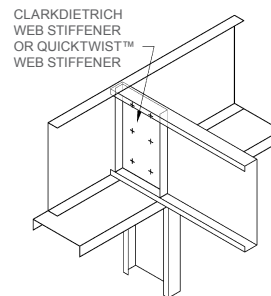
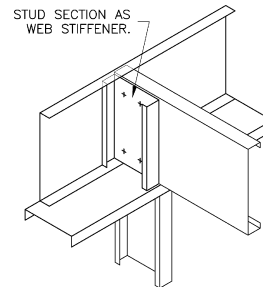
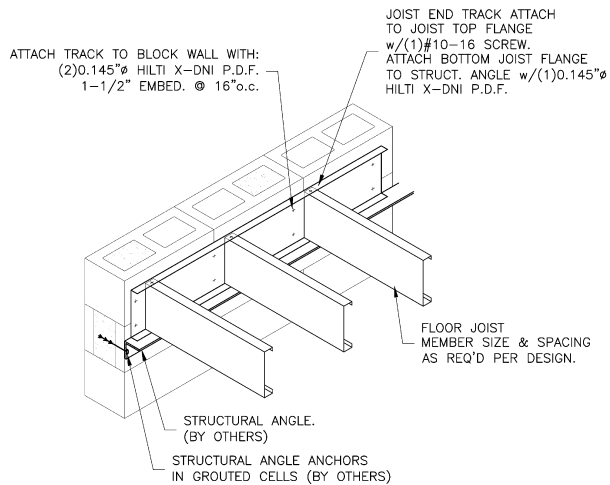
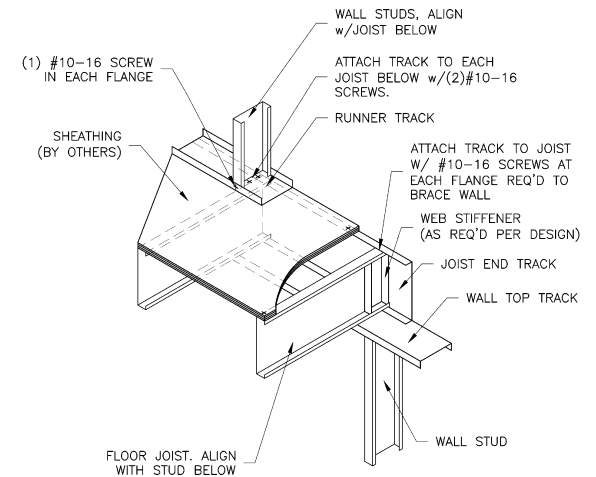
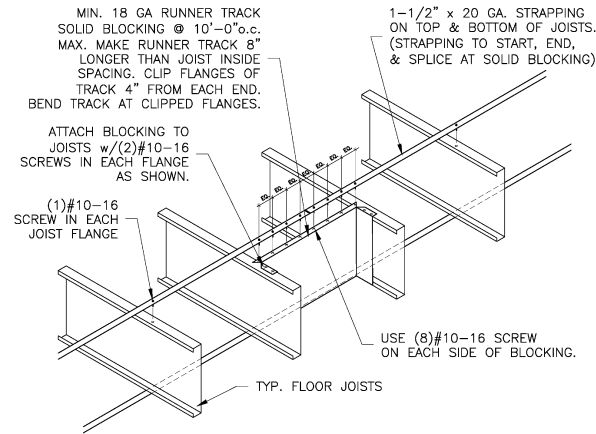


## FLOOR JOIST FRAMING

# Overview

## General notes:

- 1 Joist deflection limitations are based upon  $L/240$  for the total load [TL] and  $L/360$  or  $L/480$  for live load [LL].
- 2 For two equal, continuous span conditions, alternate span live load has been considered.
- 3 For two equal, continuous span conditions, the listed span is the distance from either end support to the center support.
- 4 The strength increase due to cold work of forming was incorporated for flexural strength as applicable per the AISI-NASPEC A7.2.
- 5 The yield stress (33ksi or 50ksi) used to calculate tabulated values is indicated in each table. For 50ksi material to be provided, it needs to be indicated at the time of ordering.
- 6 A 3-1/2" bearing length was used at all support locations in the preparation of these tables.
- 7 The punchout pattern for ClarkDietrich joists is a 4" long by 1-1/2" high oval.
- 8 Unpunched joists are available, but must be indicated when ordering.
- 9 Web punchouts located near a bearing location may need reinforcement.
- 10 Joists must be restrained against rotation at all supports.
- 11 Joist bridging opposite the sheathed flange is recommended at a maximum of 8 ft. o.c. when sheathing is applied to only the compression flange.



## FLOOR JOIST SPAN LIMITATIONS

## 10psf Dead Load and 20psf Live Load (TL Defl.=L/240)

| Member     | ksi | Live Load Deflection L/360       |           |           |                                      |           |           |                                  |           |           | Live Load Deflection L/480       |           |           |                                      |           |           |                                      |           |          |
|------------|-----|----------------------------------|-----------|-----------|--------------------------------------|-----------|-----------|----------------------------------|-----------|-----------|----------------------------------|-----------|-----------|--------------------------------------|-----------|-----------|--------------------------------------|-----------|----------|
|            |     | Single span<br>spacing (in) o.c. |           |           | Two equal spans<br>spacing (in) o.c. |           |           | Single span<br>spacing (in) o.c. |           |           | Single span<br>spacing (in) o.c. |           |           | Two equal spans<br>spacing (in) o.c. |           |           | Two equal spans<br>spacing (in) o.c. |           |          |
|            |     | 12                               | 16        | 19.2      | 24                                   | 12        | 16        | 19.2                             | 24        | 12        | 16                               | 19.2      | 24        | 12                                   | 16        | 19.2      | 24                                   | 12        | 16       |
| 600S162-33 | 33  | 15' 10"                          | 13' 10" e | 12' 8" e  | 11' 4" e                             | 16' 0" i  | 13' 10" i | 12' 8" a                         | 11' 4" a  | 14' 4"    | 13' 1" e                         | 12' 3" e  | 11' 4" e  | 16' 0" i                             | 13' 10" i | 12' 8" a  | 11' 4" a                             | 14' 4"    | 13' 1" e |
| 600S162-43 | 33  | 17' 2"                           | 15' 7"    | 14' 8"    | 13' 8" e                             | 19' 3" i  | 16' 9" i  | 15' 3" i                         | 13' 8" i  | 15' 7"    | 14' 2"                           | 13' 4"    | 12' 5"    | 17' 6" i                             | 15' 11" i | 15' 0" i  | 13' 8" i                             | 15' 7"    | 14' 2"   |
| 600S162-54 | 33  | 18' 5"                           | 16' 9"    | 15' 9"    | 14' 7"                               | 20' 8" i  | 18' 9" i  | 17' 2" i                         | 15' 4" i  | 16' 9"    | 15' 3"                           | 14' 4"    | 13' 3"    | 18' 10" i                            | 17' 1" i  | 16' 1" i  | 14' 11" i                            | 16' 9"    | 15' 3"   |
| 600S162-54 | 50  | 18' 5"                           | 16' 9"    | 15' 9"    | 14' 7"                               | 20' 8"    | 18' 10"   | 17' 8"                           | 16' 5" i  | 16' 9"    | 15' 3"                           | 14' 4"    | 13' 3"    | 18' 10"                              | 17' 1"    | 16' 1"    | 14' 11"                              | 16' 9"    | 15' 3"   |
| 600S162-68 | 33  | 19' 9"                           | 17' 11"   | 16' 11"   | 15' 8"                               | 22' 2"    | 20' 2" i  | 18' 11" i                        | 17' 3" i  | 17' 11"   | 16' 4"                           | 15' 4"    | 14' 3"    | 20' 2"                               | 18' 4"    | 17' 3" i  | 16' 0" i                             | 20' 2"    | 18' 4"   |
| 600S162-68 | 50  | 19' 9"                           | 17' 11"   | 16' 11"   | 15' 8"                               | 22' 2"    | 20' 2"    | 18' 11"                          | 17' 7"    | 17' 11"   | 16' 4"                           | 15' 4"    | 14' 3"    | 20' 2"                               | 18' 4"    | 17' 3"    | 16' 0"                               | 20' 2"    | 18' 4"   |
| 600S162-97 | 33  | 21' 11"                          | 19' 11"   | 18' 9"    | 17' 5"                               | 24' 8"    | 22' 5"    | 21' 1"                           | 19' 7"    | 19' 11"   | 18' 1"                           | 17' 1"    | 15' 10"   | 22' 5"                               | 20' 4"    | 19' 2"    | 17' 9"                               | 22' 5"    | 20' 4"   |
| 600S162-97 | 50  | 21' 11"                          | 19' 11"   | 18' 9"    | 17' 5"                               | 24' 8"    | 22' 5"    | 21' 1"                           | 19' 7"    | 19' 11"   | 18' 1"                           | 17' 1"    | 15' 10"   | 22' 5"                               | 20' 4"    | 19' 2"    | 17' 9"                               | 22' 5"    | 20' 4"   |
| 600S200-33 | 33  | 16' 5"                           | 14' 3" e  | 13' 0" e  | 11' 7" e                             | 16' 5" i  | 14' 3" i  | 13' 0" a                         | 11' 7" a  | 15' 0"    | 13' 8" e                         | 12' 10" e | 11' 7" e  | 16' 5" i                             | 14' 3" i  | 13' 0" a  | 11' 7" a                             | 15' 0"    | 13' 8" e |
| 600S200-43 | 33  | 18' 0"                           | 16' 5"    | 15' 5"    | 13' 10" e                            | 19' 7" i  | 17' 0" i  | 15' 6" i                         | 13' 10" i | 16' 5"    | 14' 11"                          | 14' 0"    | 13' 0"    | 18' 5" i                             | 16' 9" i  | 15' 6" i  | 13' 10" i                            | 16' 5"    | 14' 11"  |
| 600S200-54 | 33  | 19' 4"                           | 17' 7"    | 16' 7"    | 15' 4"                               | 21' 9" i  | 19' 9" i  | 18' 3" i                         | 16' 4" i  | 17' 7"    | 16' 0"                           | 15' 0"    | 14' 0"    | 19' 9" i                             | 17' 11" i | 16' 11" i | 15' 8" i                             | 17' 7"    | 16' 0"   |
| 600S200-54 | 50  | 19' 4"                           | 17' 7"    | 16' 7"    | 15' 4"                               | 21' 9" i  | 19' 9" i  | 18' 7" i                         | 17' 3" i  | 17' 7"    | 16' 0"                           | 15' 0"    | 14' 0"    | 19' 9" i                             | 17' 11" i | 16' 11" i | 15' 8" i                             | 17' 7"    | 16' 0"   |
| 600S200-68 | 33  | 20' 9"                           | 18' 10"   | 17' 9"    | 16' 6"                               | 23' 4"    | 21' 2" i  | 19' 11" i                        | 18' 5" i  | 18' 10"   | 17' 2"                           | 16' 2"    | 15' 0"    | 21' 2"                               | 19' 3"    | 18' 1" i  | 16' 10" i                            | 21' 2"    | 19' 3"   |
| 600S200-68 | 50  | 20' 9"                           | 18' 10"   | 17' 9"    | 16' 6"                               | 23' 4"    | 21' 2"    | 19' 11"                          | 18' 6"    | 18' 10"   | 17' 2"                           | 16' 2"    | 15' 0"    | 21' 2"                               | 19' 3"    | 18' 1"    | 16' 10"                              | 21' 2"    | 19' 3"   |
| 600S200-97 | 33  | 23' 1"                           | 21' 0"    | 19' 9"    | 18' 4"                               | 25' 11"   | 23' 7"    | 22' 2"                           | 20' 7"    | 21' 0"    | 19' 1"                           | 18' 0"    | 16' 8"    | 23' 7"                               | 21' 5"    | 20' 2"    | 18' 9"                               | 23' 7"    | 21' 5"   |
| 600S200-97 | 50  | 23' 1"                           | 21' 0"    | 19' 9"    | 18' 4"                               | 25' 11"   | 23' 7"    | 22' 2"                           | 20' 7"    | 21' 0"    | 19' 1"                           | 18' 0"    | 16' 8"    | 23' 7"                               | 21' 5"    | 20' 2"    | 18' 9"                               | 23' 7"    | 21' 5"   |
| 600S250-43 | 33  | 18' 11"                          | 17' 2"    | 15' 11"   | 14' 2" e                             | 20' 1" i  | 17' 5" i  | 15' 11" i                        | 14' 2" i  | 17' 2"    | 15' 7"                           | 14' 8"    | 13' 7" e  | 19' 3" i                             | 17' 5" i  | 15' 11" i | 14' 2" i                             | 17' 2"    | 15' 7"   |
| 600S250-54 | 33  | 20' 3"                           | 18' 5"    | 17' 4"    | 15' 11"                              | 22' 7" i  | 19' 6" i  | 17' 10" i                        | 15' 11" i | 18' 5"    | 16' 9"                           | 15' 9"    | 14' 8"    | 20' 8" i                             | 18' 10" i | 17' 8" i  | 15' 11" i                            | 18' 5"    | 16' 9"   |
| 600S250-54 | 50  | 20' 2"                           | 18' 4"    | 17' 3"    | 16' 0"                               | 22' 8"    | 20' 7" i  | 19' 5" i                         | 18' 0" i  | 18' 4"    | 16' 8"                           | 15' 8"    | 14' 7"    | 20' 7"                               | 18' 9"    | 17' 7"    | 16' 4" i                             | 20' 7"    | 18' 4"   |
| 600S250-68 | 33  | 21' 9"                           | 19' 9"    | 18' 7"    | 17' 3"                               | 24' 5"    | 22' 3" i  | 20' 11" i                        | 19' 2" i  | 19' 9"    | 18' 0"                           | 16' 11"   | 15' 8"    | 22' 3"                               | 20' 2"    | 19' 0" i  | 17' 8" i                             | 22' 3"    | 20' 2"   |
| 600S250-68 | 50  | 21' 9"                           | 19' 9"    | 18' 7"    | 17' 3"                               | 24' 5"    | 22' 2"    | 20' 11"                          | 19' 5" i  | 19' 9"    | 18' 0"                           | 16' 11"   | 15' 8"    | 22' 2"                               | 20' 2"    | 19' 0"    | 17' 8"                               | 22' 2"    | 20' 2"   |
| 600S250-97 | 33  | 24' 3"                           | 22' 1"    | 20' 9"    | 19' 3"                               | 27' 3"    | 24' 9"    | 23' 4"                           | 21' 8"    | 22' 1"    | 20' 0"                           | 18' 10"   | 17' 6"    | 24' 9"                               | 22' 6"    | 21' 2"    | 19' 8"                               | 22' 1"    | 20' 0"   |
| 600S250-97 | 50  | 24' 3"                           | 22' 1"    | 20' 9"    | 19' 3"                               | 27' 3"    | 24' 9"    | 23' 4"                           | 21' 8"    | 22' 1"    | 20' 0"                           | 18' 10"   | 17' 6"    | 24' 9"                               | 22' 6"    | 21' 2"    | 19' 8"                               | 22' 1"    | 20' 0"   |
| 800S162-33 | 33  | 17' 8" e                         | 15' 4" e  | 14' 0" e  | 12' 6" e                             | 17' 8" a  | 14' 5" a  | 12' 8" a                         | 10' 9" a  | 17' 8" e  | 15' 4" e                         | 14' 0" e  | 12' 6" e  | 17' 8" a                             | 14' 5" a  | 12' 8" a  | 10' 9" a                             | 17' 8" e  | 15' 4" e |
| 800S162-43 | 33  | 21' 2"                           | 18' 4"    | 16' 9" e  | 14' 11" e                            | 21' 2" i  | 18' 4" i  | 16' 9" i                         | 14' 11" i | 19' 6"    | 17' 8"                           | 16' 8" e  | 14' 11" e | 21' 2" i                             | 18' 4" i  | 16' 9" i  | 14' 11" i                            | 19' 6"    | 17' 8"   |
| 800S162-54 | 33  | 23' 2"                           | 21' 0"    | 19' 2"    | 17' 1"                               | 24' 3" i  | 21' 0" i  | 19' 2" i                         | 17' 1" i  | 21' 1"    | 19' 2"                           | 18' 0"    | 16' 9"    | 23' 8" i                             | 21' 0" i  | 19' 2" i  | 17' 1" i                             | 21' 1"    | 19' 2"   |
| 800S162-54 | 50  | 23' 1"                           | 20' 11"   | 19' 8"    | 18' 4"                               | 25' 11" i | 23' 6" i  | 22' 2" i                         | 20' 3" i  | 20' 11"   | 19' 0"                           | 17' 11"   | 16' 7"    | 23' 6"                               | 21' 4" i  | 20' 1" i  | 18' 8" i                             | 23' 6"    | 21' 4" i |
| 800S162-68 | 33  | 24' 11"                          | 22' 8"    | 21' 4"    | 19' 6"                               | 27' 7" i  | 23' 11" i | 21' 10" i                        | 19' 6" i  | 22' 8"    | 20' 7"                           | 19' 4"    | 18' 0"    | 25' 5" i                             | 23' 1" i  | 21' 9" i  | 19' 6" i                             | 22' 8"    | 21' 4"   |
| 800S162-68 | 50  | 24' 11"                          | 22' 7"    | 21' 3"    | 19' 9"                               | 28' 0"    | 25' 5"    | 23' 11" i                        | 22' 2" i  | 22' 7"    | 20' 7"                           | 19' 4"    | 17' 11"   | 25' 5"                               | 23' 1"    | 21' 9"    | 20' 2"                               | 22' 7"    | 20' 7"   |
| 800S162-97 | 33  | 27' 9"                           | 25' 3"    | 23' 9"    | 22' 0"                               | 31' 2"    | 28' 4"    | 26' 8"                           | 24' 9"    | 25' 3"    | 22' 11"                          | 21' 7"    | 20' 0"    | 28' 4"                               | 25' 9"    | 24' 3"    | 22' 6"                               | 27' 9"    | 25' 3"   |
| 800S162-97 | 50  | 27' 9"                           | 25' 3"    | 23' 9"    | 22' 0"                               | 31' 2"    | 28' 4"    | 26' 8"                           | 24' 9"    | 25' 3"    | 22' 11"                          | 21' 7"    | 20' 0"    | 28' 4"                               | 25' 9"    | 24' 3"    | 22' 6"                               | 27' 9"    | 25' 3"   |
| 800S200-33 | 33  | 18' 10" e                        | 16' 4" e  | 14' 10" e | 13' 4" e                             | 18' 4" a  | 15' 0" a  | 13' 1" a                         | 11' 1" a  | 18' 10" e | 16' 4" e                         | 14' 10" e | 13' 4" e  | 18' 4" a                             | 15' 0" a  | 13' 1" a  | 11' 1" a                             | 18' 10" e | 16' 4" e |
| 800S200-43 | 33  | 22' 8"                           | 20' 7" e  | 18' 10" e | 16' 10" e                            | 23' 10" i | 20' 8" i  | 18' 10" i                        | 16' 10" a | 20' 7"    | 18' 8"                           | 17' 7" e  | 16' 4" e  | 23' 1" i                             | 20' 8" i  | 18' 10" i | 16' 10" a                            | 20' 7"    | 18' 8"   |
| 800S200-54 | 33  | 24' 4"                           | 22' 1"    | 20' 9"    | 19' 4" e                             | 27' 4" i  | 24' 5" i  | 22' 3" i                         | 19' 11" i | 22' 1"    | 20' 1"                           | 18' 11"   | 17' 6"    | 24' 10" i                            | 22' 6" i  | 21' 2" i  | 19' 8" i                             | 22' 1"    | 20' 1"   |
| 800S200-54 | 50  | 24' 4"                           | 22' 1"    | 20' 9"    | 19' 4" e                             | 27' 4" i  | 24' 10" i | 23' 4" i                         | 21' 8" i  | 22' 1"    | 20' 1"                           | 18' 11"   | 17' 6"    | 24' 10" i                            | 22' 6" i  | 21' 2" i  | 19' 8" i                             | 22' 1"    | 20' 1"   |
| 800S200-68 | 33  | 26' 1"                           | 23' 9"    | 22' 4"    | 20' 9"                               | 29' 4" i  | 26' 7" i  | 25' 1" i                         | 22' 5" i  | 23' 9"    | 21' 7"                           | 20' 3"    | 18' 10"   | 26' 7"                               | 24' 2" i  | 22' 9" i  | 21' 2" i                             | 26' 1"    | 23' 9"   |
| 800S200-68 | 50  | 26' 1"                           | 23' 9"    | 22' 4"    | 20' 9"                               | 29' 4" i  | 26' 7" i  | 25' 1" i                         | 23' 3" i  | 23' 9"    | 21' 7"                           | 20' 3"    | 18' 10"   | 26' 7"                               | 24' 2" i  | 22' 9" i  | 21' 2" i                             | 26' 1"    | 23' 9"   |
| 800S200-97 | 33  | 29' 1"                           | 26' 5"    | 24' 11"   | 23' 1"                               | 32' 8"    | 29' 8"    | 27' 11" i                        | 25' 11" i | 26' 5"    | 24' 0"                           | 22' 7"    | 21' 0"    | 29' 8"                               | 27' 0"    | 25' 5"    | 23' 7"                               | 29' 1"    | 26' 5"   |
| 800S200-97 | 50  | 29' 1"                           | 26' 5"    | 24' 11"   | 23' 1"                               | 32' 8"    | 29' 8"    | 27' 11" i                        | 25' 11" i | 26' 5"    | 24' 0"                           | 22' 7"    | 21' 0"    | 29' 8"                               | 27' 0"    | 25' 5"    | 23' 7"                               | 29' 1"    | 26' 5"   |

## Notes:

- Web punchouts are not considered for shear and web crippling.
- Spans are based on continuous lateral support of the compression flange.
- For two equal spans, tabulated span is the center-to-center distance from either end bearing to the center bearing. The joist must be continuous over the center bearing.
- Web crippling bearing length is assumed to be 3-1/2". Joist flanges must be fastened to the support.
- Deflection checks are computed using unbalanced loads for the two equal span condition.
- "e" indicates that web stiffeners are required at the end supports only.
- "i" indicates that web stiffeners are required at the interior support only.
- "a" indicates that web stiffeners are required at all supports.

Complies with IBC 2006 &amp; AISI-NASPEC, 2001 with 2004 supplement

# FLOOR JOIST SPAN LIMITATIONS

10psf Dead Load and 20psf Live Load (TL Defl.=L/240)

| Member      | ksi | Live Load Deflection L/360    |           |           |                                   |           |           |                               |           |          | Live Load Deflection L/480    |           |           |                                   |           |           |                                   |          |           |
|-------------|-----|-------------------------------|-----------|-----------|-----------------------------------|-----------|-----------|-------------------------------|-----------|----------|-------------------------------|-----------|-----------|-----------------------------------|-----------|-----------|-----------------------------------|----------|-----------|
|             |     | Single span spacing (in) o.c. |           |           | Two equal spans spacing (in) o.c. |           |           | Single span spacing (in) o.c. |           |          | Single span spacing (in) o.c. |           |           | Two equal spans spacing (in) o.c. |           |           | Two equal spans spacing (in) o.c. |          |           |
|             |     | 12                            | 16        | 19.2      | 12                                | 16        | 19.2      | 12                            | 16        | 19.2     | 12                            | 16        | 19.2      | 12                                | 16        | 19.2      | 12                                | 16       | 19.2      |
| 800S250-43  | 33  | 23' 7"                        | 20' 10" e | 19' 0" e  | 17' 0" e                          | 24' 0" i  | 20' 10" i | 19' 0" i                      | 17' 0" a  | 21' 5"   | 19' 6" e                      | 18' 4" e  | 17' 0" e  | 24' 0" i                          | 20' 10" i | 19' 0" i  | 17' 0" a                          | 21' 5"   | 19' 6" e  |
| 800S250-54  | 33  | 25' 4"                        | 23' 1"    | 21' 8"    | 19' 5" e                          | 27' 5" i  | 23' 9" i  | 21' 8" i                      | 19' 5" i  | 23' 1"   | 20' 11"                       | 19' 8"    | 18' 4"    | 25' 11" i                         | 23' 6" i  | 21' 8" i  | 19' 5" i                          | 23' 1"   | 20' 11"   |
| 800S250-54  | 50  | 25' 3"                        | 22' 11"   | 21' 7"    | 20' 1"                            | 28' 4" i  | 25' 9" i  | 24' 3" i                      | 22' 6" i  | 22' 11"  | 20' 10"                       | 19' 8"    | 18' 3"    | 25' 9"                            | 23' 5" i  | 22' 0" i  | 20' 5" i                          | 22' 11"  | 20' 10"   |
| 800S250-68  | 33  | 27' 3"                        | 24' 9"    | 23' 4"    | 21' 8"                            | 30' 7" i  | 27' 10" i | 26' 0" i                      | 23' 3" i  | 24' 9"   | 22' 6"                        | 21' 2"    | 19' 8"    | 27' 10"                           | 25' 3" i  | 23' 9" i  | 22' 1" i                          | 24' 9"   | 22' 6"    |
| 800S250-68  | 50  | 27' 3"                        | 24' 9"    | 23' 3"    | 21' 7"                            | 30' 7"    | 27' 9"    | 26' 2" i                      | 24' 3" i  | 24' 9"   | 22' 6"                        | 21' 2"    | 19' 8"    | 27' 10"                           | 25' 3" i  | 23' 9" i  | 22' 1" i                          | 24' 9"   | 22' 6"    |
| 800S250-97  | 33  | 30' 5"                        | 27' 8"    | 26' 0"    | 24' 2"                            | 34' 2"    | 31' 0"    | 29' 2" i                      | 27' 1" i  | 27' 8"   | 25' 1"                        | 23' 7"    | 21' 11"   | 31' 0"                            | 28' 2"    | 26' 6"    | 24' 7"                            | 27' 8"   | 25' 1"    |
| 800S250-97  | 50  | 30' 5"                        | 27' 8"    | 26' 0"    | 24' 2"                            | 34' 2"    | 31' 0"    | 29' 2"                        | 27' 1"    | 27' 8"   | 25' 1"                        | 23' 7"    | 21' 11"   | 31' 0"                            | 28' 2"    | 26' 6"    | 24' 7"                            | 27' 8"   | 25' 1"    |
| 1000S162-43 | 33  | 23' 11" e                     | 20' 8" e  | 18' 11" e | 16' 11" e                         | 23' 11" a | 20' 8" a  | 18' 11" a                     | 16' 4" a  | 23' 1" e | 20' 8" e                      | 18' 11" e | 16' 11" e | 23' 11" a                         | 20' 8" a  | 18' 11" a | 16' 4" a                          | 23' 1" e | 20' 8" e  |
| 1000S162-54 | 33  | 23' 10"                       | 23' 10"   | 21' 9"    | 19' 5" e                          | 27' 6" i  | 23' 10" i | 21' 9" i                      | 19' 5" i  | 23' 1"   | 22' 10"                       | 21' 5"    | 19' 5" e  | 27' 6" i                          | 23' 10" i | 21' 9" i  | 19' 5" i                          | 23' 1"   | 22' 10"   |
| 1000S162-54 | 50  | 27' 5"                        | 24' 11"   | 23' 5"    | 21' 9"                            | 30' 9" i  | 27' 11" i | 25' 7" i                      | 22' 11" i | 24' 11"  | 22' 7"                        | 21' 3"    | 19' 9"    | 27' 11" i                         | 25' 5" i  | 23' 11" i | 22' 2" i                          | 24' 11"  | 22' 7"    |
| 1000S162-68 | 33  | 29' 11"                       | 27' 2"    | 25' 0"    | 22' 4"                            | 31' 7" i  | 27' 4" i  | 25' 0" i                      | 22' 4" i  | 27' 2"   | 24' 8"                        | 23' 3"    | 21' 7"    | 30' 6" i                          | 27' 4" i  | 25' 0" i  | 22' 4" i                          | 27' 2"   | 24' 8"    |
| 1000S162-68 | 50  | 29' 8"                        | 27' 0"    | 25' 5"    | 23' 7"                            | 33' 4"    | 30' 3" i  | 28' 6" i                      | 26' 5" i  | 27' 0"   | 24' 6"                        | 23' 1"    | 21' 5"    | 30' 3"                            | 27' 6"    | 25' 11" i | 24' 0" i                          | 27' 0"   | 24' 6"    |
| 1000S162-97 | 33  | 33' 5"                        | 30' 4"    | 28' 7"    | 26' 6"                            | 37' 6"    | 34' 1" i  | 32' 1" i                      | 29' 9"    | 30' 4"   | 27' 7"                        | 26' 0"    | 24' 1"    | 34' 1" i                          | 31' 0"    | 29' 2"    | 27' 1" i                          | 30' 4"   | 27' 7"    |
| 1000S162-97 | 50  | 33' 5"                        | 30' 4"    | 28' 7"    | 26' 6"                            | 37' 6"    | 34' 1" i  | 32' 1" i                      | 29' 9"    | 30' 4"   | 27' 7"                        | 26' 0"    | 24' 1"    | 34' 1" i                          | 31' 0"    | 29' 2"    | 27' 1" i                          | 30' 4"   | 27' 7"    |
| 1000S200-43 | 33  | 25' 5" e                      | 22' 0" e  | 20' 1" e  | 18' 0" e                          | 25' 5" a  | 22' 0" a  | 19' 10" a                     | 17' 0" a  | 24' 2" e | 21' 11" e                     | 20' 1" e  | 18' 0" e  | 25' 5" a                          | 22' 0" a  | 19' 10" a | 17' 0" a                          | 24' 2" e | 21' 11" e |
| 1000S200-54 | 33  | 28' 10"                       | 25' 7"    | 23' 4" e  | 20' 11" e                         | 29' 6" i  | 25' 7" i  | 23' 4" i                      | 20' 11" i | 26' 2"   | 23' 10"                       | 22' 5"    | 20' 9" e  | 29' 5" i                          | 25' 7" i  | 23' 4" i  | 20' 11" i                         | 26' 2"   | 23' 10"   |
| 1000S200-54 | 50  | 28' 8"                        | 26' 1"    | 24' 6"    | 22' 9"                            | 32' 2" i  | 29' 2" i  | 26' 8" i                      | 23' 10" i | 26' 1"   | 23' 8"                        | 22' 3"    | 20' 8"    | 29' 3" i                          | 26' 7" i  | 25' 0" i  | 23' 2" i                          | 26' 1"   | 23' 8"    |
| 1000S200-68 | 33  | 31' 3"                        | 28' 4"    | 26' 8"    | 23' 11"                           | 33' 10" i | 29' 4" i  | 26' 9" i                      | 23' 11" i | 28' 4"   | 25' 9"                        | 24' 3"    | 22' 6"    | 31' 10" i                         | 28' 11" i | 26' 9" i  | 23' 11" i                         | 28' 4"   | 25' 9"    |
| 1000S200-68 | 50  | 31' 0"                        | 28' 2"    | 26' 6"    | 24' 7"                            | 34' 10"   | 31' 8" i  | 29' 9" i                      | 27' 8" i  | 28' 2"   | 25' 7"                        | 24' 1"    | 22' 4"    | 31' 8"                            | 28' 9"    | 27' 1" i  | 25' 1" i                          | 28' 2"   | 25' 7"    |
| 1000S200-97 | 33  | 34' 11"                       | 31' 9"    | 29' 10"   | 27' 8"                            | 39' 2"    | 35' 7" i  | 33' 6" i                      | 31' 1" i  | 31' 9"   | 28' 10"                       | 27' 1"    | 25' 2"    | 35' 7"                            | 32' 4"    | 30' 5"    | 28' 3" i                          | 34' 11"  | 31' 9"    |
| 1000S200-97 | 50  | 34' 11"                       | 31' 9"    | 29' 10"   | 27' 8"                            | 39' 2"    | 35' 7" i  | 33' 6" i                      | 31' 1" i  | 31' 9"   | 28' 10"                       | 27' 1"    | 25' 2"    | 35' 7"                            | 32' 4"    | 30' 5"    | 28' 3" i                          | 34' 11"  | 31' 9"    |
| 1000S250-43 | 33  | 26' 8" e                      | 23' 1" e  | 21' 1" e  | 18' 10" e                         | 26' 8" a  | 23' 1" a  | 20' 5" a                      | 17' 5" a  | 25' 7" e | 23' 1" e                      | 21' 1" e  | 18' 10" e | 26' 8" a                          | 23' 1" a  | 20' 5" a  | 17' 5" a                          | 25' 7" e | 23' 1" e  |
| 1000S250-54 | 33  | 30' 3"                        | 27' 5"    | 25' 0" e  | 22' 4" e                          | 31' 8" i  | 27' 5" i  | 25' 0" i                      | 22' 4" a  | 27' 6"   | 25' 0"                        | 23' 6" e  | 21' 10" e | 30' 10" i                         | 27' 5" i  | 25' 0" i  | 22' 4" a                          | 27' 6"   | 25' 0"    |
| 1000S250-54 | 50  | 30' 3"                        | 27' 6"    | 25' 10"   | 24' 0"                            | 34' 0" i  | 30' 8" i  | 28' 0" i                      | 25' 0" i  | 27' 6"   | 25' 0"                        | 23' 6"    | 21' 10"   | 30' 10" i                         | 28' 0" i  | 26' 5" i  | 24' 6" i                          | 27' 6"   | 25' 0"    |
| 1000S250-68 | 33  | 32' 6"                        | 29' 7"    | 27' 10"   | 25' 10"                           | 36' 6"    | 33' 2" i  | 31' 3" i                      | 29' 0" i  | 29' 7"   | 26' 10"                       | 25' 3"    | 23' 5"    | 33' 2" i                          | 30' 2" i  | 28' 4" i  | 26' 4" i                          | 29' 7"   | 26' 10"   |
| 1000S250-68 | 50  | 32' 6"                        | 29' 7"    | 27' 10"   | 25' 10"                           | 36' 6"    | 33' 2" i  | 31' 3" i                      | 29' 0" i  | 29' 7"   | 26' 10"                       | 25' 3"    | 23' 5"    | 33' 2" i                          | 30' 2" i  | 28' 4" i  | 26' 4" i                          | 29' 7"   | 26' 10"   |
| 1000S250-97 | 33  | 36' 4"                        | 33' 0"    | 31' 1"    | 28' 10"                           | 40' 9"    | 37' 1" i  | 34' 11" i                     | 32' 5" i  | 33' 0"   | 30' 0"                        | 28' 3"    | 26' 2"    | 37' 1"                            | 33' 8"    | 31' 8"    | 29' 5" i                          | 36' 4"   | 33' 0"    |
| 1000S250-97 | 50  | 36' 4"                        | 33' 0"    | 31' 1"    | 28' 10"                           | 40' 9"    | 37' 1" i  | 34' 11" i                     | 32' 5" i  | 33' 0"   | 30' 0"                        | 28' 3"    | 26' 2"    | 37' 1"                            | 33' 8"    | 31' 8"    | 29' 5" i                          | 36' 4"   | 33' 0"    |
| 1200S162-54 | 33  | 30' 5" e                      | 26' 4" e  | 24' 1" e  | 21' 6" e                          | 30' 5" a  | 26' 4" a  | 24' 1" a                      | 21' 6" a  | 26' 3" e | 24' 1" e                      | 21' 6" e  | 20' 5" e  | 30' 5" a                          | 26' 4" a  | 24' 1" a  | 21' 6" a                          | 26' 3" e | 24' 1" e  |
| 1200S162-54 | 50  | 31' 6" e                      | 28' 7" e  | 26' 11" e | 25' 0" e                          | 35' 4" a  | 30' 11" a | 28' 3" a                      | 25' 3" a  | 28' 7" e | 26' 0" e                      | 24' 6" e  | 22' 9" e  | 32' 2" a                          | 29' 2" a  | 27' 6" a  | 25' 3" a                          | 28' 7" e | 26' 0" e  |
| 1200S162-68 | 33  | 34' 7"                        | 30' 5"    | 27' 10"   | 24' 10"                           | 35' 2" i  | 30' 5" i  | 27' 10" i                     | 24' 10" i | 31' 5"   | 28' 7"                        | 26' 10"   | 24' 10"   | 35' 2" i                          | 30' 5" i  | 27' 10" i | 24' 10" i                         | 31' 5"   | 28' 7"    |
| 1200S162-68 | 50  | 34' 3"                        | 31' 1"    | 29' 3"    | 27' 2"                            | 38' 5" i  | 34' 11" i | 32' 10" i                     | 29' 8" i  | 31' 1"   | 28' 3"                        | 26' 7"    | 24' 8"    | 34' 11"                           | 31' 9" i  | 29' 10" i | 27' 9" i                          | 31' 1"   | 28' 3"    |
| 1200S162-97 | 33  | 39' 0"                        | 35' 5"    | 33' 4"    | 30' 11"                           | 43' 8" i  | 37' 10" i | 34' 6" i                      | 30' 11" i | 35' 5"   | 32' 2"                        | 30' 4"    | 28' 1"    | 39' 9"                            | 36' 2" i  | 34' 0" i  | 30' 11" i                         | 35' 5"   | 32' 2"    |
| 1200S162-97 | 50  | 38' 10"                       | 35' 4"    | 33' 3"    | 30' 10"                           | 43' 8"    | 39' 8"    | 37' 4"                        | 34' 8" i  | 35' 4"   | 32' 1"                        | 30' 2"    | 28' 0"    | 39' 8"                            | 36' 0"    | 33' 11"   | 31' 6"                            | 35' 4"   | 32' 1"    |

## Notes:

- Web punchouts are not considered for shear and web crippling.
- Spans are based on continuous lateral support of the compression flange.
- For two equal spans, tabulated span is the center-to-center distance from either end bearing to the center bearing. The joist must be continuous over the center bearing.
- Web crippling bearing length is assumed to be 3-1/2". Joist flanges must be fastened to the support.
- Deflection checks are computed using unbalanced loads for the two equal span condition.
- "e" indicates that web stiffeners are required at the end supports only.
- "i" indicates that web stiffeners are required at the interior support only.
- "a" indicates that web stiffeners are required at all supports.

Complies with IBC 2006 & AISI-NASPEC, 2001 with 2004 supplement

Pub. No. CD-STR-TechGuide 2/12

The technical content of this literature is effective 2/1/12 and supersedes all previous information.

clarkdietrich.com

## FLOOR JOIST SPAN LIMITATIONS

10psf Dead Load and 20psf Live Load (TL Defl.=L/240)

| Member      | ksi | Live Load Deflection L/360    |           |           |           |                                   |           |           |           | Live Load Deflection L/480    |           |           |           |                                   |           |           |           |
|-------------|-----|-------------------------------|-----------|-----------|-----------|-----------------------------------|-----------|-----------|-----------|-------------------------------|-----------|-----------|-----------|-----------------------------------|-----------|-----------|-----------|
|             |     | Single span spacing (in) o.c. |           |           |           | Two equal spans spacing (in) o.c. |           |           |           | Single span spacing (in) o.c. |           |           |           | Two equal spans spacing (in) o.c. |           |           |           |
|             |     | 12                            | 16        | 19.2      | 24        | 12                                | 16        | 19.2      | 24        | 12                            | 16        | 19.2      | 24        | 12                                | 16        | 19.2      | 24        |
| 1200S200-54 | 33  | 32' 8" e                      | 28' 3" e  | 25' 10" e | 23' 1" e  | 32' 8" a                          | 28' 3" a  | 25' 10" a | 23' 1" a  | 30' 2" e                      | 27' 4" e  | 25' 9" e  | 23' 1" e  | 32' 8" a                          | 28' 3" a  | 25' 10" a | 23' 1" a  |
| 1200S200-54 | 50  | 32' 11" e                     | 29' 11" e | 28' 2" e  | 26' 2" e  | 37' 0" a                          | 32' 2" a  | 29' 5" a  | 26' 1" a  | 29' 11" e                     | 27' 2" e  | 25' 7" e  | 23' 9" e  | 33' 7" a                          | 30' 6" a  | 28' 9" a  | 26' 1" a  |
| 1200S200-68 | 33  | 36' 0" e                      | 32' 6" e  | 29' 8" e  | 26' 7" e  | 37' 7" i                          | 32' 6" i  | 29' 8" i  | 26' 7" i  | 32' 9" e                      | 29' 9" e  | 28' 0" e  | 26' 0" e  | 36' 9" i                          | 32' 6" i  | 29' 8" i  | 26' 7" i  |
| 1200S200-68 | 50  | 35' 9" e                      | 32' 5" e  | 30' 6" e  | 28' 4" e  | 40' 1" i                          | 36' 5" i  | 34' 3" i  | 31' 5" i  | 32' 5" e                      | 29' 6" e  | 27' 9" e  | 25' 9" e  | 36' 5" i                          | 33' 1" i  | 31' 2" i  | 28' 11" i |
| 1200S200-97 | 33  | 40' 7" e                      | 36' 10" e | 34' 8" e  | 32' 3" e  | 45' 7" i                          | 40' 3" i  | 36' 9" i  | 32' 10" i | 36' 10" e                     | 33' 6" e  | 31' 6" e  | 29' 3" e  | 41' 5" i                          | 37' 7" i  | 35' 5" i  | 32' 10" i |
| 1200S200-97 | 50  | 40' 6" e                      | 36' 9" e  | 34' 7" e  | 32' 1" e  | 45' 5" e                          | 41' 3" e  | 38' 10" e | 36' 1" i  | 36' 9" e                      | 33' 5" e  | 31' 5" e  | 29' 2" e  | 41' 3" i                          | 37' 6" i  | 35' 4" i  | 32' 9" i  |
| 1200S250-54 | 33  | 33' 0" e                      | 28' 7" e  | 26' 1" e  | 23' 4" e  | 33' 0" a                          | 28' 7" a  | 26' 1" a  | 23' 4" a  | 31' 4" e                      | 28' 6" e  | 26' 1" e  | 23' 4" e  | 33' 0" a                          | 28' 7" a  | 26' 1" a  | 23' 4" a  |
| 1200S250-54 | 50  | 34' 3" e                      | 31' 2" e  | 29' 4" e  | 26' 9" e  | 37' 10" a                         | 32' 9" a  | 29' 11" a | 26' 4" a  | 31' 2" e                      | 28' 4" e  | 26' 8" e  | 24' 9" e  | 35' 0" a                          | 31' 9" a  | 29' 11" a | 26' 4" a  |
| 1200S250-68 | 33  | 37' 5" e                      | 33' 11" e | 31' 0" e  | 27' 8" e  | 39' 2" i                          | 33' 11" i | 31' 0" i  | 27' 8" i  | 34' 0" e                      | 30' 11" e | 29' 1" e  | 27' 0" e  | 38' 2" i                          | 33' 11" i | 31' 0" i  | 27' 8" i  |
| 1200S250-68 | 50  | 37' 2" e                      | 33' 10" e | 31' 10" e | 29' 6" e  | 41' 9" i                          | 37' 11" i | 35' 4" i  | 31' 7" i  | 33' 10" e                     | 30' 9" e  | 28' 11" e | 26' 10" e | 37' 11" i                         | 34' 6" i  | 32' 5" i  | 30' 1" i  |
| 1200S250-97 | 33  | 42' 1" e                      | 38' 3" e  | 36' 0" e  | 33' 5" e  | 47' 3" i                          | 42' 7" i  | 38' 11" i | 34' 10" i | 38' 3" e                      | 34' 9" e  | 32' 9" e  | 30' 4" e  | 43' 0" i                          | 39' 0" i  | 36' 9" i  | 34' 1" i  |
| 1200S250-97 | 50  | 42' 0" e                      | 38' 2" e  | 35' 11" e | 33' 4" e  | 47' 2" e                          | 42' 11" e | 40' 4" e  | 37' 5" i  | 38' 2" e                      | 34' 8" e  | 32' 8" e  | 30' 4" e  | 42' 11" i                         | 38' 11" i | 36' 8" i  | 34' 0" i  |
| 1400S162-54 | 33  | 33' 1" e                      | 28' 8" e  | 26' 2" e  | 23' 5" e  | 33' 1" a                          | 28' 8" a  | 26' 2" a  | 22' 10" a | 33' 7" e                      | 28' 8" e  | 26' 2" e  | 23' 5" e  | 33' 1" a                          | 28' 8" a  | 26' 2" a  | 22' 10" a |
| 1400S162-54 | 50  | 35' 5" e                      | 32' 2" e  | 30' 4" e  | 27' 5" e  | 38' 9" a                          | 33' 4" a  | 29' 4" a  | 25' 0" a  | 32' 2" e                      | 29' 3" e  | 27' 6" e  | 25' 7" e  | 36' 2" a                          | 32' 10" a | 29' 4" a  | 25' 0" a  |
| 1400S162-68 | 33  | 38' 5" e                      | 33' 3" e  | 30' 4" e  | 27' 2" e  | 38' 5" i                          | 33' 3" i  | 30' 4" i  | 27' 2" i  | 35' 6" e                      | 32' 3" e  | 30' 4" e  | 27' 2" e  | 38' 5" i                          | 33' 3" i  | 30' 4" i  | 27' 2" i  |
| 1400S162-68 | 50  | 38' 7" e                      | 35' 1" e  | 33' 0" e  | 30' 8" e  | 43' 4" i                          | 39' 5" i  | 36' 1" i  | 32' 3" i  | 35' 1" e                      | 31' 11" e | 30' 0" e  | 27' 10" e | 39' 5" i                          | 35' 10" i | 33' 8" i  | 31' 3" i  |
| 1400S162-97 | 33  | 44' 5" e                      | 40' 5" e  | 38' 0" e  | 34' 0" e  | 48' 1" i                          | 41' 8" i  | 38' 0" i  | 34' 0" i  | 40' 5" e                      | 36' 8" e  | 34' 6" e  | 32' 1" e  | 45' 4" i                          | 41' 2" i  | 38' 0" i  | 34' 0" i  |
| 1400S162-97 | 50  | 44' 0" e                      | 40' 0" e  | 37' 8" e  | 34' 11" e | 49' 5" e                          | 44' 11" e | 42' 3" i  | 39' 3" i  | 40' 0" e                      | 36' 4" e  | 34' 2" e  | 31' 9" e  | 44' 11" i                         | 40' 10" i | 38' 5" i  | 35' 8" i  |
| 1400S200-54 | 33  | 35' 6" e                      | 30' 9" e  | 28' 1" e  | 25' 1" e  | 35' 6" a                          | 30' 9" a  | 27' 10" a | 23' 10" a | 33' 11" e                     | 30' 9" e  | 28' 1" e  | 25' 1" e  | 35' 6" a                          | 30' 9" a  | 27' 10" a | 23' 10" a |
| 1400S200-54 | 50  | 37' 0" e                      | 33' 8" e  | 31' 8" e  | 28' 6" e  | 40' 4" a                          | 34' 2" a  | 30' 0" a  | 25' 7" a  | 33' 8" e                      | 30' 7" e  | 28' 9" e  | 26' 8" e  | 37' 9" a                          | 34' 2" a  | 30' 0" a  | 25' 7" a  |
| 1400S200-68 | 33  | 40' 7" e                      | 35' 6" e  | 32' 5" e  | 29' 0" e  | 41' 0" i                          | 35' 6" i  | 32' 5" i  | 29' 0" i  | 36' 11" e                     | 33' 6" e  | 31' 7" e  | 29' 0" e  | 41' 0" i                          | 35' 6" i  | 32' 5" i  | 29' 0" i  |
| 1400S200-68 | 50  | 40' 3" e                      | 36' 7" e  | 34' 5" e  | 31' 11" e | 45' 2" i                          | 41' 0" i  | 38' 2" i  | 34' 2" i  | 36' 7" e                      | 33' 2" e  | 31' 3" e  | 29' 0" e  | 41' 0" i                          | 37' 3" i  | 35' 1" i  | 32' 7" i  |
| 1400S200-97 | 33  | 46' 1" e                      | 41' 11" e | 39' 5" e  | 36' 1" e  | 51' 1" i                          | 44' 3" i  | 40' 4" i  | 36' 1" i  | 41' 11" e                     | 38' 1" e  | 35' 10" e | 33' 3" e  | 47' 1" i                          | 42' 9" i  | 40' 3" i  | 36' 1" i  |
| 1400S200-97 | 50  | 45' 9" e                      | 41' 7" e  | 39' 1" e  | 36' 4" e  | 51' 4" e                          | 46' 8" e  | 43' 11" i | 40' 9" i  | 41' 7" e                      | 37' 9" e  | 35' 6" e  | 33' 0" e  | 46' 8" i                          | 42' 5" i  | 39' 11" i | 37' 0" i  |
| 1400S250-54 | 33  | 33' 10" e                     | 31' 1" e  | 28' 4" e  | 25' 4" e  | 35' 10" a                         | 31' 1" a  | 28' 0" a  | 23' 11" a | 35' 3" e                      | 31' 1" e  | 28' 4" e  | 25' 4" e  | 35' 10" a                         | 31' 1" a  | 28' 0" a  | 23' 11" a |
| 1400S250-54 | 50  | 38' 6" e                      | 35' 0" e  | 32' 5" e  | 29' 0" e  | 41' 0" a                          | 34' 6" a  | 30' 4" a  | 25' 10" a | 35' 0" e                      | 31' 10" e | 29' 11" e | 27' 9" e  | 39' 4" a                          | 34' 6" a  | 30' 4" a  | 25' 10" a |
| 1400S250-68 | 33  | 42' 2" e                      | 36' 11" e | 33' 9" e  | 30' 2" e  | 42' 8" i                          | 36' 11" i | 33' 9" i  | 30' 2" i  | 38' 3" e                      | 34' 9" e  | 32' 9" e  | 30' 2" e  | 42' 8" i                          | 36' 11" i | 33' 9" i  | 30' 2" i  |
| 1400S250-68 | 50  | 41' 10" e                     | 38' 0" e  | 35' 9" e  | 33' 3" e  | 47' 0" i                          | 42' 1" i  | 38' 5" i  | 34' 4" i  | 38' 0" e                      | 34' 7" e  | 32' 6" e  | 30' 2" e  | 42' 8" i                          | 38' 9" i  | 36' 6" i  | 33' 11" i |
| 1400S250-97 | 33  | 47' 9" e                      | 43' 4" e  | 40' 10" e | 37' 11" e | 53' 7" i                          | 46' 9" i  | 42' 8" i  | 38' 2" i  | 43' 4" e                      | 39' 5" e  | 37' 1" e  | 34' 5" e  | 48' 8" i                          | 44' 3" i  | 41' 8" i  | 38' 2" i  |
| 1400S250-97 | 50  | 47' 5" e                      | 43' 1" e  | 40' 7" e  | 37' 8" e  | 53' 3" e                          | 48' 5" e  | 45' 6" i  | 42' 3" i  | 43' 1" e                      | 39' 2" e  | 36' 10" e | 34' 2" e  | 48' 5" i                          | 44' 0" i  | 41' 4" i  | 38' 5" i  |

## Notes:

- 1 Web punchouts are not considered for shear and web crippling.
- 2 Spans are based on continuous lateral support of the compression flange.
- 3 For two equal spans, tabulated span is the center-to-center distance from either end bearing to the center bearing. The joist must be continuous over the center bearing.
- 4 Web crippling bearing length is assumed to be 3-1/2". Joist flanges must be fastened to the support.
- 5 Deflection checks are computed using unbalanced loads for the two equal span condition.
- 6 "e" indicates that web stiffeners are required at the end supports only.
- 7 "i" indicates that web stiffeners are required at the interior support only.
- 8 "a" indicates that web stiffeners are required at all supports.

Complies with IBC 2006 &amp; AISI-NASPEC, 2001 with 2004 supplement

# FLOOR JOIST SPAN LIMITATIONS

10psf Dead Load and 40psf Live Load (TL Defl.=L/240)

| Member     | ksi | Live Load Deflection L/360    |           |           |          |           |           |                                   |           |           | Live Load Deflection L/480    |           |           |           |           |           |                                   |           |           |
|------------|-----|-------------------------------|-----------|-----------|----------|-----------|-----------|-----------------------------------|-----------|-----------|-------------------------------|-----------|-----------|-----------|-----------|-----------|-----------------------------------|-----------|-----------|
|            |     | Single span spacing (in) o.c. |           |           |          |           |           | Two equal spans spacing (in) o.c. |           |           | Single span spacing (in) o.c. |           |           |           |           |           | Two equal spans spacing (in) o.c. |           |           |
|            |     | 12                            | 16        | 19.2      | 24       | 12        | 16        | 19.2                              | 24        | 12        | 16                            | 19.2      | 24        | 12        | 16        | 19.2      | 24                                | 12        | 16        |
| 600S162-33 | 33  | 12' 5" e                      | 10' 9" e  | 9' 10" e  | 8' 9" e  | 12' 5" a  | 10' 8" a  | 9' 5" a                           | 8' 0" a   | 11' 5" e  | 10' 4" e                      | 9' 9" e   | 8' 9" e   | 12' 5" a  | 10' 8" a  | 9' 5" a   | 8' 0" a                           | 11' 5" e  | 10' 4" e  |
| 600S162-43 | 33  | 13' 8"                        | 12' 5" e  | 11' 8" e  | 10' 7" e | 14' 11" i | 12' 11" i | 11' 10" a                         | 10' 7" a  | 12' 5"    | 11' 3"                        | 10' 7" e  | 9' 10" e  | 13' 11" i | 12' 8" i  | 11' 10" a | 10' 7" a                          | 12' 5"    | 11' 3"    |
| 600S162-54 | 33  | 14' 7"                        | 13' 3"    | 12' 6"    | 11' 7"   | 16' 5" i  | 14' 7" i  | 13' 3" i                          | 11' 11" i | 13' 3"    | 12' 1"                        | 11' 4"    | 10' 7"    | 14' 11" i | 13' 7" i  | 12' 9" i  | 11' 10" i                         | 13' 3"    | 12' 1"    |
| 600S162-54 | 50  | 14' 7"                        | 13' 3"    | 12' 6"    | 11' 7"   | 16' 5"    | 14' 11" i | 14' 0" i                          | 13' 0" i  | 13' 3"    | 12' 1"                        | 11' 4"    | 10' 7"    | 14' 11"   | 13' 7"    | 12' 9" i  | 11' 10" i                         | 13' 3"    | 12' 1"    |
| 600S162-68 | 33  | 15' 8"                        | 14' 3"    | 13' 5"    | 12' 5"   | 17' 7" i  | 16' 0" i  | 14' 11" i                         | 13' 4" i  | 14' 3"    | 12' 11"                       | 12' 2"    | 11' 4"    | 16' 0"    | 14' 6" i  | 13' 8" i  | 12' 8" i                          | 14' 3"    | 12' 11"   |
| 600S162-68 | 50  | 15' 8"                        | 14' 3"    | 13' 5"    | 12' 5"   | 17' 7"    | 16' 0"    | 15' 1"                            | 14' 0" i  | 14' 3"    | 12' 11"                       | 12' 2"    | 11' 4"    | 16' 0"    | 14' 6"    | 13' 8"    | 12' 8"                            | 14' 3"    | 12' 11"   |
| 600S162-97 | 33  | 17' 5"                        | 15' 10"   | 14' 11"   | 13' 10"  | 19' 7"    | 17' 9"    | 16' 9" i                          | 15' 6" i  | 15' 10"   | 14' 5"                        | 13' 6"    | 12' 7"    | 17' 9"    | 16' 2"    | 15' 2"    | 14' 1"                            | 15' 10"   | 14' 5"    |
| 600S162-97 | 50  | 17' 5"                        | 15' 10"   | 14' 11"   | 13' 10"  | 19' 7"    | 17' 9"    | 16' 9" i                          | 15' 6" i  | 15' 10"   | 14' 5"                        | 13' 6"    | 12' 7"    | 17' 9"    | 16' 2"    | 15' 2"    | 14' 1"                            | 15' 10"   | 14' 5"    |
| 600S200-33 | 33  | 12' 9" e                      | 11' 0" e  | 10' 1" e  | 9' 0" e  | 12' 9" a  | 10' 10" a | 9' 7" a                           | 8' 2" a   | 11' 11" e | 10' 10" e                     | 10' 1" e  | 9' 0" e   | 12' 9" a  | 10' 10" a | 9' 7" a   | 8' 2" a                           | 11' 11" e | 10' 10" e |
| 600S200-43 | 33  | 14' 4"                        | 13' 0" e  | 12' 0" e  | 10' 9" e | 15' 2" i  | 13' 2" i  | 12' 0" a                          | 10' 9" a  | 13' 0"    | 11' 10"                       | 11' 1" e  | 10' 4" e  | 14' 7" i  | 13' 2" i  | 12' 0" a  | 10' 9" a                          | 13' 0"    | 11' 10"   |
| 600S200-54 | 33  | 15' 4"                        | 14' 0"    | 13' 2"    | 12' 2" e | 17' 3" i  | 15' 6" i  | 14' 2" i                          | 12' 8" i  | 14' 0"    | 12' 8"                        | 11' 11"   | 11' 1"    | 15' 8" i  | 14' 3" i  | 13' 5" i  | 12' 5" i                          | 14' 0"    | 12' 8"    |
| 600S200-54 | 50  | 15' 4"                        | 14' 0"    | 13' 2"    | 12' 2" e | 17' 3" i  | 15' 6" i  | 14' 2" i                          | 12' 8" i  | 14' 0"    | 12' 8"                        | 11' 11"   | 11' 1"    | 15' 8" i  | 14' 3" i  | 13' 5" i  | 12' 5" i                          | 14' 0"    | 12' 8"    |
| 600S200-68 | 33  | 16' 6"                        | 15' 0"    | 14' 1"    | 13' 1"   | 18' 6" i  | 16' 10" i | 15' 10" i                         | 14' 3" i  | 15' 0"    | 13' 7"                        | 12' 10"   | 11' 11"   | 16' 10"   | 15' 3" i  | 14' 5" i  | 13' 4" i                          | 15' 0"    | 13' 7"    |
| 600S200-68 | 50  | 16' 6"                        | 15' 0"    | 14' 1"    | 13' 1"   | 18' 6" i  | 16' 10" i | 15' 10" i                         | 14' 3" i  | 15' 0"    | 13' 7"                        | 12' 10"   | 11' 11"   | 16' 10"   | 15' 3" i  | 14' 5" i  | 13' 4" i                          | 15' 0"    | 13' 7"    |
| 600S200-97 | 33  | 18' 4"                        | 16' 8"    | 15' 8"    | 14' 7"   | 20' 7"    | 18' 9"    | 17' 7" i                          | 16' 4" i  | 16' 8"    | 15' 2"                        | 14' 3"    | 13' 3"    | 18' 9"    | 17' 0"    | 16' 0"    | 14' 10"                           | 16' 8"    | 15' 8"    |
| 600S200-97 | 50  | 18' 4"                        | 16' 8"    | 15' 8"    | 14' 7"   | 20' 7"    | 18' 9"    | 17' 7" i                          | 16' 4" i  | 16' 8"    | 15' 2"                        | 14' 3"    | 13' 3"    | 18' 9"    | 17' 0"    | 16' 0"    | 14' 10"                           | 16' 8"    | 15' 8"    |
| 600S250-43 | 33  | 15' 0"                        | 13' 6" e  | 12' 4" e  | 11' 0" e | 15' 7" i  | 13' 6" i  | 12' 4" a                          | 11' 0" a  | 13' 7"    | 12' 4" e                      | 11' 8" e  | 10' 10" e | 15' 3" i  | 13' 6" i  | 12' 4" a  | 11' 0" a                          | 13' 7"    | 12' 4" e  |
| 600S250-54 | 33  | 16' 1"                        | 14' 8"    | 13' 9"    | 12' 4" e | 17' 6" i  | 15' 2" i  | 13' 10" i                         | 12' 4" i  | 14' 8"    | 13' 4"                        | 12' 6"    | 11' 7"    | 16' 5" i  | 14' 11" i | 13' 10" i | 12' 4" i                          | 14' 8"    | 13' 4"    |
| 600S250-54 | 50  | 16' 0"                        | 14' 7"    | 13' 8"    | 12' 9"   | 18' 0" i  | 16' 4" i  | 15' 5" i                          | 14' 3" i  | 14' 7"    | 13' 3"                        | 12' 5"    | 11' 7"    | 16' 4"    | 14' 10" i | 14' 0" i  | 13' 0" i                          | 14' 7"    | 13' 3"    |
| 600S250-68 | 33  | 17' 3"                        | 15' 8"    | 14' 9"    | 13' 9"   | 19' 5" i  | 17' 8" i  | 16' 7" i                          | 14' 10" i | 15' 8"    | 14' 3"                        | 13' 5"    | 12' 6"    | 17' 8"    | 16' 0" i  | 15' 1" i  | 14' 0" i                          | 15' 8"    | 14' 3"    |
| 600S250-68 | 50  | 17' 3"                        | 15' 8"    | 14' 9"    | 13' 9"   | 19' 5" i  | 17' 8" i  | 16' 7" i                          | 14' 10" i | 15' 8"    | 14' 3"                        | 13' 5"    | 12' 6"    | 17' 8"    | 16' 0" i  | 15' 1" i  | 14' 0" i                          | 15' 8"    | 14' 3"    |
| 600S250-97 | 33  | 19' 3"                        | 17' 6"    | 16' 6"    | 15' 3"   | 21' 8"    | 19' 8"    | 18' 6" i                          | 17' 2" i  | 17' 6"    | 15' 11"                       | 15' 0"    | 13' 11"   | 19' 8"    | 17' 10"   | 16' 10"   | 15' 7"                            | 19' 3"    | 17' 6"    |
| 600S250-97 | 50  | 19' 3"                        | 17' 6"    | 16' 6"    | 15' 3"   | 21' 8"    | 19' 8"    | 18' 6" i                          | 17' 2" i  | 17' 6"    | 15' 11"                       | 15' 0"    | 13' 11"   | 19' 8"    | 17' 10"   | 16' 10"   | 15' 7"                            | 19' 3"    | 17' 6"    |
| 800S162-33 | 33  | 13' 9" e                      | 11' 11" e | 10' 10" e | 9' 5" e  | 12' 4" a  | 9' 11" a  | 8' 8" a                           | 7' 3" a   | 13' 9" e  | 11' 11" e                     | 10' 10" e | 9' 5" e   | 12' 4" a  | 9' 11" a  | 8' 8" a   | 7' 3" a                           | 13' 9" e  | 11' 11" e |
| 800S162-43 | 33  | 16' 5" e                      | 14' 2" e  | 12' 11" e | 11' 7" e | 16' 5" i  | 14' 2" a  | 12' 11" a                         | 11' 7" a  | 15' 5" e  | 14' 0" e                      | 12' 11" e | 11' 7" e  | 16' 5" i  | 14' 2" a  | 12' 11" a | 11' 7" a                          | 15' 5" e  | 14' 0" e  |
| 800S162-54 | 33  | 18' 5" e                      | 16' 3" i  | 14' 10" e | 13' 3" e | 18' 9" i  | 16' 3" i  | 14' 10" i                         | 13' 3" i  | 16' 9" i  | 15' 2" i                      | 14' 4" i  | 13' 3" e  | 18' 9" i  | 16' 3" i  | 14' 10" i | 13' 3" i                          | 16' 9" i  | 15' 2" i  |
| 800S162-54 | 50  | 18' 4"                        | 16' 7"    | 15' 8"    | 14' 6"   | 20' 6" i  | 18' 8" i  | 17' 6" i                          | 15' 8" i  | 16' 7"    | 15' 1"                        | 14' 3"    | 13' 2"    | 18' 8" i  | 16' 11" i | 15' 11" i | 14' 10" i                         | 16' 7"    | 15' 1"    |
| 800S162-68 | 33  | 19' 9"                        | 18' 0"    | 16' 11"   | 15' 1"   | 21' 5" i  | 18' 6" i  | 16' 11" i                         | 15' 1" i  | 18' 0"    | 16' 4"                        | 15' 4"    | 14' 3"    | 20' 2" i  | 18' 4" i  | 16' 11" i | 15' 1" i                          | 19' 9"    | 18' 0"    |
| 800S162-68 | 50  | 19' 9"                        | 17' 11"   | 16' 11"   | 15' 8"   | 22' 2"    | 20' 2" i  | 19' 0" i                          | 17' 7" i  | 17' 11"   | 16' 4"                        | 15' 4"    | 14' 3"    | 20' 2"    | 18' 4"    | 17' 3" i  | 16' 0" i                          | 19' 9"    | 17' 11"   |
| 800S162-97 | 33  | 22' 0"                        | 20' 0"    | 18' 10"   | 17' 6"   | 24' 9"    | 22' 6"    | 21' 2"                            | 19' 8"    | 20' 0"    | 18' 2"                        | 17' 1"    | 15' 11"   | 22' 6"    | 20' 5"    | 19' 3"    | 17' 10"                           | 22' 0"    | 20' 0"    |
| 800S162-97 | 50  | 22' 0"                        | 20' 0"    | 18' 10"   | 17' 6"   | 24' 9"    | 22' 6"    | 21' 2"                            | 19' 8"    | 20' 0"    | 18' 2"                        | 17' 1"    | 15' 11"   | 22' 6"    | 20' 5"    | 19' 3"    | 17' 10"                           | 22' 0"    | 20' 0"    |
| 800S200-33 | 33  | 14' 7" e                      | 12' 7" e  | 11' 6" e  | 9' 5" e  | 12' 8" a  | 10' 3" a  | 8' 10" a                          | 7' 5" a   | 14' 7" e  | 12' 7" e                      | 11' 6" e  | 9' 5" e   | 12' 8" a  | 10' 3" a  | 8' 10" a  | 7' 5" a                           | 14' 7" e  | 12' 7" e  |
| 800S200-43 | 33  | 18' 0" e                      | 16' 0" e  | 14' 7" e  | 13' 1" e | 18' 6" a  | 16' 0" a  | 14' 7" a                          | 12' 6" a  | 16' 4" e  | 14' 10" e                     | 13' 11" e | 12' 11" e | 18' 4" a  | 16' 0" a  | 14' 7" a  | 12' 6" a                          | 16' 4" e  | 14' 10" e |
| 800S200-54 | 33  | 19' 4"                        | 17' 6" e  | 16' 6" e  | 15' 4" e | 21' 8" i  | 18' 11" i | 17' 3" a                          | 15' 5" a  | 17' 6"    | 15' 11"                       | 15' 0" e  | 13' 11" e | 19' 8" i  | 17' 11" i | 16' 10" i | 15' 5" a                          | 19' 4"    | 17' 6" e  |
| 800S200-54 | 50  | 19' 4"                        | 17' 6"    | 16' 6"    | 15' 4"   | 21' 8" i  | 19' 8" i  | 18' 6" i                          | 17' 2" i  | 17' 6"    | 15' 11"                       | 15' 0"    | 13' 11"   | 19' 8" i  | 17' 11" i | 16' 10" i | 15' 7" i                          | 19' 4"    | 17' 6"    |
| 800S200-68 | 33  | 20' 9"                        | 18' 10"   | 17' 9"    | 16' 5"   | 23' 3" i  | 21' 2" i  | 19' 5" i                          | 17' 4" i  | 18' 10"   | 17' 1"                        | 16' 1"    | 14' 11"   | 21' 2" i  | 19' 2" i  | 18' 1" i  | 16' 9" i                          | 20' 9"    | 18' 10"   |
| 800S200-68 | 50  | 20' 9"                        | 18' 10"   | 17' 9"    | 16' 5"   | 23' 3" i  | 21' 2" i  | 19' 11" i                         | 18' 6" i  | 18' 10"   | 17' 1"                        | 16' 1"    | 14' 11"   | 21' 2" i  | 19' 2" i  | 18' 1" i  | 16' 9" i                          | 20' 9"    | 18' 10"   |
| 800S200-97 | 33  | 23' 1"                        | 21' 0"    | 19' 9"    | 18' 4"   | 25' 11"   | 23' 7" i  | 22' 2" i                          | 20' 7" i  | 21' 0"    | 19' 1"                        | 17' 11"   | 16' 8"    | 23' 7"    | 21' 5"    | 20' 2"    | 18' 8" i                          | 23' 1"    | 21' 0"    |
| 800S200-97 | 50  | 23' 1"                        | 21' 0"    | 19' 9"    | 18' 4"   | 25' 11"   | 23' 7" i  | 22' 2" i                          | 20' 7" i  | 21' 0"    | 19' 1"                        | 17' 11"   | 16' 8"    | 23' 7"    | 21' 5"    | 20' 2"    | 18' 8" i                          | 23' 1"    | 21' 0"    |

## Notes:

- Web punchouts are not considered for shear and web crippling.
- Spans are based on continuous lateral support of the compression flange.
- For two equal spans, tabulated span is the center-to-center distance from either end bearing to the center bearing. The joist must be continuous over the center bearing.
- Web crippling bearing length is assumed to be 3-1/2". Joist flanges must be fastened to the support.
- Deflection checks are computed using unbalanced loads for the two equal span condition.
- "e" indicates that web stiffeners are required at the end supports only.
- "i" indicates that web stiffeners are required at the interior support only.
- "a" indicates that web stiffeners are required at all supports.

## FLOOR JOIST SPAN LIMITATIONS

10psf Dead Load and 40psf Live Load (TL Defl.=L/240)

| Member      | ksi | Live Load Deflection L/360    |           |           |           |                                   |           |           |           | Live Load Deflection L/480    |           |           |           |                                   |           |           |           |
|-------------|-----|-------------------------------|-----------|-----------|-----------|-----------------------------------|-----------|-----------|-----------|-------------------------------|-----------|-----------|-----------|-----------------------------------|-----------|-----------|-----------|
|             |     | Single span spacing (in) o.c. |           |           |           | Two equal spans spacing (in) o.c. |           |           |           | Single span spacing (in) o.c. |           |           |           | Two equal spans spacing (in) o.c. |           |           |           |
|             |     | 12                            | 16        | 19.2      | 24        | 12                                | 16        | 19.2      | 24        | 12                            | 16        | 19.2      | 24        | 12                                | 16        | 19.2      | 24        |
| 800S250-43  | 33  | 18' 7" e                      | 16' 1" e  | 14' 8" e  | 13' 2" e  | 18' 7" a                          | 16' 1" a  | 14' 8" a  | 12' 7" a  | 17' 0" e                      | 15' 6" e  | 14' 7" e  | 13' 2" e  | 18' 7" a                          | 16' 1" a  | 14' 8" a  | 12' 7" a  |
| 800S250-54  | 33  | 20' 2"                        | 18' 4" e  | 16' 10" e | 15' 0" e  | 21' 3" i                          | 18' 5" i  | 16' 10" i | 15' 0" a  | 18' 4"                        | 16' 7"    | 15' 8" e  | 14' 6" e  | 20' 6" i                          | 18' 5" i  | 16' 10" i | 15' 0" a  |
| 800S250-54  | 50  | 20' 1"                        | 18' 3"    | 17' 2"    | 15' 11"   | 22' 6" i                          | 20' 5" i  | 19' 3" i  | 17' 5" i  | 18' 3"                        | 16' 7"    | 15' 7"    | 14' 6"    | 20' 5" i                          | 18' 7" i  | 17' 6" i  | 16' 3" i  |
| 800S250-68  | 33  | 21' 8"                        | 19' 8"    | 18' 6"    | 17' 2"    | 24' 3" i                          | 22' 1" i  | 20' 2" i  | 18' 0" i  | 19' 8"                        | 17' 10"   | 16' 10"   | 15' 7"    | 22' 1" i                          | 20' 1" i  | 18' 10" i | 17' 6" i  |
| 800S250-68  | 50  | 21' 7"                        | 19' 8"    | 18' 6"    | 17' 2"    | 24' 3" i                          | 22' 1" i  | 20' 9" i  | 19' 3" i  | 19' 8"                        | 17' 10"   | 16' 9"    | 15' 7"    | 22' 1" i                          | 20' 0" i  | 18' 10" i | 17' 6" i  |
| 800S250-97  | 33  | 24' 2"                        | 21' 11"   | 20' 8"    | 19' 2"    | 27' 1"                            | 24' 7" i  | 23' 2" i  | 21' 6" i  | 21' 11"                       | 19' 11"   | 18' 9"    | 17' 5"    | 24' 7"                            | 22' 4"    | 21' 1" i  | 19' 6" i  |
| 800S250-97  | 50  | 24' 2"                        | 21' 11"   | 20' 8"    | 19' 2"    | 27' 1"                            | 24' 7"    | 23' 2"    | 21' 6"    | 21' 11"                       | 19' 11"   | 18' 9"    | 17' 5"    | 24' 7"                            | 22' 4"    | 21' 1"    | 19' 6"    |
| 1000S162-43 | 33  | 18' 6" e                      | 16' 0" e  | 14' 8" e  | 13' 1" e  | 18' 6" a                          | 15' 2" a  | 13' 4" a  | 11' 4" a  | 18' 4" e                      | 16' 0" e  | 14' 8" e  | 13' 1" e  | 18' 6" a                          | 15' 2" a  | 13' 4" a  | 11' 4" a  |
| 1000S162-54 | 33  | 21' 4"                        | 18' 5" e  | 16' 10" e | 15' 1" e  | 21' 4" i                          | 18' 5" i  | 16' 10" i | 15' 1" a  | 19' 11"                       | 18' 1" e  | 16' 10" e | 15' 1" e  | 21' 4" i                          | 18' 5" i  | 16' 10" i | 15' 1" a  |
| 1000S162-54 | 50  | 21' 9"                        | 19' 9"    | 18' 7"    | 17' 3" e  | 24' 5" i                          | 21' 8" i  | 19' 10" i | 17' 9" i  | 19' 9"                        | 17' 11"   | 16' 11"   | 15' 8"    | 22' 2" i                          | 20' 2" i  | 18' 11" i | 17' 7" i  |
| 1000S162-68 | 33  | 23' 9"                        | 21' 2"    | 19' 4"    | 17' 4" e  | 24' 6" i                          | 21' 2" i  | 19' 4" i  | 17' 4" i  | 21' 7"                        | 19' 7"    | 18' 5"    | 17' 1" e  | 24' 3" i                          | 21' 2" i  | 19' 4" i  | 17' 4" i  |
| 1000S162-68 | 50  | 23' 7"                        | 21' 5"    | 20' 2"    | 18' 8"    | 26' 5" i                          | 24' 0" i  | 22' 7" i  | 20' 9" i  | 21' 5"                        | 19' 5"    | 18' 4"    | 17' 0"    | 24' 0" i                          | 21' 10" i | 20' 7" i  | 19' 1" i  |
| 1000S162-97 | 33  | 26' 6"                        | 24' 1"    | 22' 8"    | 21' 1"    | 29' 9" i                          | 27' 1" i  | 25' 6" i  | 23' 8" i  | 24' 1"                        | 21' 11"   | 20' 7"    | 19' 2"    | 27' 1"                            | 24' 7"    | 23' 2"    | 21' 6" i  |
| 1000S162-97 | 50  | 26' 6"                        | 24' 1"    | 22' 8"    | 21' 1"    | 29' 9" i                          | 27' 1" i  | 25' 6" i  | 23' 8" i  | 24' 1"                        | 21' 11"   | 20' 7"    | 19' 2"    | 27' 1"                            | 24' 7"    | 23' 2"    | 21' 6" i  |
| 1000S200-43 | 33  | 19' 8" e                      | 17' 1" e  | 15' 7" e  | 13' 11" e | 19' 3" a                          | 15' 9" a  | 13' 9" a  | 11' 8" a  | 19' 2" e                      | 17' 1" e  | 15' 7" e  | 13' 11" e | 19' 3" a                          | 15' 9" a  | 13' 9" a  | 11' 8" a  |
| 1000S200-54 | 33  | 22' 10" e                     | 19' 10" e | 18' 1" e  | 16' 2" e  | 22' 10" i                         | 19' 10" a | 18' 1" a  | 16' 2" a  | 20' 9"                        | 18' 11" e | 17' 9" e  | 16' 2" e  | 22' 10" i                         | 19' 10" a | 18' 1" a  | 16' 2" a  |
| 1000S200-54 | 50  | 22' 9"                        | 20' 8"    | 19' 5"    | 18' 1" e  | 25' 7" i                          | 22' 7" i  | 20' 8" i  | 18' 5" i  | 20' 8"                        | 18' 9"    | 17' 8"    | 16' 5"    | 23' 2" i                          | 21' 1" i  | 19' 10" i | 18' 5" i  |
| 1000S200-68 | 33  | 24' 9"                        | 22' 6"    | 20' 9"    | 18' 6" e  | 26' 2" i                          | 22' 8" i  | 20' 9" i  | 18' 6" i  | 22' 6"                        | 20' 5"    | 19' 3"    | 17' 10" e | 25' 3" i                          | 22' 8" i  | 20' 9" i  | 18' 6" i  |
| 1000S200-68 | 50  | 24' 7"                        | 22' 4"    | 21' 1"    | 19' 6"    | 27' 8" i                          | 25' 1" i  | 23' 8" i  | 21' 11" i | 22' 4"                        | 20' 4"    | 19' 2"    | 17' 9"    | 25' 1"                            | 22' 10" i | 21' 6" i  | 19' 11" i |
| 1000S200-97 | 33  | 27' 8"                        | 25' 2"    | 23' 8"    | 22' 0"    | 31' 1" i                          | 28' 3" i  | 26' 7" i  | 24' 6" i  | 25' 2"                        | 22' 10"   | 21' 6"    | 20' 0"    | 28' 3"                            | 25' 8" i  | 24' 2" i  | 22' 5" i  |
| 1000S200-97 | 50  | 27' 8"                        | 25' 2"    | 23' 8"    | 22' 0"    | 31' 1" i                          | 28' 3" i  | 26' 7" i  | 24' 6" i  | 25' 2"                        | 22' 10"   | 21' 6"    | 20' 0"    | 28' 3"                            | 25' 8" i  | 24' 2" i  | 22' 5" i  |
| 1000S250-43 | 33  | 20' 8" e                      | 17' 10" e | 16' 4" e  | 14' 7" e  | 19' 10" a                         | 16' 2" a  | 14' 1" a  | 11' 11" a | 20' 4" e                      | 17' 10" e | 16' 4" e  | 14' 7" e  | 19' 10" a                         | 16' 2" a  | 14' 1" a  | 11' 11" a |
| 1000S250-54 | 33  | 24' 0" e                      | 21' 3" e  | 19' 4" e  | 17' 4" e  | 24' 6" i                          | 21' 3" a  | 19' 4" a  | 17' 4" a  | 21' 10"                       | 19' 10" e | 18' 8" e  | 17' 4" e  | 24' 6" i                          | 21' 3" a  | 19' 4" a  | 17' 4" a  |
| 1000S250-54 | 50  | 24' 0"                        | 21' 10"   | 20' 6"    | 19' 1" e  | 26' 11" i                         | 23' 9" i  | 21' 8" i  | 19' 1" i  | 21' 10"                       | 19' 10"   | 18' 8"    | 17' 4" e  | 24' 6" i                          | 22' 3" i  | 20' 11" i | 19' 1" i  |
| 1000S250-68 | 33  | 25' 10"                       | 23' 5"    | 22' 1" e  | 20' 6" e  | 29' 0" i                          | 25' 9" i  | 23' 6" i  | 21' 1" a  | 23' 5"                        | 21' 4"    | 20' 1"    | 18' 7" e  | 26' 4" i                          | 23' 11" i | 22' 6" i  | 20' 11" a |
| 1000S250-68 | 50  | 25' 10"                       | 23' 5"    | 22' 1"    | 20' 6"    | 29' 0" i                          | 26' 4" i  | 24' 9" i  | 23' 0" i  | 23' 5"                        | 21' 4"    | 20' 1"    | 18' 7"    | 26' 4"                            | 23' 11" i | 22' 6" i  | 20' 11" i |
| 1000S250-97 | 33  | 28' 10"                       | 26' 2"    | 24' 8"    | 22' 11"   | 32' 5" i                          | 29' 5" i  | 27' 8" i  | 25' 8" i  | 26' 2"                        | 23' 10"   | 22' 5"    | 20' 10"   | 29' 5" i                          | 26' 9" i  | 25' 2" i  | 23' 4" i  |
| 1000S250-97 | 50  | 28' 10"                       | 26' 2"    | 24' 8"    | 22' 11"   | 32' 5" i                          | 29' 5" i  | 27' 8" i  | 25' 8" i  | 26' 2"                        | 23' 10"   | 22' 5"    | 20' 10"   | 29' 5" i                          | 26' 9" i  | 25' 2" i  | 23' 4" i  |
| 1200S162-54 | 33  | 23' 7" e                      | 20' 5" e  | 18' 8" e  | 16' 8" e  | 23' 7" a                          | 20' 5" a  | 18' 8" a  | 16' 8" a  | 22' 11" e                     | 20' 5" e  | 18' 8" e  | 16' 8" e  | 23' 7" a                          | 20' 5" a  | 18' 8" a  | 16' 2" a  |
| 1200S162-54 | 50  | 25' 0" e                      | 22' 9" e  | 21' 5" e  | 19' 7" e  | 27' 8" a                          | 23' 7" a  | 20' 10" a | 17' 9" a  | 22' 9" e                      | 20' 8" e  | 19' 5" e  | 18' 0" e  | 25' 6" a                          | 23' 2" a  | 20' 10" a | 17' 9" a  |
| 1200S162-68 | 33  | 27' 3"                        | 23' 7"    | 21' 6" e  | 19' 3" e  | 27' 3" i                          | 23' 7" i  | 21' 6" i  | 19' 3" a  | 24' 11"                       | 22' 8"    | 21' 4" e  | 19' 3" e  | 27' 3" i                          | 23' 7" i  | 21' 6" i  | 19' 3" a  |
| 1200S162-68 | 50  | 27' 2"                        | 24' 8"    | 23' 3"    | 21' 7"    | 30' 6" i                          | 27' 9" i  | 25' 8" i  | 23' 0" i  | 24' 8"                        | 22' 5"    | 21' 1"    | 19' 7"    | 27' 9" i                          | 25' 2" i  | 23' 8" i  | 22' 0" i  |
| 1200S162-97 | 33  | 30' 11"                       | 28' 1"    | 26' 6"    | 23' 11"   | 33' 10" i                         | 29' 4" i  | 26' 9" i  | 23' 11" i | 28' 1"                        | 25' 7"    | 24' 1"    | 22' 4"    | 31' 7" i                          | 28' 8" i  | 26' 9" i  | 23' 11" i |
| 1200S162-97 | 50  | 30' 10"                       | 28' 0"    | 26' 5"    | 24' 6"    | 34' 8"                            | 31' 6"    | 29' 7" i  | 27' 6" i  | 28' 0"                        | 25' 6"    | 24' 0"    | 22' 3"    | 31' 6"                            | 28' 7"    | 26' 11"   | 25' 0" i  |

## Notes:

- Web punchouts are not considered for shear and web crippling.
- Spans are based on continuous lateral support of the compression flange.
- For two equal spans, tabulated span is the center-to-center distance from either end bearing to the center bearing. The joist must be continuous over the center bearing.
- Web crippling bearing length is assumed to be 3-1/2". Joist flanges must be fastened to the support.
- Deflection checks are computed using unbalanced loads for the two equal span condition.
- "e" indicates that web stiffeners are required at the end supports only.
- "i" indicates that web stiffeners are required at the interior support only.
- "a" indicates that web stiffeners are required at all supports.

Complies with IBC 2006 &amp; AISI-NASPEC, 2001 with 2004 supplement

# FLOOR JOIST SPAN LIMITATIONS

10psf Dead Load and 40psf Live Load (TL Defl.=L/240)

| Member      | ksi | Live Load Deflection L/360       |           |           |           |                                      |           |           |           | Live Load Deflection L/480       |           |           |           |                                      |           |           |           |
|-------------|-----|----------------------------------|-----------|-----------|-----------|--------------------------------------|-----------|-----------|-----------|----------------------------------|-----------|-----------|-----------|--------------------------------------|-----------|-----------|-----------|
|             |     | Single span<br>spacing (in) o.c. |           |           |           | Two equal spans<br>spacing (in) o.c. |           |           |           | Single span<br>spacing (in) o.c. |           |           |           | Two equal spans<br>spacing (in) o.c. |           |           |           |
|             |     | 12                               | 16        | 19.2      | 24        | 12                                   | 16        | 19.2      | 24        | 12                               | 16        | 19.2      | 24        | 12                                   | 16        | 19.2      | 24        |
| 1200S200-54 | 33  | 25' 3" e                         | 21' 11" e | 20' 0" e  | 17' 11" e | 25' 3" a                             | 21' 11" a | 19' 8" a  | 16' 11" a | 23' 11" e                        | 21' 9" e  | 20' 0" e  | 17' 11" e | 25' 3" a                             | 21' 11" a | 19' 8" a  | 16' 11" a |
| 1200S200-54 | 50  | 26' 2" e                         | 23' 9" e  | 22' 4" e  | 20' 4" e  | 28' 9" a                             | 24' 3" a  | 21' 4" a  | 18' 2" a  | 23' 9" e                         | 21' 7" e  | 20' 4" e  | 18' 10" e | 26' 8" a                             | 24' 3" a  | 21' 4" a  | 18' 2" a  |
| 1200S200-68 | 33  | 28' 7" e                         | 25' 2" e  | 23' 0" e  | 20' 7" e  | 29' 1" i                             | 25' 2" i  | 23' 0" i  | 20' 7" a  | 26' 0" e                         | 23' 7" e  | 22' 2" e  | 20' 7" e  | 29' 1" i                             | 25' 2" i  | 23' 0" i  | 20' 7" a  |
| 1200S200-68 | 50  | 28' 4" e                         | 25' 9" e  | 24' 3" e  | 22' 6" e  | 31' 10" i                            | 28' 11" i | 27' 2" i  | 24' 4" i  | 25' 9" e                         | 23' 5" e  | 22' 0" e  | 20' 5" e  | 28' 11" i                            | 26' 3" i  | 24' 9" i  | 22' 11" i |
| 1200S200-97 | 33  | 32' 3" e                         | 29' 3" e  | 27' 6" e  | 25' 5" e  | 36' 0" i                             | 31' 2" i  | 28' 5" i  | 25' 5" i  | 29' 3" e                         | 26' 7" e  | 25' 0" e  | 23' 3" e  | 32' 10" i                            | 29' 10" i | 28' 1" i  | 25' 5" i  |
| 1200S200-97 | 50  | 32' 1" e                         | 29' 2" e  | 27' 6" e  | 25' 6" e  | 36' 1" i                             | 32' 9" i  | 30' 10" i | 28' 7" i  | 29' 2" e                         | 26' 6" e  | 24' 11" e | 23' 2" e  | 32' 9" e                             | 29' 9" e  | 28' 0" e  | 26' 0" i  |
| 1200S250-54 | 33  | 25' 7" e                         | 22' 2" e  | 20' 3" e  | 18' 1" e  | 25' 7" a                             | 22' 2" a  | 19' 10" a | 17' 0" a  | 24' 11" e                        | 22' 2" e  | 20' 3" e  | 18' 1" e  | 25' 7" a                             | 22' 2" a  | 19' 10" a | 17' 0" a  |
| 1200S250-54 | 50  | 27' 3" e                         | 24' 9" e  | 23' 2" e  | 20' 9" e  | 29' 4" a                             | 24' 6" a  | 21' 6" a  | 18' 4" a  | 24' 9" e                         | 22' 6" e  | 21' 2" e  | 19' 8" e  | 27' 9" a                             | 24' 6" a  | 21' 6" a  | 18' 4" a  |
| 1200S250-68 | 33  | 29' 8" e                         | 26' 3" e  | 24' 0" e  | 21' 5" e  | 30' 4" i                             | 26' 3" i  | 24' 0" i  | 21' 5" a  | 27' 0" e                         | 24' 6" e  | 23' 1" e  | 21' 5" e  | 30' 3" i                             | 26' 3" i  | 24' 0" i  | 21' 5" a  |
| 1200S250-68 | 50  | 29' 6" e                         | 26' 10" e | 25' 3" e  | 23' 5" e  | 33' 2" i                             | 30' 0" i  | 27' 5" i  | 24' 6" i  | 26' 10" e                        | 24' 4" e  | 22' 11" e | 21' 4" e  | 30' 1" i                             | 27' 4" i  | 25' 9" i  | 23' 11" i |
| 1200S250-97 | 33  | 33' 5" e                         | 30' 4" e  | 28' 7" e  | 26' 6" e  | 37' 6" i                             | 33' 0" i  | 30' 2" i  | 26' 11" i | 30' 4" e                         | 27' 7" e  | 26' 0" e  | 24' 1" e  | 34' 1" i                             | 31' 0" i  | 29' 2" i  | 26' 11" i |
| 1200S250-97 | 50  | 33' 4" e                         | 30' 4" e  | 28' 6" e  | 26' 6" e  | 37' 5" i                             | 34' 0" i  | 32' 0" i  | 29' 9" i  | 30' 4" e                         | 27' 6" e  | 25' 11" e | 24' 1" e  | 34' 0" e                             | 30' 11" i | 29' 1" e  | 27' 0" i  |
| 1400S162-54 | 33  | 22' 3" e                         | 22' 3" e  | 20' 3" e  | 18' 2" e  | 25' 8" a                             | 21' 3" a  | 18' 8" a  | 15' 10" a | 25' 8" e                         | 22' 3" e  | 20' 3" e  | 18' 2" e  | 25' 8" a                             | 21' 3" a  | 18' 8" a  | 15' 10" a |
| 1400S162-54 | 50  | 28' 2" e                         | 25' 7" e  | 23' 9" e  | 21' 3" e  | 28' 6" a                             | 23' 2" a  | 20' 3" a  | 17' 1" a  | 25' 7" e                         | 23' 3" e  | 21' 10" e | 20' 3" e  | 28' 6" a                             | 23' 2" a  | 20' 3" a  | 17' 1" a  |
| 1400S162-68 | 33  | 29' 9" e                         | 25' 9" e  | 23' 6" e  | 21' 0" e  | 29' 9" i                             | 25' 9" i  | 23' 6" a  | 21' 0" a  | 28' 2" e                         | 25' 7" e  | 23' 6" e  | 21' 0" e  | 29' 9" i                             | 25' 9" i  | 23' 6" a  | 21' 0" a  |
| 1400S162-68 | 50  | 30' 8" e                         | 27' 10" e | 26' 2" e  | 24' 4" e  | 34' 5" i                             | 30' 8" i  | 27' 11" i | 25' 0" i  | 27' 10" e                        | 25' 4" e  | 23' 10" e | 22' 1" e  | 31' 3" i                             | 28' 5" i  | 26' 9" i  | 24' 10" i |
| 1400S162-97 | 33  | 35' 3" e                         | 32' 1" e  | 29' 5" e  | 26' 4" e  | 37' 3" i                             | 32' 3" i  | 29' 5" i  | 26' 4" i  | 32' 1" e                         | 29' 1" e  | 27' 5" e  | 25' 5" e  | 36' 0" i                             | 32' 3" i  | 29' 5" i  | 26' 4" i  |
| 1400S162-97 | 50  | 34' 11" e                        | 31' 9" e  | 29' 11" e | 27' 9" e  | 39' 3" i                             | 35' 8" i  | 33' 7" i  | 31' 2" i  | 31' 9" e                         | 28' 10" e | 27' 2" e  | 25' 2" e  | 35' 8" e                             | 32' 5" e  | 30' 6" i  | 28' 4" i  |
| 1400S200-54 | 33  | 27' 6" e                         | 23' 10" e | 21' 9" e  | 19' 5" e  | 27' 1" a                             | 22' 1" a  | 19' 4" a  | 16' 5" a  | 26' 11" e                        | 23' 10" e | 21' 9" e  | 19' 5" e  | 27' 1" a                             | 22' 1" a  | 19' 4" a  | 16' 5" a  |
| 1400S200-54 | 50  | 29' 5" e                         | 26' 8" e  | 24' 8" e  | 22' 1" e  | 29' 2" a                             | 23' 9" a  | 20' 8" a  | 17' 5" a  | 26' 8" e                         | 24' 3" e  | 22' 10" e | 21' 2" e  | 29' 2" a                             | 23' 9" a  | 20' 8" a  | 17' 5" a  |
| 1400S200-68 | 33  | 31' 9" e                         | 27' 6" e  | 25' 1" e  | 22' 5" e  | 31' 9" i                             | 27' 6" i  | 25' 1" a  | 22' 5" a  | 29' 3" e                         | 26' 7" e  | 25' 1" e  | 22' 5" e  | 31' 9" i                             | 27' 6" i  | 25' 1" a  | 22' 5" a  |
| 1400S200-68 | 50  | 31' 11" e                        | 29' 0" e  | 27' 4" e  | 25' 4" e  | 35' 10" i                            | 32' 5" i  | 29' 7" i  | 26' 5" i  | 29' 0" e                         | 26' 4" e  | 24' 10" e | 23' 0" e  | 32' 7" i                             | 29' 7" i  | 27' 10" i | 25' 10" i |
| 1400S200-97 | 33  | 36' 7" e                         | 33' 3" e  | 31' 3" e  | 28' 0" e  | 39' 7" i                             | 34' 3" i  | 31' 3" i  | 28' 0" i  | 33' 3" e                         | 30' 3" e  | 28' 5" e  | 26' 5" e  | 37' 4" i                             | 33' 11" i | 31' 3" i  | 28' 0" i  |
| 1400S200-97 | 50  | 36' 4" e                         | 33' 0" e  | 31' 0" e  | 28' 10" e | 40' 9" i                             | 37' 0" i  | 34' 10" i | 32' 4" i  | 33' 0" e                         | 30' 0" e  | 28' 2" e  | 26' 2" e  | 37' 0" e                             | 33' 8" e  | 31' 8" i  | 29' 5" i  |
| 1400S250-54 | 33  | 27' 9" e                         | 24' 1" e  | 22' 0" e  | 19' 8" e  | 27' 3" a                             | 22' 3" a  | 19' 6" a  | 16' 6" a  | 27' 9" e                         | 24' 1" e  | 22' 0" e  | 19' 8" e  | 27' 3" a                             | 22' 3" a  | 19' 6" a  | 16' 6" a  |
| 1400S250-54 | 50  | 30' 7" e                         | 27' 6" e  | 25' 1" e  | 22' 6" e  | 29' 6" a                             | 23' 11" a | 20' 10" a | 17' 7" a  | 27' 9" e                         | 25' 3" e  | 23' 9" e  | 22' 1" e  | 29' 6" a                             | 23' 11" a | 20' 10" a | 17' 7" a  |
| 1400S250-68 | 33  | 33' 0" e                         | 28' 7" e  | 26' 1" e  | 23' 4" e  | 33' 0" i                             | 28' 7" a  | 26' 1" a  | 23' 4" a  | 30' 5" e                         | 27' 7" e  | 26' 0" e  | 23' 4" e  | 33' 0" i                             | 28' 7" a  | 26' 1" a  | 23' 4" a  |
| 1400S250-68 | 50  | 33' 3" e                         | 30' 2" e  | 28' 5" e  | 26' 4" e  | 37' 4" i                             | 32' 7" i  | 29' 9" i  | 26' 6" i  | 30' 2" e                         | 27' 5" e  | 25' 10" e | 23' 11" e | 33' 11" i                            | 30' 9" i  | 29' 0" i  | 26' 6" i  |
| 1400S250-97 | 33  | 37' 11" e                        | 34' 5" e  | 32' 5" e  | 29' 7" e  | 41' 9" i                             | 36' 2" i  | 33' 0" i  | 29' 7" i  | 34' 5" e                         | 31' 3" e  | 29' 5" e  | 27' 4" e  | 38' 8" i                             | 35' 1" i  | 33' 0" i  | 29' 7" i  |
| 1400S250-97 | 50  | 37' 8" e                         | 34' 2" e  | 32' 2" e  | 29' 11" e | 42' 3" i                             | 38' 5" i  | 36' 2" i  | 33' 7" i  | 34' 2" e                         | 31' 1" e  | 29' 3" e  | 27' 2" e  | 38' 5" e                             | 34' 11" e | 32' 10" i | 30' 6" i  |

## Notes:

- Web punchouts are not considered for shear and web crippling.
- Spans are based on continuous lateral support of the compression flange.
- For two equal spans, tabulated span is the center-to-center distance from either end bearing to the center bearing. The joist must be continuous over the center bearing.
- Web crippling bearing length is assumed to be 3-1/2". Joist flanges must be fastened to the support.
- Deflection checks are computed using unbalanced loads for the two equal span condition.
- "e" indicates that web stiffeners are required at the end supports only.
- "i" indicates that web stiffeners are required at the interior support only.
- "a" indicates that web stiffeners are required at all supports.

Complies with IBC 2006 & AISI-NASPEC, 2001 with 2004 supplement

The technical content of this literature is effective 2/1/12 and supersedes all previous information.

## FLOOR JOIST SPAN LIMITATIONS

## 10psf Dead Load and 50psf Live Load (TL Defl.=L/240)

| Member     | ksi | Live Load Deflection L/360    |           |           |           |                                   |           |           |           | Live Load Deflection L/480    |           |           |           |                                   |           |           |           |
|------------|-----|-------------------------------|-----------|-----------|-----------|-----------------------------------|-----------|-----------|-----------|-------------------------------|-----------|-----------|-----------|-----------------------------------|-----------|-----------|-----------|
|            |     | Single span spacing (in) o.c. |           |           |           | Two equal spans spacing (in) o.c. |           |           |           | Single span spacing (in) o.c. |           |           |           | Two equal spans spacing (in) o.c. |           |           |           |
|            |     | 12                            | 16        | 19.2      | 24        | 12                                | 16        | 19.2      | 24        | 12                            | 16        | 19.2      | 24        | 12                                | 16        | 19.2      | 24        |
| 600S162-33 | 33  | 11' 4" e                      | 9' 10" e  | 8' 11" e  | 8' 0" e   | 11' 4" a                          | 9' 5" a   | 8' 3" a   | 7' 0" a   | 10' 7" e                      | 9' 7" e   | 8' 11" e  | 8' 0" e   | 11' 4" a                          | 9' 5" a   | 8' 3" a   | 7' 0" a   |
| 600S162-43 | 33  | 12' 8"                        | 11' 6" e  | 10' 9" e  | 9' 8" e   | 13' 8" i                          | 11' 10" a | 10' 9" a  | 9' 8" a   | 11' 6"                        | 10' 5" e  | 9' 10" e  | 9' 1" e   | 12' 11" i                         | 11' 9" i  | 10' 9" a  | 9' 8" a   |
| 600S162-54 | 33  | 13' 7"                        | 12' 4"    | 11' 7"    | 10' 9" e  | 15' 3" i                          | 13' 3" i  | 12' 2" i  | 10' 10" i | 12' 4"                        | 11' 2"    | 10' 7"    | 9' 9"     | 13' 10" i                         | 12' 7" i  | 11' 10" i | 10' 10" i |
| 600S162-54 | 50  | 13' 7"                        | 12' 4"    | 11' 7"    | 10' 9"    | 15' 3"                            | 13' 10" i | 13' 0" i  | 12' 1" i  | 12' 4"                        | 11' 2"    | 10' 7"    | 9' 9"     | 13' 10"                           | 12' 7"    | 11' 10" i | 11' 0" i  |
| 600S162-68 | 33  | 14' 7"                        | 13' 3"    | 12' 5"    | 11' 7"    | 16' 4" i                          | 14' 10" i | 13' 8" i  | 12' 2" i  | 13' 3"                        | 12' 0"    | 11' 4"    | 10' 6"    | 14' 10" i                         | 13' 6" i  | 12' 8" i  | 11' 9" i  |
| 600S162-68 | 50  | 14' 7"                        | 13' 3"    | 12' 5"    | 11' 7"    | 16' 4"                            | 14' 10"   | 14' 0"    | 13' 0" i  | 13' 3"                        | 12' 0"    | 11' 4"    | 10' 6"    | 14' 10"                           | 13' 6"    | 12' 8"    | 11' 9"    |
| 600S162-97 | 33  | 16' 2"                        | 14' 8"    | 13' 10"   | 12' 10"   | 18' 2"                            | 16' 6"    | 15' 6" i  | 14' 5" i  | 14' 8"                        | 13' 4"    | 12' 7"    | 11' 8"    | 16' 6"                            | 15' 0"    | 14' 1"    | 13' 1" i  |
| 600S162-97 | 50  | 16' 2"                        | 14' 8"    | 13' 10"   | 12' 10"   | 18' 2"                            | 16' 6"    | 15' 6"    | 14' 5"    | 14' 8"                        | 13' 4"    | 12' 7"    | 11' 8"    | 16' 6"                            | 15' 0"    | 14' 1"    | 13' 1"    |
| 600S200-33 | 33  | 11' 7" e                      | 10' 1" e  | 9' 2" e   | 8' 3" e   | 11' 7" a                          | 9' 7" a   | 8' 5" a   | 7' 2" a   | 11' 1" e                      | 10' 1" e  | 9' 2" e   | 8' 3" e   | 11' 7" a                          | 9' 7" a   | 8' 5" a   | 7' 2" a   |
| 600S200-43 | 33  | 13' 3"                        | 12' 0" e  | 10' 11" e | 9' 10" e  | 13' 10" i                         | 12' 0" a  | 10' 11" a | 9' 10" a  | 12' 1"                        | 11' 0" e  | 10' 4" e  | 9' 7" e   | 13' 7" i                          | 12' 0" a  | 10' 11" a | 9' 10" a  |
| 600S200-54 | 33  | 14' 3"                        | 13' 0"    | 12' 2"    | 11' 4" e  | 16' 0" i                          | 14' 2" i  | 12' 11" i | 11' 7" i  | 13' 0"                        | 11' 9"    | 11' 1"    | 10' 3" e  | 14' 7" i                          | 13' 3" i  | 12' 5" i  | 11' 7" i  |
| 600S200-54 | 50  | 14' 3"                        | 13' 0"    | 12' 2"    | 11' 4"    | 16' 0" i                          | 14' 7" i  | 13' 8" i  | 12' 9" i  | 13' 0"                        | 11' 9"    | 11' 1"    | 10' 3"    | 14' 7"                            | 13' 3" i  | 12' 5" i  | 11' 7" i  |
| 600S200-68 | 33  | 15' 4"                        | 13' 11"   | 13' 1"    | 12' 2"    | 17' 2" i                          | 15' 7" i  | 14' 6" i  | 13' 0" i  | 13' 11"                       | 12' 8"    | 11' 11"   | 11' 0"    | 15' 7" i                          | 14' 2" i  | 13' 4" i  | 12' 5" i  |
| 600S200-68 | 50  | 15' 4"                        | 13' 11"   | 13' 1"    | 12' 2"    | 17' 2"                            | 15' 7"    | 14' 8" i  | 13' 8" i  | 13' 11"                       | 12' 8"    | 11' 11"   | 11' 0"    | 15' 7"                            | 14' 2"    | 13' 4"    | 12' 5"    |
| 600S200-97 | 33  | 17' 0"                        | 15' 6"    | 14' 7"    | 13' 6"    | 19' 2"                            | 17' 5"    | 16' 4" i  | 15' 2" i  | 15' 6"                        | 14' 1"    | 13' 3"    | 12' 3"    | 17' 5"                            | 15' 9"    | 14' 10"   | 13' 10" i |
| 600S200-97 | 50  | 17' 0"                        | 15' 6"    | 14' 7"    | 13' 6"    | 19' 2"                            | 17' 5"    | 16' 4"    | 15' 2"    | 15' 6"                        | 14' 1"    | 13' 3"    | 12' 3"    | 17' 5"                            | 15' 9"    | 14' 10"   | 13' 10"   |
| 600S250-43 | 33  | 13' 11" e                     | 12' 4" e  | 11' 3" e  | 10' 1" e  | 14' 2" i                          | 12' 4" a  | 11' 3" a  | 10' 1" a  | 12' 8"                        | 11' 6" e  | 10' 10" e | 10' 0" e  | 14' 2" i                          | 12' 4" a  | 11' 3" a  | 10' 1" a  |
| 600S250-54 | 33  | 14' 11"                       | 13' 7"    | 12' 7" e  | 11' 3" e  | 15' 11" i                         | 13' 10" i | 12' 7" i  | 11' 3" i  | 13' 7"                        | 12' 4"    | 11' 7"    | 10' 9" e  | 15' 3" i                          | 13' 10" i | 12' 7" i  | 11' 3" i  |
| 600S250-54 | 50  | 14' 11"                       | 13' 6"    | 12' 9"    | 11' 10"   | 16' 8" i                          | 15' 2" i  | 14' 3" i  | 13' 3" i  | 13' 6"                        | 12' 3"    | 11' 7"    | 10' 9"    | 15' 2"                            | 13' 9" i  | 13' 0" i  | 12' 1" i  |
| 600S250-68 | 33  | 16' 1"                        | 14' 7"    | 13' 9"    | 12' 9"    | 18' 0" i                          | 16' 4" i  | 15' 2" i  | 13' 7" i  | 14' 7"                        | 13' 3"    | 12' 6"    | 11' 7"    | 16' 4" i                          | 14' 10" i | 14' 0" i  | 13' 0" i  |
| 600S250-68 | 50  | 16' 0"                        | 14' 7"    | 13' 9"    | 12' 9"    | 18' 0"                            | 16' 4" i  | 15' 5" i  | 14' 4" i  | 14' 7"                        | 13' 3"    | 12' 6"    | 11' 7"    | 16' 4"                            | 14' 10"   | 14' 0"    | 13' 0" i  |
| 600S250-97 | 33  | 17' 11"                       | 16' 3"    | 15' 3"    | 14' 2"    | 20' 1"                            | 18' 3" i  | 17' 2" i  | 15' 11" i | 16' 3"                        | 14' 9"    | 13' 11"   | 12' 11"   | 18' 3"                            | 16' 7"    | 15' 7"    | 14' 6" i  |
| 600S250-97 | 50  | 17' 11"                       | 16' 3"    | 15' 3"    | 14' 2"    | 20' 1"                            | 18' 3"    | 17' 2"    | 15' 11"   | 16' 3"                        | 14' 9"    | 13' 11"   | 12' 11"   | 18' 3"                            | 16' 7"    | 15' 7"    | 14' 6"    |
| 800S162-33 | 33  | 12' 6" e                      | 10' 10" e | 9' 10" e  | 7' 10" e  | 10' 9" a                          | 8' 8" a   | 7' 6" a   | 6' 3" a   | 12' 6" e                      | 10' 10" e | 9' 10" e  | 7' 10" e  | 10' 9" a                          | 8' 8" a   | 7' 6" a   | 6' 3" a   |
| 800S162-43 | 33  | 14' 11" e                     | 12' 11" e | 11' 10" e | 10' 7" e  | 14' 11" a                         | 12' 11" a | 11' 10" a | 10' 3" a  | 14' 4" e                      | 12' 11" e | 11' 10" e | 10' 7" e  | 14' 11" a                         | 12' 11" a | 11' 10" a | 10' 3" a  |
| 800S162-54 | 33  | 17' 1"                        | 14' 10" e | 13' 6" e  | 12' 1" e  | 17' 1" i                          | 14' 10" i | 13' 6" i  | 12' 1" a  | 15' 6"                        | 14' 1"    | 13' 3" e  | 12' 1" e  | 17' 1" i                          | 14' 10" i | 13' 6" i  | 12' 1" a  |
| 800S162-54 | 50  | 17' 0"                        | 15' 5"    | 14' 6"    | 13' 6"    | 19' 1" i                          | 17' 4" i  | 16' 0" i  | 14' 4" i  | 15' 5"                        | 14' 0"    | 13' 2"    | 12' 3"    | 17' 4" i                          | 15' 9" i  | 14' 10" i | 13' 9" i  |
| 800S162-68 | 33  | 18' 4"                        | 16' 8"    | 15' 5"    | 13' 10"   | 19' 6" i                          | 16' 11" i | 15' 5" i  | 13' 10" i | 16' 8"                        | 15' 2"    | 14' 3"    | 13' 3"    | 18' 9" i                          | 16' 11" i | 15' 5" i  | 13' 10" i |
| 800S162-68 | 50  | 18' 4"                        | 16' 8"    | 15' 5"    | 13' 10"   | 19' 6" i                          | 16' 11" i | 15' 5" i  | 13' 10" i | 16' 8"                        | 15' 2"    | 14' 3"    | 13' 3"    | 18' 9"                            | 17' 0" i  | 16' 0" i  | 14' 10" i |
| 800S162-97 | 33  | 20' 5"                        | 18' 7"    | 17' 6"    | 16' 3"    | 23' 0"                            | 20' 10" i | 19' 8" i  | 18' 0" i  | 18' 7"                        | 16' 11"   | 15' 11"   | 14' 9"    | 20' 10"                           | 18' 11"   | 17' 10"   | 16' 7" i  |
| 800S162-97 | 50  | 20' 5"                        | 18' 7"    | 17' 6"    | 16' 3"    | 23' 0"                            | 20' 10"   | 19' 8"    | 18' 3"    | 18' 7"                        | 16' 11"   | 15' 11"   | 14' 9"    | 20' 10"                           | 18' 11"   | 17' 10"   | 16' 7"    |
| 800S200-33 | 33  | 13' 4" e                      | 11' 6" e  | 9' 10" e  | 7' 10" e  | 11' 1" a                          | 8' 10" a  | 7' 8" a   | 6' 4" a   | 13' 4" e                      | 11' 6" e  | 9' 10" e  | 7' 10" e  | 11' 1" a                          | 8' 10" a  | 7' 8" a   | 6' 4" a   |
| 800S200-43 | 33  | 16' 8" e                      | 14' 7" e  | 13' 4" e  | 11' 11" e | 16' 10" a                         | 14' 7" a  | 12' 10" a | 11' 0" a  | 15' 2" e                      | 13' 9" e  | 12' 11" e | 11' 11" e | 16' 10" a                         | 14' 7" a  | 12' 10" a | 11' 0" a  |
| 800S200-54 | 33  | 17' 11"                       | 16' 3" e  | 15' 4" e  | 14' 1" e  | 19' 11" i                         | 17' 3" a  | 15' 9" a  | 14' 1" a  | 16' 3"                        | 14' 9" e  | 13' 11" e | 12' 11" e | 18' 3" i                          | 16' 7" i  | 15' 7" a  | 14' 1" a  |
| 800S200-54 | 50  | 17' 11"                       | 16' 3"    | 15' 4"    | 14' 3"    | 20' 1" i                          | 18' 3" i  | 17' 2" i  | 15' 10" i | 16' 3"                        | 14' 9"    | 13' 11"   | 12' 11"   | 18' 3" i                          | 16' 7" i  | 15' 7" i  | 14' 6" i  |
| 800S200-68 | 33  | 19' 3"                        | 17' 6"    | 16' 5"    | 15' 3" e  | 21' 7" i                          | 19' 5" i  | 17' 9" i  | 15' 10" i | 17' 6"                        | 15' 10"   | 14' 11"   | 13' 10"   | 19' 7" i                          | 17' 10" i | 16' 9" i  | 15' 7" i  |
| 800S200-68 | 50  | 19' 3"                        | 17' 6"    | 16' 5"    | 15' 3"    | 21' 7"                            | 19' 7"    | 18' 6" i  | 17' 2" i  | 17' 6"                        | 15' 10"   | 14' 11"   | 13' 10"   | 19' 7"                            | 17' 10"   | 16' 9" i  | 15' 7" i  |
| 800S200-97 | 33  | 21' 5"                        | 19' 6"    | 18' 4"    | 17' 0"    | 24' 1"                            | 21' 10" i | 20' 7" i  | 19' 1" i  | 19' 6"                        | 17' 8"    | 16' 8"    | 15' 6"    | 21' 10"                           | 19' 10"   | 18' 8" i  | 17' 4" i  |
| 800S200-97 | 50  | 21' 5"                        | 19' 6"    | 18' 4"    | 17' 0"    | 24' 1"                            | 21' 10"   | 20' 7"    | 19' 1"    | 19' 6"                        | 17' 8"    | 16' 8"    | 15' 6"    | 21' 10"                           | 19' 10"   | 18' 8"    | 17' 4"    |

## Notes:

- Web punchouts are not considered for shear and web crippling.
- Spans are based on continuous lateral support of the compression flange.
- For two equal spans, tabulated span is the center-to-center distance from either end bearing to the center bearing. The joist must be continuous over the center bearing.
- Web crippling bearing length is assumed to be 3-1/2". Joist flanges must be fastened to the support.
- Deflection checks are computed using unbalanced loads for the two equal span condition.
- "e" indicates that web stiffeners are required at the end supports only.
- "i" indicates that web stiffeners are required at the interior support only.
- "a" indicates that web stiffeners are required at all supports.

Complies with IBC 2006 &amp; AISI-NASPEC, 2001 with 2004 supplement

# FLOOR JOIST SPAN LIMITATIONS

10psf Dead Load and 50psf Live Load (TL Defl.=L/240)

| Member      | ksi | Live Load Deflection L/360       |           |           |           |                                      |           |           |           |           | Live Load Deflection L/480       |           |           |           |                                      |           |           |  |  |
|-------------|-----|----------------------------------|-----------|-----------|-----------|--------------------------------------|-----------|-----------|-----------|-----------|----------------------------------|-----------|-----------|-----------|--------------------------------------|-----------|-----------|--|--|
|             |     | Single span<br>spacing (in) o.c. |           |           |           | Two equal spans<br>spacing (in) o.c. |           |           |           |           | Single span<br>spacing (in) o.c. |           |           |           | Two equal spans<br>spacing (in) o.c. |           |           |  |  |
|             |     | 12                               | 16        | 19.2      | 24        | 12                                   | 16        | 19.2      | 24        | 12        | 16                               | 19.2      | 24        | 12        | 16                                   | 19.2      | 24        |  |  |
| 800S250-43  | 33  | 17' 0" e                         | 14' 8" e  | 13' 5" e  | 12' 0" e  | 17' 0" a                             | 14' 8" a  | 12' 11" a | 11' 1" a  | 15' 10" e | 14' 4" e                         | 13' 5" e  | 12' 0" e  | 17' 0" a  | 14' 8" a                             | 12' 11" a | 11' 1" a  |  |  |
| 800S250-54  | 33  | 18' 8"                           | 16' 10" e | 15' 4" e  | 13' 9" e  | 19' 5" i                             | 16' 10" i | 15' 4" a  | 13' 9" a  | 17' 0"    | 15' 5" e                         | 14' 6" e  | 13' 6" e  | 19' 1" i  | 16' 10" i                            | 15' 4" a  | 13' 9" a  |  |  |
| 800S250-54  | 50  | 18' 7"                           | 16' 11"   | 15' 11"   | 14' 9" e  | 20' 11" i                            | 19' 0" i  | 17' 10" i | 15' 11" i | 16' 11"   | 15' 4"                           | 14' 6"    | 13' 5"    | 19' 0" i  | 17' 3" i                             | 16' 3" i  | 15' 1" i  |  |  |
| 800S250-68  | 33  | 20' 1"                           | 18' 3"    | 17' 2"    | 15' 11" e | 22' 6" i                             | 20' 2" i  | 18' 5" i  | 16' 5" i  | 18' 3"    | 16' 7"                           | 15' 7"    | 14' 6"    | 20' 6" i  | 18' 7" i                             | 17' 6" i  | 16' 3" i  |  |  |
| 800S250-68  | 50  | 20' 1"                           | 18' 3"    | 17' 2"    | 15' 11"   | 22' 6" i                             | 20' 6" i  | 19' 3" i  | 17' 11" i | 18' 3"    | 16' 7"                           | 15' 7"    | 14' 6"    | 20' 6"    | 18' 7" i                             | 17' 6" i  | 16' 3" i  |  |  |
| 800S250-97  | 33  | 22' 5"                           | 20' 4"    | 19' 2"    | 17' 9"    | 25' 2" i                             | 22' 10" i | 21' 6" i  | 20' 0" i  | 20' 4"    | 18' 6"                           | 17' 5"    | 16' 2"    | 22' 10"   | 20' 9"                               | 19' 6" i  | 18' 2" i  |  |  |
| 800S250-97  | 50  | 22' 5"                           | 20' 4"    | 19' 2"    | 17' 9"    | 25' 2"                               | 22' 10"   | 21' 6"    | 20' 0"    | 20' 4"    | 18' 6"                           | 17' 5"    | 16' 2"    | 22' 10"   | 20' 9"                               | 19' 6"    | 18' 2"    |  |  |
| 1000S162-43 | 33  | 16' 11" e                        | 14' 8" e  | 13' 4" e  | 11' 11" e | 16' 4" a                             | 13' 4" a  | 11' 8" a  | 9' 10" a  | 16' 11" e | 14' 8" e                         | 13' 4" e  | 11' 11" e | 16' 4" a  | 13' 4" a                             | 11' 8" a  | 9' 10" a  |  |  |
| 1000S162-54 | 33  | 19' 5" e                         | 16' 10" e | 15' 5" e  | 13' 9" e  | 19' 5" i                             | 16' 10" a | 15' 5" a  | 13' 9" a  | 18' 6"    | 16' 10" e                        | 15' 5" e  | 13' 9" e  | 19' 5" i  | 16' 10" a                            | 15' 5" a  | 13' 9" a  |  |  |
| 1000S162-54 | 50  | 20' 2"                           | 18' 4"    | 17' 3"    | 16' 0" e  | 22' 8" i                             | 19' 10" i | 18' 1" i  | 15' 11" i | 18' 4"    | 16' 8"                           | 15' 8"    | 14' 7" e  | 20' 7" i  | 18' 8" i                             | 17' 7" i  | 15' 11" i |  |  |
| 1000S162-68 | 33  | 22' 0"                           | 19' 4"    | 17' 8" e  | 15' 10" e | 22' 4" i                             | 19' 4" i  | 17' 8" i  | 15' 10" i | 20' 0"    | 18' 2"                           | 17' 1"    | 15' 10" e | 22' 4" i  | 19' 4" i                             | 17' 8" i  | 15' 10" i |  |  |
| 1000S162-68 | 50  | 21' 10"                          | 19' 10"   | 18' 8"    | 17' 4"    | 24' 7" i                             | 22' 4" i  | 21' 0" i  | 18' 11" i | 19' 10"   | 18' 1"                           | 17' 0"    | 15' 9"    | 22' 4" i  | 20' 3" i                             | 19' 1" i  | 17' 9" i  |  |  |
| 1000S162-97 | 33  | 24' 8"                           | 22' 4"    | 21' 1"    | 19' 7"    | 27' 8" i                             | 25' 1" i  | 23' 8" i  | 21' 4" i  | 22' 4"    | 20' 4"                           | 19' 2"    | 17' 9"    | 25' 1"    | 22' 10" i                            | 21' 6" i  | 19' 11" i |  |  |
| 1000S162-97 | 50  | 24' 8"                           | 22' 4"    | 21' 1"    | 19' 7"    | 27' 8"                               | 25' 1"    | 23' 8" i  | 21' 11" i | 22' 4"    | 20' 4"                           | 19' 2"    | 17' 9"    | 25' 1"    | 22' 10"                              | 21' 6"    | 19' 11"   |  |  |
| 1000S200-43 | 33  | 18' 0" e                         | 15' 7" e  | 14' 3" e  | 12' 9" e  | 17' 0" a                             | 13' 9" a  | 12' 0" a  | 10' 2" a  | 17' 10" e | 15' 7" e                         | 14' 3" e  | 12' 9" e  | 17' 0" a  | 13' 9" a                             | 12' 0" a  | 10' 2" a  |  |  |
| 1000S200-54 | 33  | 20' 11" e                        | 18' 1" e  | 16' 6" e  | 14' 9" e  | 20' 11" i                            | 18' 1" a  | 16' 6" a  | 14' 9" a  | 19' 4" e  | 17' 6" e                         | 16' 6" e  | 14' 9" e  | 20' 11" i | 18' 1" a                             | 16' 6" a  | 14' 9" a  |  |  |
| 1000S200-54 | 50  | 21' 1"                           | 19' 2"    | 18' 1" e  | 16' 9" e  | 23' 9" i                             | 20' 8" i  | 18' 10" i | 16' 4" i  | 19' 2"    | 17' 5"                           | 16' 5"    | 15' 3" e  | 21' 7" i  | 19' 7" i                             | 18' 5" i  | 16' 4" i  |  |  |
| 1000S200-68 | 33  | 23' 0"                           | 20' 9"    | 18' 11" e | 16' 11" e | 23' 11" i                            | 20' 9" i  | 18' 11" i | 16' 11" a | 20' 11"   | 19' 0"                           | 17' 10" e | 16' 7" e  | 23' 6" i  | 20' 9" i                             | 18' 11" i | 16' 11" a |  |  |
| 1000S200-68 | 50  | 22' 10"                          | 20' 9"    | 19' 6"    | 18' 2"    | 25' 8" i                             | 23' 4" i  | 21' 11" i | 20' 1" i  | 20' 9"    | 18' 10"                          | 17' 9"    | 16' 6"    | 23' 4" i  | 21' 2" i                             | 19' 11" i | 18' 6" i  |  |  |
| 1000S200-97 | 33  | 25' 9"                           | 23' 4"    | 22' 0"    | 20' 5"    | 28' 10" i                            | 26' 3" i  | 24' 8" i  | 22' 4" i  | 23' 4"    | 21' 3"                           | 20' 0"    | 18' 7"    | 26' 3"    | 23' 10" i                            | 22' 5" i  | 20' 10" i |  |  |
| 1000S200-97 | 50  | 25' 9"                           | 23' 4"    | 22' 0"    | 20' 5"    | 28' 10" i                            | 26' 3" i  | 24' 8" i  | 22' 11" i | 23' 4"    | 21' 3"                           | 20' 0"    | 18' 7"    | 26' 3"    | 23' 10" i                            | 22' 5" i  | 20' 10" i |  |  |
| 1000S250-43 | 33  | 18' 10" e                        | 16' 4" e  | 14' 11" e | 13' 4" e  | 17' 5" a                             | 14' 1" a  | 12' 3" a  | 10' 4" a  | 18' 10" e | 16' 4" e                         | 14' 11" e | 13' 4" e  | 17' 5" a  | 14' 1" a                             | 12' 3" a  | 10' 4" a  |  |  |
| 1000S250-54 | 33  | 22' 4" e                         | 19' 4" e  | 17' 8" e  | 15' 10" e | 22' 4" a                             | 19' 4" a  | 17' 8" a  | 15' 8" a  | 20' 3" e  | 18' 5" e                         | 17' 4" e  | 15' 10" e | 22' 4" a  | 19' 4" a                             | 17' 8" a  | 15' 8" a  |  |  |
| 1000S250-54 | 50  | 22' 3"                           | 20' 3"    | 19' 1" e  | 17' 8" e  | 25' 0" i                             | 21' 8" i  | 19' 7" i  | 16' 9" a  | 20' 3"    | 18' 5"                           | 17' 4"    | 16' 1" e  | 22' 9" i  | 20' 8" i                             | 19' 5" i  | 16' 9" a  |  |  |
| 1000S250-68 | 33  | 24' 0"                           | 21' 9" e  | 20' 6" e  | 19' 0" e  | 26' 11" i                            | 23' 6" i  | 21' 6" a  | 19' 3" a  | 21' 9"    | 19' 9"                           | 18' 7" e  | 17' 3" e  | 24' 5" i  | 22' 3" i                             | 20' 11" a | 19' 3" a  |  |  |
| 1000S250-68 | 50  | 24' 0"                           | 21' 9"    | 20' 6"    | 19' 0"    | 26' 11" i                            | 24' 5" i  | 23' 0" i  | 21' 4" i  | 21' 9"    | 19' 9"                           | 18' 7"    | 17' 3"    | 24' 5" i  | 22' 2" i                             | 20' 11" i | 19' 5" i  |  |  |
| 1000S250-97 | 33  | 26' 9"                           | 24' 4"    | 22' 11"   | 21' 3"    | 30' 1" i                             | 27' 4" i  | 25' 8" i  | 23' 5" i  | 24' 4"    | 22' 1"                           | 20' 10"   | 19' 4"    | 27' 4"    | 24' 10" i                            | 23' 4" i  | 21' 8" i  |  |  |
| 1000S250-97 | 50  | 26' 9"                           | 24' 4"    | 22' 11"   | 21' 3"    | 30' 1"                               | 27' 4"    | 25' 8"    | 23' 10" i | 24' 4"    | 22' 1"                           | 20' 10"   | 19' 4"    | 27' 4"    | 24' 10"                              | 23' 4"    | 21' 8"    |  |  |
| 1200S162-54 | 33  | 21' 6" e                         | 18' 8" e  | 17' 0" e  | 15' 3" e  | 21' 6" a                             | 18' 8" a  | 16' 8" a  | 14' 3" a  | 21' 4" e  | 18' 8" e                         | 17' 0" e  | 15' 3" e  | 21' 6" a  | 18' 8" a                             | 16' 8" a  | 14' 3" a  |  |  |
| 1200S162-54 | 50  | 23' 3" e                         | 21' 1" e  | 19' 10" e | 17' 10" e | 25' 3" a                             | 20' 10" a | 18' 4" a  | 15' 6" a  | 21' 1" e  | 19' 2" e                         | 18' 0" e  | 16' 9" e  | 23' 8" a  | 20' 10" a                            | 18' 4" a  | 15' 6" a  |  |  |
| 1200S162-68 | 33  | 24' 10"                          | 21' 6" e  | 19' 8" e  | 17' 7" e  | 24' 10" i                            | 21' 6" i  | 19' 8" i  | 17' 7" a  | 23' 2"    | 21' 0" e                         | 19' 8" e  | 17' 7" e  | 24' 10" i | 21' 6" i                             | 19' 8" i  | 17' 7" a  |  |  |
| 1200S162-68 | 50  | 25' 3"                           | 22' 11"   | 21' 7"    | 20' 0"    | 28' 4" i                             | 25' 8" i  | 23' 5" i  | 21' 0" i  | 22' 11"   | 20' 10"                          | 19' 7"    | 18' 2"    | 25' 9" i  | 23' 5" i                             | 22' 0" i  | 20' 5" i  |  |  |
| 1200S162-97 | 33  | 28' 9"                           | 26' 1"    | 24' 5"    | 21' 10"   | 30' 11" i                            | 26' 9" i  | 24' 5" i  | 21' 10" i | 26' 1"    | 23' 9"                           | 22' 4"    | 20' 9"    | 29' 4" i  | 26' 8" i                             | 24' 5" i  | 21' 10" i |  |  |
| 1200S162-97 | 50  | 28' 8"                           | 26' 0"    | 24' 6"    | 22' 9"    | 32' 2"                               | 29' 3" i  | 27' 6" i  | 25' 6" i  | 26' 0"    | 23' 8"                           | 22' 3"    | 20' 8"    | 29' 3"    | 26' 7"                               | 25' 0"    | 23' 2" i  |  |  |

## Notes:

- Web punchouts are not considered for shear and web crippling.
- Spans are based on continuous lateral support of the compression flange.
- For two equal spans, tabulated span is the center-to-center distance from either end bearing to the center bearing. The joist must be continuous over the center bearing.
- Web crippling bearing length is assumed to be 3-1/2". Joist flanges must be fastened to the support.
- Deflection checks are computed using unbalanced loads for the two equal span condition.
- "e" indicates that web stiffeners are required at the end supports only.
- "i" indicates that web stiffeners are required at the interior support only.
- "a" indicates that web stiffeners are required at all supports.

Complies with IBC 2006 & AISI-NASPEC, 2001 with 2004 supplement

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The technical content of this literature is effective 2/1/12 and supersedes all previous information.

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## FLOOR JOIST SPAN LIMITATIONS

10psf Dead Load and 50psf Live Load (TL Defl.=L/240)

| Member      | ksi | Live Load Deflection L/360       |           |           |           |                                      |           |           |           | Live Load Deflection L/480       |           |           |           |                                      |           |           |           |
|-------------|-----|----------------------------------|-----------|-----------|-----------|--------------------------------------|-----------|-----------|-----------|----------------------------------|-----------|-----------|-----------|--------------------------------------|-----------|-----------|-----------|
|             |     | Single span<br>spacing (in) o.c. |           |           |           | Two equal spans<br>spacing (in) o.c. |           |           |           | Single span<br>spacing (in) o.c. |           |           |           | Two equal spans<br>spacing (in) o.c. |           |           |           |
|             |     | 12                               | 16        | 19.2      | 24        | 12                                   | 16        | 19.2      | 24        | 12                               | 16        | 19.2      | 24        | 12                                   | 16        | 19.2      | 24        |
| 1200S200-54 | 33  | 23' 1" e                         | 20' 0" e  | 18' 3" e  | 16' 4" e  | 23' 1" a                             | 19' 8" a  | 17' 4" a  | 14' 9" a  | 22' 2" e                         | 20' 0" e  | 18' 3" e  | 16' 4" e  | 23' 1" a                             | 19' 8" a  | 17' 4" a  | 14' 9" a  |
| 1200S200-54 | 50  | 24' 3" e                         | 22' 1" e  | 20' 9" e  | 18' 7" e  | 26' 1" a                             | 21' 4" a  | 18' 8" a  | 15' 10" a | 22' 1" e                         | 20' 0" e  | 18' 10" e | 17' 6" e  | 24' 9" a                             | 21' 4" a  | 18' 8" a  | 15' 10" a |
| 1200S200-68 | 33  | 26' 6" e                         | 23' 0" e  | 21' 0" e  | 18' 9" e  | 26' 7" i                             | 23' 0" i  | 21' 0" a  | 18' 9" a  | 24' 1" e                         | 21' 11" e | 20' 7" e  | 18' 9" e  | 26' 7" i                             | 23' 0" i  | 21' 0" a  | 18' 9" a  |
| 1200S200-68 | 50  | 26' 4" e                         | 23' 11" e | 22' 6" e  | 20' 11" e | 29' 7" i                             | 26' 10" i | 24' 10" i | 22' 2" i  | 23' 11" e                        | 21' 9" e  | 20' 5" e  | 19' 0" e  | 26' 10" i                            | 24' 5" i  | 22' 11" i | 21' 4" i  |
| 1200S200-97 | 33  | 29' 11" e                        | 27' 2" e  | 25' 7" e  | 23' 3" e  | 32' 10" i                            | 28' 5" i  | 26' 0" i  | 23' 3" i  | 27' 2" e                         | 24' 8" e  | 23' 3" e  | 21' 7" e  | 30' 6" i                             | 27' 9" i  | 26' 0" i  | 23' 3" i  |
| 1200S200-97 | 50  | 29' 10" e                        | 27' 1" e  | 25' 6" e  | 23' 8" e  | 33' 6" e                             | 30' 5" i  | 28' 7" i  | 26' 7" i  | 27' 1" e                         | 24' 7" e  | 23' 2" e  | 21' 6" e  | 30' 5" e                             | 27' 8" e  | 26' 0" e  | 24' 2" i  |
| 1200S250-54 | 33  | 23' 4" e                         | 20' 3" e  | 18' 6" e  | 16' 6" e  | 23' 4" a                             | 19' 10" a | 17' 6" a  | 14' 11" a | 23' 1" e                         | 20' 3" e  | 18' 6" e  | 16' 6" e  | 23' 4" a                             | 19' 10" a | 17' 6" a  | 14' 11" a |
| 1200S250-54 | 50  | 25' 3" e                         | 22' 11" e | 21' 2" e  | 18' 11" e | 26' 4" a                             | 21' 6" a  | 18' 10" a | 16' 0" a  | 22' 11" e                        | 20' 10" e | 19' 8" e  | 18' 3" e  | 25' 9" a                             | 21' 6" a  | 18' 10" a | 16' 0" a  |
| 1200S250-68 | 33  | 27' 7" e                         | 24' 0" e  | 21' 11" e | 19' 7" e  | 27' 8" i                             | 24' 0" a  | 21' 11" a | 19' 7" a  | 25' 0" e                         | 22' 9" e  | 21' 5" e  | 19' 7" e  | 27' 8" i                             | 24' 0" a  | 21' 11" a | 19' 7" a  |
| 1200S250-68 | 50  | 27' 5" e                         | 24' 11" e | 23' 5" e  | 21' 9" e  | 30' 9" i                             | 27' 5" i  | 25' 0" i  | 22' 4" i  | 24' 11" e                        | 22' 8" e  | 21' 4" e  | 19' 9" e  | 28' 0" i                             | 25' 5" i  | 23' 11" i | 22' 2" i  |
| 1200S250-97 | 33  | 31' 0" e                         | 28' 2" e  | 26' 6" e  | 24' 7" e  | 34' 10" i                            | 30' 2" i  | 27' 6" i  | 24' 7" i  | 28' 2" e                         | 25' 7" e  | 24' 1" e  | 22' 5" e  | 31' 8" i                             | 28' 9" i  | 27' 1" i  | 24' 7" i  |
| 1200S250-97 | 50  | 31' 0" e                         | 28' 2" e  | 26' 6" e  | 24' 7" e  | 34' 9" e                             | 31' 7" i  | 29' 9" i  | 27' 7" i  | 28' 2" e                         | 25' 7" e  | 24' 1" e  | 22' 4" e  | 31' 7" e                             | 28' 8" e  | 27' 0" e  | 25' 1" i  |
| 1400S162-54 | 33  | 23' 5" e                         | 20' 3" e  | 18' 6" e  | 16' 7" e  | 22' 10" a                            | 18' 8" a  | 16' 4" a  | 13' 10" a | 23' 5" e                         | 20' 3" e  | 18' 6" e  | 16' 7" e  | 22' 10" a                            | 18' 8" a  | 16' 4" a  | 13' 10" a |
| 1400S162-54 | 50  | 26' 1" e                         | 23' 9" e  | 21' 8" e  | 19' 5" e  | 25' 0" a                             | 20' 3" a  | 17' 8" a  | 14' 10" a | 23' 9" e                         | 21' 7" e  | 20' 3" e  | 18' 10" e | 25' 1" a                             | 20' 3" a  | 17' 8" a  | 14' 10" a |
| 1400S162-68 | 33  | 27' 2" e                         | 23' 6" e  | 21' 5" e  | 19' 2" e  | 27' 2" i                             | 23' 6" a  | 21' 5" a  | 19' 2" a  | 26' 2" e                         | 23' 6" e  | 21' 5" e  | 19' 2" e  | 27' 2" i                             | 23' 6" a  | 21' 5" a  | 19' 2" a  |
| 1400S162-68 | 50  | 28' 5" e                         | 25' 10" e | 24' 4" e  | 22' 7" e  | 31' 11" i                            | 27' 11" i | 25' 6" i  | 22' 6" i  | 25' 10" e                        | 23' 6" e  | 22' 1" e  | 20' 6" e  | 29' 0" i                             | 26' 4" i  | 24' 10" i | 22' 6" i  |
| 1400S162-97 | 33  | 32' 9" e                         | 29' 5" e  | 26' 11" e | 24' 1" e  | 34' 0" i                             | 29' 5" i  | 26' 11" i | 24' 1" i  | 29' 9" e                         | 27' 0" e  | 25' 5" e  | 23' 7" e  | 33' 5" i                             | 29' 5" i  | 26' 11" i | 24' 1" i  |
| 1400S162-97 | 50  | 32' 5" e                         | 29' 6" e  | 27' 9" e  | 25' 9" e  | 36' 5" i                             | 33' 1" i  | 31' 2" i  | 28' 8" i  | 29' 6" e                         | 26' 9" e  | 25' 2" e  | 23' 5" e  | 33' 1" e                             | 30' 1" e  | 28' 4" i  | 26' 3" i  |
| 1400S200-54 | 33  | 25' 1" e                         | 21' 9" e  | 19' 10" e | 17' 9" e  | 23' 10" a                            | 19' 4" a  | 16' 11" a | 14' 4" a  | 25' 0" e                         | 21' 9" e  | 19' 10" e | 17' 9" e  | 23' 10" a                            | 19' 4" a  | 16' 11" a | 14' 4" a  |
| 1400S200-54 | 50  | 27' 3" e                         | 24' 8" e  | 22' 6" e  | 19' 8" e  | 25' 7" a                             | 20' 8" a  | 18' 0" a  | 15' 1" a  | 24' 9" e                         | 22' 6" e  | 21' 2" e  | 19' 8" e  | 25' 7" a                             | 20' 8" a  | 18' 0" a  | 15' 1" a  |
| 1400S200-68 | 33  | 29' 0" e                         | 25' 1" e  | 22' 11" e | 20' 6" e  | 29' 0" i                             | 25' 1" a  | 22' 11" a | 20' 6" a  | 27' 2" e                         | 24' 8" e  | 22' 11" e | 20' 6" e  | 29' 0" i                             | 25' 1" a  | 22' 11" a | 20' 6" a  |
| 1400S200-68 | 50  | 29' 8" e                         | 26' 11" e | 25' 4" e  | 23' 6" e  | 33' 3" i                             | 29' 7" i  | 27' 0" i  | 23' 4" i  | 26' 11" e                        | 24' 6" e  | 23' 0" e  | 21' 4" e  | 30' 3" i                             | 27' 6" i  | 25' 10" i | 23' 3" i  |
| 1400S200-97 | 33  | 34' 0" e                         | 30' 10" e | 28' 6" e  | 25' 6" e  | 36' 1" i                             | 31' 3" i  | 28' 6" i  | 25' 6" i  | 30' 10" e                        | 28' 1" e  | 26' 5" e  | 24' 6" e  | 34' 8" i                             | 31' 3" i  | 28' 6" i  | 25' 6" i  |
| 1400S200-97 | 50  | 33' 8" e                         | 30' 7" e  | 28' 10" e | 26' 9" e  | 37' 10" e                            | 34' 5" i  | 32' 4" i  | 30' 0" i  | 30' 7" e                         | 27' 10" e | 26' 2" e  | 24' 4" e  | 34' 5" e                             | 31' 3" e  | 29' 5" i  | 27' 3" i  |
| 1400S250-54 | 33  | 25' 4" e                         | 22' 0" e  | 20' 1" e  | 17' 11" e | 23' 11" a                            | 19' 6" a  | 17' 0" a  | 14' 4" a  | 25' 4" e                         | 22' 0" e  | 20' 1" e  | 17' 11" e | 23' 11" a                            | 19' 6" a  | 17' 0" a  | 14' 4" a  |
| 1400S250-54 | 50  | 28' 5" e                         | 25' 1" e  | 22' 11" e | 19' 8" e  | 25' 10" a                            | 20' 10" a | 18' 2" a  | 15' 3" a  | 25' 9" e                         | 23' 5" e  | 22' 1" e  | 19' 8" e  | 25' 10" a                            | 20' 10" a | 18' 2" a  | 15' 3" a  |
| 1400S250-68 | 33  | 30' 2" e                         | 26' 1" e  | 23' 10" e | 21' 4" e  | 30' 2" i                             | 26' 1" a  | 23' 10" a | 21' 4" a  | 28' 2" e                         | 25' 7" e  | 23' 10" e | 21' 4" e  | 30' 2" i                             | 26' 1" a  | 23' 10" a | 21' 4" a  |
| 1400S250-68 | 50  | 30' 10" e                        | 28' 0" e  | 26' 4" e  | 24' 3" e  | 34' 4" i                             | 29' 9" i  | 27' 2" i  | 23' 4" i  | 28' 0" e                         | 25' 5" e  | 23' 11" e | 22' 3" e  | 31' 5" i                             | 28' 7" i  | 26' 11" i | 23' 4" i  |
| 1400S250-97 | 33  | 35' 2" e                         | 31' 11" e | 30' 1" e  | 27' 0" e  | 38' 2" i                             | 33' 0" i  | 30' 2" i  | 27' 0" i  | 31' 11" e                        | 29' 0" e  | 27' 4" e  | 25' 4" e  | 35' 11" i                            | 32' 7" i  | 30' 2" i  | 27' 0" i  |
| 1400S250-97 | 50  | 34' 11" e                        | 31' 9" e  | 29' 11" e | 27' 9" e  | 39' 3" i                             | 35' 8" i  | 33' 7" i  | 31' 2" i  | 31' 9" e                         | 28' 10" e | 27' 2" e  | 25' 2" e  | 35' 8" e                             | 32' 5" i  | 30' 6" i  | 28' 4" i  |

## Notes:

- 1 Web punchouts are not considered for shear and web crippling.
- 2 Spans are based on continuous lateral support of the compression flange.
- 3 For two equal spans, tabulated span is the center-to-center distance from either end bearing to the center bearing. The joist must be continuous over the center bearing.
- 4 Web crippling bearing length is assumed to be 3-1/2". Joist flanges must be fastened to the support.
- 5 Deflection checks are computed using unbalanced loads for the two equal span condition.
- 6 "e" indicates that web stiffeners are required at the end supports only.
- 7 "i" indicates that web stiffeners are required at the interior support only.
- 8 "a" indicates that web stiffeners are required at all supports.

Complies with IBC 2006 &amp; AISI-NASPEC, 2001 with 2004 supplement

# FLOOR JOIST SPAN LIMITATIONS

## 10psf Dead Load and 100psf Live Load (TL Defl.=L/240)

| Member     | ksi | Live Load Deflection L/360    |           |           |           |                                   |           |           |           | Live Load Deflection L/480    |           |           |          |                                   |           |           |           |
|------------|-----|-------------------------------|-----------|-----------|-----------|-----------------------------------|-----------|-----------|-----------|-------------------------------|-----------|-----------|----------|-----------------------------------|-----------|-----------|-----------|
|            |     | Single span spacing (in) o.c. |           |           |           | Two equal spans spacing (in) o.c. |           |           |           | Single span spacing (in) o.c. |           |           |          | Two equal spans spacing (in) o.c. |           |           |           |
|            |     | 12                            | 16        | 19.2      | 24        | 12                                | 16        | 19.2      | 24        | 12                            | 16        | 19.2      | 24       | 12                                | 16        | 19.2      | 24        |
| 600S162-33 | 33  | 8' 4" e                       | 7' 3" e   | 6' 7" e   | 5' 9" e   | 7' 6" a                           | 6' 1" a   | 5' 3" a   | 4' 5" a   | 8' 4" e                       | 7' 3" e   | 6' 7" e   | 5' 9" e  | 7' 6" a                           | 6' 1" a   | 5' 3" a   | 4' 5" a   |
| 600S162-43 | 33  | 10' 0" e                      | 8' 9" e   | 8' 0" e   | 7' 2" e   | 10' 1" a                          | 8' 9" a   | 8' 0" a   | 7' 2" a   | 9' 1" e                       | 8' 3" e   | 7' 10" e  | 7' 2" e  | 10' 1" a                          | 8' 9" a   | 8' 0" a   | 7' 2" a   |
| 600S162-54 | 33  | 10' 9" e                      | 9' 9" e   | 8' 11" e  | 8' 0" e   | 11' 4" i                          | 9' 10" a  | 8' 11" a  | 8' 0" a   | 9' 9" e                       | 8' 11" e  | 8' 4" e   | 7' 9" e  | 11' 0" i                          | 9' 10" a  | 8' 11" a  | 8' 0" a   |
| 600S162-54 | 50  | 10' 9" e                      | 9' 9" e   | 9' 3" e   | 8' 7" e   | 12' 1" i                          | 11' 0" i  | 10' 4" i  | 9' 7" a   | 9' 9" e                       | 8' 11" e  | 8' 4" e   | 7' 9" e  | 11' 0" i                          | 10' 0" i  | 9' 5" i   | 8' 9" i   |
| 600S162-68 | 33  | 11' 7" e                      | 10' 6" e  | 9' 10" e  | 9' 0" e   | 12' 9" i                          | 11' 0" i  | 10' 1" i  | 9' 0" i   | 10' 6" e                      | 9' 6" e   | 9' 0" e   | 8' 4" e  | 11' 9" i                          | 10' 8" i  | 10' 1" i  | 9' 0" i   |
| 600S162-68 | 50  | 11' 7" e                      | 10' 6" e  | 9' 10" e  | 9' 2" e   | 13' 0" i                          | 11' 9" i  | 11' 1" i  | 10' 3" i  | 10' 6" e                      | 9' 6" e   | 9' 0" e   | 8' 4" e  | 11' 9" i                          | 10' 8" i  | 10' 1" i  | 9' 4" i   |
| 600S162-97 | 33  | 12' 10" e                     | 11' 8" e  | 11' 0" e  | 10' 2" e  | 14' 5" i                          | 13' 1" i  | 12' 1" i  | 10' 10" i | 11' 8" e                      | 10' 7" e  | 10' 0" e  | 9' 3" e  | 13' 1" i                          | 11' 11" i | 11' 2" i  | 10' 5" i  |
| 600S162-97 | 50  | 12' 10" e                     | 11' 8" e  | 11' 0" e  | 10' 2" e  | 14' 5" i                          | 13' 1" i  | 12' 4" e  | 11' 5" i  | 11' 8" e                      | 10' 7" e  | 10' 0" e  | 9' 3" e  | 13' 1" i                          | 11' 11" i | 11' 2" e  | 10' 5" e  |
| 600S200-33 | 33  | 8' 7" e                       | 7' 5" e   | 6' 9" e   | 5' 9" e   | 7' 7" a                           | 6' 2" a   | 5' 4" a   | 4' 5" a   | 8' 7" e                       | 7' 5" e   | 6' 9" e   | 5' 9" e  | 7' 7" a                           | 6' 2" a   | 5' 4" a   | 4' 5" a   |
| 600S200-43 | 33  | 10' 3" e                      | 8' 10" e  | 8' 1" e   | 7' 3" e   | 10' 3" a                          | 8' 10" a  | 8' 1" a   | 7' 2" a   | 9' 7" e                       | 8' 8" e   | 8' 1" e   | 7' 3" e  | 10' 3" a                          | 8' 10" a  | 8' 1" a   | 7' 2" a   |
| 600S200-54 | 33  | 11' 4" e                      | 10' 3" e  | 9' 7" e   | 8' 7" e   | 12' 1" i                          | 10' 6" a  | 9' 7" a   | 8' 7" a   | 10' 3" e                      | 9' 4" e   | 8' 10" e  | 8' 2" e  | 11' 7" i                          | 10' 6" a  | 9' 7" a   | 8' 7" a   |
| 600S200-54 | 50  | 11' 4" e                      | 10' 3" e  | 9' 8" e   | 9' 0" e   | 12' 9" i                          | 11' 7" i  | 10' 9" i  | 9' 7" a   | 10' 3" e                      | 9' 4" e   | 8' 10" e  | 8' 2" e  | 11' 7" i                          | 10' 6" i  | 9' 10" i  | 9' 2" i   |
| 600S200-68 | 33  | 12' 2" e                      | 11' 0" e  | 10' 5" e  | 9' 7" e   | 13' 7" i                          | 11' 9" i  | 10' 9" i  | 9' 7" a   | 11' 0" e                      | 10' 0" e  | 9' 5" e   | 8' 9" e  | 12' 5" i                          | 11' 3" i  | 10' 7" i  | 9' 7" a   |
| 600S200-68 | 50  | 12' 2" e                      | 11' 0" e  | 10' 5" e  | 9' 8" e   | 13' 8" i                          | 12' 5" i  | 11' 8" i  | 10' 10" i | 11' 0" e                      | 10' 0" e  | 9' 5" e   | 8' 9" e  | 12' 5" i                          | 11' 3" i  | 10' 7" i  | 9' 10" i  |
| 600S200-97 | 33  | 13' 6" e                      | 12' 3" e  | 11' 7" e  | 10' 9" e  | 15' 2" i                          | 13' 10" i | 12' 10" i | 11' 6" i  | 12' 3" e                      | 11' 2" e  | 10' 6" e  | 9' 9" e  | 13' 10" e                         | 12' 6" i  | 11' 10" i | 10' 11" i |
| 600S200-97 | 50  | 13' 6" e                      | 12' 3" e  | 11' 7" e  | 10' 9" e  | 15' 2" i                          | 13' 10" i | 13' 0" e  | 12' 1" i  | 12' 3" e                      | 11' 2" e  | 10' 6" e  | 9' 9" e  | 13' 10" e                         | 12' 6" i  | 11' 10" i | 10' 11" i |
| 600S250-43 | 33  | 10' 6" e                      | 9' 4" e   | 8' 4" e   | 7' 5" e   | 10' 6" a                          | 9' 1" a   | 8' 4" a   | 7' 4" a   | 10' 0" e                      | 9' 1" e   | 8' 4" e   | 7' 5" e  | 10' 6" a                          | 9' 1" a   | 8' 4" a   | 7' 4" a   |
| 600S250-54 | 33  | 11' 9" e                      | 10' 2" e  | 9' 4" e   | 8' 4" e   | 11' 9" i                          | 10' 2" a  | 9' 4" a   | 8' 4" a   | 10' 9" e                      | 9' 10" e  | 9' 3" e   | 8' 4" e  | 11' 9" i                          | 10' 2" a  | 9' 4" a   | 8' 4" a   |
| 600S250-54 | 50  | 11' 10" e                     | 10' 9" e  | 10' 1" e  | 9' 4" e   | 13' 3" i                          | 12' 1" i  | 11' 0" i  | 9' 10" a  | 10' 9" e                      | 9' 9" e   | 9' 2" e   | 8' 6" e  | 12' 1" i                          | 10' 11" i | 10' 4" i  | 9' 7" i   |
| 600S250-68 | 33  | 12' 9" e                      | 11' 7" e  | 10' 11" e | 10' 0" e  | 14' 2" i                          | 12' 3" i  | 11' 2" i  | 10' 0" a  | 11' 7" e                      | 10' 6" e  | 9' 11" e  | 9' 2" e  | 13' 0" i                          | 11' 10" i | 11' 1" i  | 10' 0" a  |
| 600S250-68 | 50  | 12' 9" e                      | 11' 7" e  | 10' 11" e | 10' 1" e  | 14' 4" i                          | 13' 0" i  | 12' 3" i  | 11' 3" i  | 11' 7" e                      | 10' 6" e  | 9' 11" e  | 9' 2" e  | 13' 0" i                          | 11' 10" i | 11' 1" i  | 10' 4" i  |
| 600S250-97 | 33  | 14' 2" e                      | 12' 11" e | 12' 2" e  | 11' 3" e  | 15' 11" i                         | 14' 6" i  | 13' 7" i  | 12' 2" i  | 12' 11" e                     | 11' 9" e  | 11' 0" e  | 10' 3" e | 14' 6" e                          | 13' 2" i  | 12' 5" i  | 11' 6" i  |
| 600S250-97 | 50  | 14' 2" e                      | 12' 11" e | 12' 2" e  | 11' 3" e  | 15' 11" i                         | 14' 6" i  | 13' 7" i  | 12' 8" i  | 12' 11" e                     | 11' 9" e  | 11' 0" e  | 10' 3" e | 14' 6" e                          | 13' 2" i  | 12' 5" i  | 11' 6" i  |
| 800S162-33 | 33  | 8' 7" e                       | 6' 5" e   | 5' 4" e   | 4' 4" e   | 6' 8" a                           | 5' 2" a   | 4' 4" a   | 3' 5" a   | 8' 7" e                       | 6' 5" e   | 5' 4" e   | 4' 4" e  | 6' 8" a                           | 5' 2" a   | 4' 4" a   | 3' 5" a   |
| 800S162-43 | 33  | 11' 1" e                      | 9' 7" e   | 8' 9" e   | 7' 10" e  | 10' 11" a                         | 8' 11" a  | 7' 9" a   | 6' 7" a   | 11' 1" e                      | 9' 7" e   | 8' 9" e   | 7' 10" e | 10' 11" a                         | 8' 11" a  | 7' 9" a   | 6' 7" a   |
| 800S162-54 | 33  | 12' 8" e                      | 10' 11" e | 10' 0" e  | 8' 11" e  | 12' 8" a                          | 10' 11" a | 10' 0" a  | 8' 11" a  | 12' 4" e                      | 10' 11" e | 10' 0" e  | 8' 11" e | 12' 8" a                          | 10' 11" a | 10' 0" a  | 8' 11" a  |
| 800S162-54 | 50  | 13' 6" e                      | 12' 3" e  | 11' 6" e  | 10' 7" e  | 14' 11" i                         | 12' 11" i | 11' 10" a | 10' 7" a  | 12' 3" e                      | 11' 2" e  | 10' 6" e  | 9' 9" e  | 13' 9" i                          | 12' 6" i  | 11' 9" a  | 10' 7" a  |
| 800S162-68 | 33  | 14' 5" e                      | 12' 6" e  | 11' 5" e  | 10' 2" e  | 14' 5" i                          | 12' 6" i  | 11' 5" i  | 10' 2" a  | 13' 3" e                      | 12' 0" e  | 11' 4" e  | 10' 2" e | 14' 5" i                          | 12' 6" i  | 11' 5" i  | 10' 2" a  |
| 800S162-68 | 50  | 14' 7" e                      | 13' 3" e  | 12' 5" e  | 11' 7" e  | 16' 4" i                          | 14' 10" i | 13' 9" i  | 12' 3" i  | 13' 3" e                      | 12' 0" e  | 11' 4" e  | 10' 6" e | 14' 10" i                         | 13' 6" i  | 12' 8" i  | 11' 9" i  |
| 800S162-97 | 33  | 16' 3" e                      | 14' 9" e  | 13' 11" e | 12' 11" e | 18' 3" i                          | 16' 4" i  | 14' 11" i | 13' 4" i  | 14' 9" e                      | 13' 5" e  | 12' 7" e  | 11' 8" e | 16' 7" i                          | 15' 1" i  | 14' 2" i  | 13' 2" i  |
| 800S162-97 | 50  | 16' 3" e                      | 14' 9" e  | 13' 11" e | 12' 11" e | 18' 3" i                          | 16' 7" i  | 15' 7" i  | 14' 6" i  | 14' 9" e                      | 13' 5" e  | 12' 7" e  | 11' 8" e | 16' 7" i                          | 15' 1" i  | 14' 2" i  | 13' 2" i  |
| 800S200-33 | 33  | 8' 7" e                       | 6' 5" e   | 5' 4" e   | 4' 4" e   | 6' 10" a                          | 5' 2" a   | 4' 4" a   | 3' 5" a   | 8' 7" e                       | 6' 5" e   | 5' 4" e   | 4' 4" e  | 6' 10" a                          | 5' 2" a   | 4' 4" a   | 3' 5" a   |
| 800S200-43 | 33  | 12' 5" e                      | 10' 9" e  | 9' 10" e  | 8' 10" e  | 11' 8" a                          | 9' 6" a   | 8' 3" a   | 7' 0" a   | 12' 0" e                      | 10' 9" e  | 9' 10" e  | 8' 10" e | 11' 8" a                          | 9' 6" a   | 8' 3" a   | 7' 0" a   |
| 800S200-54 | 33  | 14' 3" e                      | 12' 9" e  | 11' 8" e  | 10' 5" e  | 14' 9" a                          | 12' 9" a  | 11' 8" a  | 10' 5" a  | 12' 11" e                     | 11' 9" e  | 11' 1" e  | 10' 3" e | 14' 6" a                          | 12' 9" a  | 11' 8" a  | 10' 5" a  |
| 800S200-54 | 50  | 14' 3" e                      | 12' 11" e | 12' 2" e  | 11' 3" e  | 16' 0" i                          | 14' 3" a  | 13' 1" a  | 11' 3" a  | 12' 11" e                     | 11' 9" e  | 11' 1" e  | 10' 3" e | 14' 6" a                          | 13' 2" i  | 12' 5" a  | 11' 3" a  |
| 800S200-68 | 33  | 15' 3" e                      | 13' 10" e | 13' 1" e  | 11' 9" e  | 16' 7" i                          | 14' 4" a  | 13' 1" a  | 11' 9" a  | 13' 10" e                     | 12' 7" e  | 11' 10" e | 11' 0" e | 15' 7" i                          | 14' 2" a  | 13' 1" a  | 11' 9" a  |
| 800S200-68 | 50  | 15' 3" e                      | 13' 10" e | 13' 1" e  | 12' 1" e  | 17' 2" i                          | 15' 7" i  | 14' 8" i  | 13' 7" i  | 13' 10" e                     | 12' 7" e  | 11' 10" e | 11' 0" e | 15' 7" i                          | 14' 2" i  | 13' 4" i  | 12' 4" i  |
| 800S200-97 | 33  | 17' 0" e                      | 15' 6" e  | 14' 7" e  | 13' 6" e  | 19' 1" i                          | 17' 3" i  | 15' 9" i  | 14' 1" i  | 15' 6" e                      | 14' 1" e  | 13' 3" e  | 12' 3" e | 17' 4" i                          | 15' 9" i  | 14' 10" i | 13' 9" i  |
| 800S200-97 | 50  | 17' 0" e                      | 15' 6" e  | 14' 7" e  | 13' 6" e  | 19' 1" i                          | 17' 4" i  | 16' 4" i  | 15' 2" i  | 15' 6" e                      | 14' 1" e  | 13' 3" e  | 12' 3" e | 17' 4" i                          | 15' 9" i  | 14' 10" i | 13' 9" i  |

### Notes:

- Web punchouts are not considered for shear and web crippling.
- Spans are based on continuous lateral support of the compression flange.
- For two equal spans, tabulated span is the center-to-center distance from either end bearing to the center bearing. The joist must be continuous over the center bearing.
- Web crippling bearing length is assumed to be 3-1/2". Joist flanges must be fastened to the support.
- Deflection checks are computed using unbalanced loads for the two equal span condition.
- "e" indicates that web stiffeners are required at the end supports only.
- "i" indicates that web stiffeners are required at the interior support only.
- "a" indicates that web stiffeners are required at all supports.

Complies with IBC 2006 & AISI-NASPEC, 2001 with 2004 supplement

The technical content of this literature is effective 2/1/12 and supersedes all previous information.

## FLOOR JOIST SPAN LIMITATIONS

## 10psf Dead Load and 100psf Live Load (TL Defl.=L/240)

| Member      | ksi | Live Load Deflection L/360       |           |           |           |                                      |           |           |           | Live Load Deflection L/480       |           |           |           |                                      |           |           |           |
|-------------|-----|----------------------------------|-----------|-----------|-----------|--------------------------------------|-----------|-----------|-----------|----------------------------------|-----------|-----------|-----------|--------------------------------------|-----------|-----------|-----------|
|             |     | Single span<br>spacing (in) o.c. |           |           |           | Two equal spans<br>spacing (in) o.c. |           |           |           | Single span<br>spacing (in) o.c. |           |           |           | Two equal spans<br>spacing (in) o.c. |           |           |           |
|             |     | 12                               | 16        | 19.2      | 24        | 12                                   | 16        | 19.2      | 24        | 12                               | 16        | 19.2      | 24        | 12                                   | 16        | 19.2      | 24        |
| 800S250-43  | 33  | 12' 6" e                         | 10' 10" e | 9' 11" e  | 8' 10" e  | 11' 9" a                             | 9' 6" a   | 8' 4" a   | 7' 0" a   | 12' 6" e                         | 10' 10" e | 9' 11" e  | 8' 10" e  | 11' 9" a                             | 9' 6" a   | 8' 4" a   | 7' 0" a   |
| 800S250-54  | 33  | 14' 4" e                         | 12' 5" e  | 11' 4" e  | 10' 2" e  | 14' 4" a                             | 12' 5" a  | 11' 4" a  | 10' 2" a  | 13' 6" e                         | 12' 3" e  | 11' 4" e  | 10' 2" e  | 14' 4" a                             | 12' 5" a  | 11' 4" a  | 10' 2" a  |
| 800S250-54  | 50  | 14' 9" e                         | 13' 5" e  | 12' 8" e  | 11' 9" e  | 16' 7" i                             | 14' 5" a  | 13' 2" a  | 11' 4" a  | 13' 5" e                         | 12' 2" e  | 11' 6" e  | 10' 8" e  | 15' 1" i                             | 13' 8" i  | 12' 11" a | 11' 4" a  |
| 800S250-68  | 33  | 15' 11" e                        | 14' 6" e  | 13' 7" e  | 12' 2" e  | 17' 2" i                             | 14' 11" a | 13' 7" a  | 12' 2" a  | 14' 6" e                         | 13' 2" e  | 12' 5" e  | 11' 6" e  | 16' 3" i                             | 14' 9" a  | 13' 7" a  | 12' 2" a  |
| 800S250-68  | 50  | 15' 11" e                        | 14' 6" e  | 13' 7" e  | 12' 8" e  | 17' 11" i                            | 16' 3" i  | 15' 3" i  | 13' 8" i  | 14' 6" e                         | 13' 2" e  | 12' 4" e  | 11' 6" e  | 16' 3" i                             | 14' 9" i  | 13' 11" i | 12' 11" i |
| 800S250-97  | 33  | 17' 9" e                         | 16' 2" e  | 15' 2" e  | 14' 1" e  | 20' 0" i                             | 18' 2" i  | 16' 7" i  | 14' 10" i | 16' 2" e                         | 14' 8" e  | 13' 10" e | 12' 10" e | 18' 2" i                             | 16' 6" i  | 15' 6" i  | 14' 5" i  |
| 800S250-97  | 50  | 17' 9" e                         | 16' 2" e  | 15' 2" e  | 14' 1" e  | 20' 0" i                             | 18' 2" e  | 17' 1" i  | 15' 10" i | 16' 2" e                         | 14' 8" e  | 13' 10" e | 12' 10" e | 18' 2" i                             | 16' 6" i  | 15' 6" i  | 14' 5" i  |
| 1000S162-43 | 33  | 12' 6" e                         | 10' 10" e | 9' 6" e   | 7' 7" e   | 10' 6" a                             | 8' 5" a   | 7' 4" a   | 6' 1" a   | 12' 6" e                         | 10' 10" e | 9' 6" e   | 7' 7" e   | 10' 6" a                             | 8' 5" a   | 7' 4" a   | 6' 1" a   |
| 1000S162-54 | 33  | 14' 4" e                         | 12' 5" e  | 11' 4" e  | 10' 2" e  | 14' 4" a                             | 12' 5" a  | 11' 0" a  | 9' 5" a   | 14' 4" e                         | 12' 5" e  | 11' 4" e  | 10' 2" e  | 14' 4" a                             | 12' 5" a  | 11' 0" a  | 9' 5" a   |
| 1000S162-54 | 50  | 16' 0" e                         | 14' 7" e  | 13' 4" e  | 11' 11" e | 16' 11" i                            | 13' 10" a | 12' 2" a  | 10' 3" a  | 14' 7" e                         | 13' 3" e  | 12' 5" e  | 11' 7" e  | 16' 4" i                             | 13' 10" a | 12' 2" a  | 10' 3" a  |
| 1000S162-68 | 33  | 16' 6" e                         | 14' 4" e  | 13' 1" e  | 11' 8" e  | 16' 6" i                             | 14' 4" a  | 13' 1" a  | 11' 8" a  | 15' 11" e                        | 14' 4" e  | 13' 1" e  | 11' 8" e  | 16' 6" i                             | 14' 4" a  | 13' 1" a  | 11' 8" a  |
| 1000S162-68 | 50  | 17' 4" e                         | 15' 9" e  | 14' 10" e | 13' 9" e  | 19' 6" i                             | 17' 1" i  | 15' 8" i  | 14' 0" a  | 15' 9" e                         | 14' 4" e  | 13' 6" e  | 12' 6" e  | 17' 9" i                             | 16' 1" i  | 15' 2" i  | 14' 0" a  |
| 1000S162-97 | 33  | 19' 7" e                         | 17' 9" e  | 16' 9" e  | 15' 6" e  | 21' 11" i                            | 19' 3" i  | 17' 7" i  | 15' 9" i  | 17' 9" e                         | 16' 2" e  | 15' 2" e  | 14' 1" e  | 19' 11" i                            | 18' 1" i  | 17' 1" i  | 15' 9" i  |
| 1000S162-97 | 50  | 19' 7" e                         | 17' 9" e  | 16' 9" e  | 15' 6" e  | 21' 11" i                            | 19' 11" i | 18' 9" i  | 17' 3" i  | 17' 9" e                         | 16' 2" e  | 15' 2" e  | 14' 1" e  | 19' 11" e                            | 18' 1" i  | 17' 1" i  | 15' 10" i |
| 1000S200-43 | 33  | 13' 3" e                         | 11' 4" e  | 9' 6" e   | 7' 7" e   | 10' 10" a                            | 8' 8" a   | 7' 6" a   | 6' 1" a   | 13' 3" e                         | 11' 4" e  | 9' 6" e   | 7' 7" e   | 10' 10" a                            | 8' 8" a   | 7' 6" a   | 6' 1" a   |
| 1000S200-54 | 33  | 15' 5" e                         | 13' 4" e  | 12' 2" e  | 10' 11" e | 15' 5" a                             | 13' 1" a  | 11' 6" a  | 9' 10" a  | 15' 4" e                         | 13' 4" e  | 12' 2" e  | 10' 11" e | 15' 5" a                             | 13' 1" a  | 11' 6" a  | 9' 10" a  |
| 1000S200-54 | 50  | 16' 9" e                         | 15' 3" e  | 13' 11" e | 12' 5" e  | 17' 4" i                             | 14' 2" a  | 12' 5" a  | 10' 6" a  | 15' 3" e                         | 13' 10" e | 13' 0" e  | 12' 1" e  | 17' 1" i                             | 14' 2" a  | 12' 5" a  | 10' 6" a  |
| 1000S200-68 | 33  | 17' 8" e                         | 15' 4" e  | 14' 0" e  | 12' 6" e  | 17' 8" i                             | 15' 4" a  | 14' 0" a  | 12' 6" a  | 16' 7" e                         | 15' 1" e  | 14' 0" e  | 12' 6" e  | 17' 8" i                             | 15' 4" a  | 14' 0" a  | 12' 6" a  |
| 1000S200-68 | 50  | 18' 2" e                         | 16' 6" e  | 15' 6" e  | 14' 5" e  | 20' 4" i                             | 18' 2" i  | 16' 7" i  | 14' 10" a | 16' 6" e                         | 15' 0" e  | 14' 1" e  | 13' 1" e  | 18' 6" i                             | 16' 10" i | 15' 10" i | 14' 8" a  |
| 1000S200-97 | 33  | 20' 5" e                         | 18' 7" e  | 17' 5" e  | 16' 2" e  | 22' 11" i                            | 20' 3" i  | 18' 6" i  | 16' 6" i  | 18' 7" e                         | 16' 10" e | 15' 10" e | 14' 9" e  | 20' 10" i                            | 18' 11" i | 17' 10" i | 16' 6" i  |
| 1000S200-97 | 50  | 20' 5" e                         | 18' 7" e  | 17' 5" e  | 16' 2" e  | 22' 11" i                            | 20' 10" i | 19' 7" i  | 18' 2" i  | 18' 7" e                         | 16' 10" e | 15' 10" e | 14' 9" e  | 20' 10" e                            | 18' 11" i | 17' 10" i | 16' 6" i  |
| 1000S250-43 | 33  | 13' 11" e                        | 11' 4" e  | 9' 6" e   | 7' 7" e   | 11' 1" a                             | 8' 10" a  | 7' 7" a   | 6' 1" a   | 13' 11" e                        | 11' 4" e  | 9' 6" e   | 7' 7" e   | 11' 1" a                             | 8' 10" a  | 7' 7" a   | 6' 1" a   |
| 1000S250-54 | 33  | 16' 6" e                         | 14' 4" e  | 13' 1" e  | 11' 8" e  | 16' 6" a                             | 13' 8" a  | 12' 0" a  | 10' 2" a  | 16' 1" e                         | 14' 4" e  | 13' 1" e  | 11' 8" e  | 16' 6" a                             | 13' 8" a  | 12' 0" a  | 10' 2" a  |
| 1000S250-54 | 50  | 17' 8" e                         | 16' 0" e  | 14' 7" e  | 13' 1" e  | 17' 10" a                            | 14' 6" a  | 12' 9" a  | 10' 9" a  | 16' 1" e                         | 14' 7" e  | 13' 9" e  | 12' 9" e  | 17' 10" a                            | 14' 6" a  | 12' 9" a  | 10' 9" a  |
| 1000S250-68 | 33  | 19' 0" e                         | 17' 3" e  | 15' 10" e | 14' 2" e  | 20' 1" a                             | 17' 5" a  | 15' 10" a | 14' 2" a  | 17' 3" e                         | 15' 8" e  | 14' 9" e  | 13' 9" e  | 19' 5" a                             | 17' 5" a  | 15' 10" a | 14' 2" a  |
| 1000S250-68 | 50  | 19' 0" e                         | 17' 3" e  | 16' 3" e  | 15' 1" e  | 21' 4" i                             | 19' 5" i  | 17' 9" a  | 15' 10" a | 17' 3" e                         | 15' 8" e  | 14' 9" e  | 13' 9" e  | 19' 5" i                             | 17' 7" i  | 16' 7" i  | 15' 5" a  |
| 1000S250-97 | 33  | 21' 3" e                         | 19' 4" e  | 18' 2" e  | 16' 10" e | 23' 10" i                            | 21' 2" i  | 19' 4" i  | 17' 4" a  | 19' 4" e                         | 17' 6" e  | 16' 6" e  | 15' 4" e  | 21' 8" i                             | 19' 8" i  | 18' 6" i  | 17' 2" a  |
| 1000S250-97 | 50  | 21' 3" e                         | 19' 4" e  | 18' 2" e  | 16' 10" e | 23' 10" i                            | 21' 8" i  | 20' 5" i  | 18' 11" i | 19' 4" e                         | 17' 6" e  | 16' 6" e  | 15' 4" e  | 21' 8" e                             | 19' 8" e  | 18' 6" i  | 17' 2" i  |
| 1200S162-54 | 33  | 15' 11" e                        | 13' 9" e  | 12' 7" e  | 11' 3" e  | 15' 2" a                             | 12' 4" a  | 10' 9" a  | 9' 1" a   | 15' 11" e                        | 13' 9" e  | 12' 7" e  | 11' 3" e  | 15' 2" a                             | 12' 4" a  | 10' 9" a  | 9' 1" a   |
| 1200S162-54 | 50  | 18' 5" e                         | 16' 2" e  | 14' 9" e  | 12' 6" e  | 16' 7" a                             | 13' 4" a  | 11' 7" a  | 9' 9" a   | 16' 9" e                         | 15' 2" e  | 14' 4" e  | 12' 6" e  | 16' 7" a                             | 13' 4" a  | 11' 7" a  | 9' 9" a   |
| 1200S162-68 | 33  | 18' 4" e                         | 15' 11" e | 14' 6" e  | 13' 0" e  | 18' 4" a                             | 15' 11" a | 14' 6" a  | 13' 0" a  | 18' 4" e                         | 15' 11" e | 14' 6" e  | 13' 0" e  | 18' 4" a                             | 15' 11" a | 14' 6" a  | 13' 0" a  |
| 1200S162-68 | 50  | 20' 0" e                         | 18' 2" e  | 17' 1" e  | 15' 6" e  | 21' 11" i                            | 19' 0" i  | 17' 4" a  | 14' 11" a | 18' 2" e                         | 16' 6" e  | 15' 7" e  | 14' 5" e  | 20' 5" i                             | 18' 7" i  | 17' 4" a  | 14' 11" a |
| 1200S162-97 | 33  | 22' 10" e                        | 19' 9" e  | 18' 0" e  | 16' 2" e  | 22' 10" i                            | 19' 9" i  | 18' 0" i  | 16' 2" i  | 20' 9" e                         | 18' 10" e | 17' 9" e  | 16' 2" e  | 22' 10" i                            | 19' 9" i  | 18' 0" i  | 16' 2" i  |
| 1200S162-97 | 50  | 22' 9" e                         | 20' 8" e  | 19' 5" e  | 18' 1" e  | 25' 6" i                             | 23' 2" i  | 21' 7" i  | 19' 4" i  | 20' 8" e                         | 18' 9" e  | 17' 8" e  | 16' 5" e  | 23' 2" i                             | 21' 1" i  | 19' 10" i | 18' 5" i  |

## Notes:

- Web punchouts are not considered for shear and web crippling.
- Spans are based on continuous lateral support of the compression flange.
- For two equal spans, tabulated span is the center-to-center distance from either end bearing to the center bearing. The joist must be continuous over the center bearing.
- Web crippling bearing length is assumed to be 3-1/2". Joist flanges must be fastened to the support.
- Deflection checks are computed using unbalanced loads for the two equal span condition.
- "e" indicates that web stiffeners are required at the end supports only.
- "i" indicates that web stiffeners are required at the interior support only.
- "a" indicates that web stiffeners are required at all supports.

Complies with IBC 2006 &amp; AISI-NASPEC, 2001 with 2004 supplement

# FLOOR JOIST SPAN LIMITATIONS

10psf Dead Load and 100psf Live Load (TL Defl.=L/240)

| Member      | ksi | Live Load Deflection L/360       |           |           |                                      |           |           | Live Load Deflection L/480       |           |           |                                      |           |           |
|-------------|-----|----------------------------------|-----------|-----------|--------------------------------------|-----------|-----------|----------------------------------|-----------|-----------|--------------------------------------|-----------|-----------|
|             |     | Single span<br>spacing (in) o.c. |           |           | Two equal spans<br>spacing (in) o.c. |           |           | Single span<br>spacing (in) o.c. |           |           | Two equal spans<br>spacing (in) o.c. |           |           |
|             |     | 12                               | 16        | 19.2      | 24                                   | 12        | 16        | 19.2                             | 24        | 12        | 16                                   | 19.2      | 24        |
| 1200S200-54 | 33  | 17' 1" e                         | 14' 9" e  | 13' 6" e  | 12' 1" e                             | 15' 9" a  | 12' 9" a  | 11' 1" a                         | 9' 4" a   | 17' 1" e  | 14' 9" e                             | 13' 6" e  | 12' 1" e  |
| 1200S200-54 | 50  | 19' 3" e                         | 16' 10" e | 15' 4" e  | 12' 6" e                             | 16' 11" a | 13' 7" a  | 11' 9" a                         | 9' 10" a  | 17' 6" e  | 15' 11" e                            | 15' 0" e  | 12' 6" e  |
| 1200S200-68 | 33  | 19' 7" e                         | 17' 0" e  | 15' 6" e  | 13' 10" e                            | 19' 7" a  | 17' 0" a  | 15' 6" a                         | 13' 10" a | 19' 2" e  | 17' 0" e                             | 15' 6" e  | 13' 10" e |
| 1200S200-68 | 50  | 20' 11" e                        | 19' 0" e  | 17' 10" e | 16' 5" e                             | 23' 2" i  | 20' 1" a  | 18' 0" a                         | 15' 5" a  | 19' 0" e  | 17' 3" e                             | 16' 3" e  | 15' 1" e  |
| 1200S200-97 | 33  | 23' 9" e                         | 21' 0" e  | 19' 2" e  | 17' 2" e                             | 24' 3" i  | 21' 0" i  | 19' 2" i                         | 17' 2" a  | 21' 7" e  | 19' 7" e                             | 18' 5" e  | 17' 1" e  |
| 1200S200-97 | 50  | 23' 8" e                         | 21' 6" e  | 20' 3" e  | 18' 9" e                             | 26' 7" i  | 24' 2" i  | 22' 9" i                         | 20' 7" i  | 21' 6" e  | 19' 6" e                             | 18' 5" e  | 17' 1" e  |
| 1200S250-54 | 33  | 17' 3" e                         | 14' 11" e | 13' 8" e  | 12' 2" e                             | 15' 10" a | 12' 10" a | 11' 2" a                         | 9' 5" a   | 17' 3" e  | 14' 11" e                            | 13' 8" e  | 12' 2" e  |
| 1200S250-54 | 50  | 19' 9" e                         | 17' 1" e  | 15' 7" e  | 12' 6" e                             | 17' 1" a  | 13' 9" a  | 11' 11" a                        | 9' 11" a  | 18' 3" e  | 16' 7" e                             | 15' 7" e  | 12' 6" e  |
| 1200S250-68 | 33  | 20' 5" e                         | 17' 9" e  | 16' 2" e  | 14' 6" e                             | 20' 5" a  | 17' 9" a  | 16' 2" a                         | 14' 4" a  | 19' 10" e | 17' 9" e                             | 16' 2" e  | 14' 6" e  |
| 1200S250-68 | 50  | 21' 9" e                         | 19' 9" e  | 18' 6" e  | 16' 6" e                             | 23' 4" i  | 20' 3" a  | 18' 2" a                         | 15' 6" a  | 19' 9" e  | 18' 0" e                             | 16' 11" e | 15' 8" e  |
| 1200S250-97 | 33  | 24' 8" e                         | 22' 3" e  | 20' 4" e  | 18' 2" e                             | 25' 8" i  | 22' 3" i  | 20' 4" i                         | 18' 2" a  | 22' 5" e  | 20' 4" e                             | 19' 2" e  | 17' 9" e  |
| 1200S250-97 | 50  | 24' 7" e                         | 22' 4" e  | 21' 0" e  | 19' 6" e                             | 27' 7" i  | 25' 1" i  | 23' 7" i                         | 21' 5" i  | 22' 4" e  | 20' 3" e                             | 19' 1" e  | 17' 9" e  |
| 1400S162-54 | 33  | 17' 4" e                         | 15' 0" e  | 13' 5" e  | 10' 9" e                             | 14' 9" a  | 11' 10" a | 10' 3" a                         | 8' 7" a   | 17' 4" e  | 15' 0" e                             | 13' 5" e  | 10' 9" e  |
| 1400S162-54 | 50  | 20' 3" e                         | 16' 1" e  | 13' 5" e  | 10' 9" e                             | 15' 11" a | 12' 8" a  | 10' 9" a                         | 8' 7" a   | 18' 10" e | 16' 1" e                             | 13' 5" e  | 10' 9" e  |
| 1400S162-68 | 33  | 20' 1" e                         | 17' 4" e  | 15' 10" e | 14' 2" e                             | 20' 1" a  | 17' 4" a  | 15' 6" a                         | 13' 3" a  | 20' 1" e  | 17' 4" e                             | 15' 10" e | 14' 2" e  |
| 1400S162-68 | 50  | 22' 7" e                         | 20' 6" e  | 18' 10" e | 16' 10" e                            | 23' 10" i | 19' 7" a  | 17' 2" a                         | 14' 7" a  | 20' 6" e  | 18' 8" e                             | 17' 7" e  | 16' 3" e  |
| 1400S162-97 | 33  | 25' 1" e                         | 21' 9" e  | 19' 10" e | 17' 9" e                             | 25' 1" i  | 21' 9" i  | 19' 10" i                        | 17' 9" a  | 23' 7" e  | 21' 5" e                             | 19' 10" e | 17' 9" e  |
| 1400S162-97 | 50  | 25' 9" e                         | 23' 5" e  | 22' 0" e  | 20' 5" e                             | 28' 11" i | 25' 11" i | 23' 8" i                         | 21' 2" i  | 23' 5" e  | 21' 3" e                             | 20' 0" e  | 18' 7" e  |
| 1400S200-54 | 33  | 18' 6" e                         | 16' 1" e  | 13' 5" e  | 10' 9" e                             | 15' 3" a  | 12' 3" a  | 10' 7" a                         | 8' 7" a   | 18' 6" e  | 16' 1" e                             | 13' 5" e  | 10' 9" e  |
| 1400S200-54 | 50  | 21' 1" e                         | 16' 1" e  | 13' 5" e  | 10' 9" e                             | 16' 2" a  | 12' 10" a | 10' 9" a                         | 8' 7" a   | 19' 8" e  | 16' 1" e                             | 13' 5" e  | 10' 9" e  |
| 1400S200-68 | 33  | 21' 5" e                         | 18' 6" e  | 16' 11" e | 15' 2" e                             | 21' 5" a  | 18' 4" a  | 16' 1" a                         | 13' 9" a  | 21' 5" e  | 18' 6" e                             | 16' 11" e | 15' 2" e  |
| 1400S200-68 | 50  | 23' 6" e                         | 21' 4" e  | 19' 11" e | 17' 10" e                            | 24' 9" i  | 20' 2" a  | 17' 8" a                         | 15' 0" a  | 21' 4" e  | 19' 5" e                             | 18' 3" e  | 17' 0" e  |
| 1400S200-97 | 33  | 26' 8" e                         | 23' 1" e  | 21' 1" e  | 18' 10" e                            | 26' 8" i  | 23' 1" i  | 21' 1" a                         | 18' 10" a | 24' 6" e  | 22' 3" e                             | 20' 11" e | 18' 10" e |
| 1400S200-97 | 50  | 26' 9" e                         | 24' 4" e  | 22' 10" e | 21' 3" e                             | 30' 0" i  | 27' 3" i  | 25' 2" i                         | 22' 6" i  | 24' 4" e  | 22' 1" e                             | 20' 9" e  | 19' 3" e  |
| 1400S250-54 | 33  | 18' 9" e                         | 16' 1" e  | 13' 5" e  | 10' 9" e                             | 15' 4" a  | 12' 3" a  | 10' 7" a                         | 8' 7" a   | 18' 9" e  | 16' 1" e                             | 13' 5" e  | 10' 9" e  |
| 1400S250-54 | 50  | 21' 5" e                         | 16' 1" e  | 13' 5" e  | 10' 9" e                             | 16' 4" a  | 12' 10" a | 10' 9" a                         | 8' 7" a   | 20' 6" e  | 16' 1" e                             | 13' 5" e  | 10' 9" e  |
| 1400S250-68 | 33  | 22' 3" e                         | 19' 3" e  | 17' 7" e  | 15' 9" e                             | 22' 3" a  | 18' 9" a  | 16' 6" a                         | 14' 0" a  | 22' 3" e  | 19' 3" e                             | 17' 7" e  | 15' 9" e  |
| 1400S250-68 | 50  | 24' 6" e                         | 22' 0" e  | 20' 1" e  | 17' 11" e                            | 24' 10" i | 20' 3" a  | 17' 9" a                         | 15' 0" a  | 22' 3" e  | 20' 2" e                             | 19' 0" e  | 17' 8" e  |
| 1400S250-97 | 33  | 27' 11" e                        | 24' 5" e  | 22' 3" e  | 19' 11" e                            | 28' 2" i  | 24' 5" i  | 22' 3" a                         | 19' 11" a | 25' 4" e  | 23' 1" e                             | 21' 8" e  | 19' 11" e |
| 1400S250-97 | 50  | 27' 9" e                         | 25' 2" e  | 23' 9" e  | 22' 0" e                             | 31' 2" i  | 28' 4" i  | 26' 1" i                         | 23' 4" i  | 25' 2" e  | 22' 11" e                            | 21' 7" e  | 20' 0" e  |

## Notes:

- Web punchouts are not considered for shear and web crippling.
- Spans are based on continuous lateral support of the compression flange.
- For two equal spans, tabulated span is the center-to-center distance from either end bearing to the center bearing. The joist must be continuous over the center bearing.
- Web crippling bearing length is assumed to be 3-1/2". Joist flanges must be fastened to the support.
- Deflection checks are computed using unbalanced loads for the two equal span condition.
- "e" indicates that web stiffeners are required at the end supports only.
- "i" indicates that web stiffeners are required at the interior support only.
- "a" indicates that web stiffeners are required at all supports.

Complies with IBC 2006 & AISI-NASPEC, 2001 with 2004 supplement

Pub. No. CD-STR-TechGuide 2/12

The technical content of this literature is effective 2/1/12 and supersedes all previous information.

clarkdietrich.com

## FLOOR JOIST SPAN LIMITATIONS

## 10psf Dead Load and 125psf Live Load (TL Defl.=L/240)

| Member     | ksi | Live Load Deflection L/360       |           |           |                                      |           |           |                                  |          |           | Live Load Deflection L/480       |          |           |                                      |           |           |                                      |           |           |
|------------|-----|----------------------------------|-----------|-----------|--------------------------------------|-----------|-----------|----------------------------------|----------|-----------|----------------------------------|----------|-----------|--------------------------------------|-----------|-----------|--------------------------------------|-----------|-----------|
|            |     | Single span<br>spacing (in) o.c. |           |           | Two equal spans<br>spacing (in) o.c. |           |           | Single span<br>spacing (in) o.c. |          |           | Single span<br>spacing (in) o.c. |          |           | Two equal spans<br>spacing (in) o.c. |           |           | Two equal spans<br>spacing (in) o.c. |           |           |
|            |     | 12                               | 16        | 19.2      | 24                                   | 12        | 16        | 19.2                             | 24       | 12        | 16                               | 19.2     | 24        | 12                                   | 16        | 19.2      | 24                                   | 12        | 16        |
| 600S162-33 | 33  | 7' 7" e                          | 6' 6" e   | 5' 10" e  | 4' 8" e                              | 6' 5" a   | 5' 2" a   | 4' 6" a                          | 3' 9" a  | 7' 7" e   | 6' 6" e                          | 5' 10" e | 4' 8" e   | 6' 5" a                              | 5' 2" a   | 4' 6" a   | 3' 9" a                              | 7' 7" e   | 6' 6" e   |
| 600S162-43 | 33  | 9' 1" e                          | 7' 11" e  | 7' 2" e   | 6' 5" e                              | 9' 1" a   | 7' 11" a  | 7' 2" a                          | 6' 2" a  | 8' 6" e   | 7' 8" e                          | 7' 2" e  | 6' 5" e   | 9' 1" a                              | 7' 11" a  | 7' 2" a   | 6' 2" a                              | 8' 6" e   | 7' 8" e   |
| 600S162-54 | 33  | 10' 0" e                         | 8' 10" e  | 8' 1" e   | 7' 3" e                              | 10' 3" i  | 8' 10" a  | 8' 1" a                          | 7' 3" a  | 9' 1" e   | 8' 3" e                          | 7' 9" e  | 7' 3" e   | 10' 2" i                             | 8' 10" a  | 8' 1" a   | 7' 3" a                              | 9' 1" e   | 8' 3" e   |
| 600S162-54 | 50  | 10' 0" e                         | 9' 1" e   | 8' 7" e   | 7' 11" e                             | 11' 3" i  | 10' 2" i  | 9' 7" i                          | 8' 9" a  | 9' 1" e   | 8' 3" e                          | 7' 9" e  | 7' 3" e   | 10' 2" i                             | 9' 3" i   | 8' 9" i   | 8' 1" a                              | 9' 1" e   | 8' 3" e   |
| 600S162-68 | 33  | 10' 9" e                         | 9' 9" e   | 9' 1" e   | 8' 2" e                              | 11' 6" i  | 9' 11" i  | 9' 1" i                          | 8' 2" a  | 9' 9" e   | 8' 10" e                         | 8' 4" e  | 7' 9" e   | 10' 11" i                            | 9' 11" i  | 9' 1" i   | 8' 2" a                              | 9' 9" e   | 8' 10" e  |
| 600S162-68 | 50  | 10' 9" e                         | 9' 9" e   | 9' 2" e   | 8' 6" e                              | 12' 0" i  | 10' 11" i | 10' 3" i                         | 9' 7" i  | 9' 9" e   | 8' 10" e                         | 8' 4" e  | 7' 9" e   | 10' 11" i                            | 9' 11" i  | 9' 4" i   | 8' 8" i                              | 9' 9" e   | 8' 10" e  |
| 600S162-97 | 33  | 11' 11" e                        | 10' 10" e | 10' 2" e  | 9' 6" e                              | 13' 5" i  | 11' 11" i | 10' 11" i                        | 9' 9" i  | 10' 10" e | 9' 10" e                         | 9' 3" e  | 8' 7" e   | 12' 2" i                             | 11' 1" i  | 10' 5" i  | 9' 8" i                              | 10' 10" e | 9' 10" e  |
| 600S162-97 | 50  | 11' 11" e                        | 10' 10" e | 10' 2" e  | 9' 6" e                              | 13' 5" i  | 12' 2" i  | 11' 5" i                         | 10' 7" i | 10' 10" e | 9' 10" e                         | 9' 3" e  | 8' 7" e   | 12' 2" i                             | 11' 1" i  | 10' 5" i  | 9' 8" i                              | 10' 10" e | 9' 10" e  |
| 600S200-33 | 33  | 7' 9" e                          | 6' 8" e   | 5' 10" e  | 4' 8" e                              | 6' 6" a   | 5' 3" a   | 4' 6" a                          | 3' 9" a  | 7' 9" e   | 6' 8" e                          | 5' 10" e | 4' 8" e   | 6' 6" a                              | 5' 3" a   | 4' 6" a   | 3' 9" a                              | 7' 9" e   | 6' 8" e   |
| 600S200-43 | 33  | 9' 3" e                          | 8' 0" e   | 7' 4" e   | 6' 6" e                              | 9' 3" a   | 8' 0" a   | 7' 4" a                          | 6' 3" a  | 8' 11" e  | 8' 0" e                          | 7' 4" e  | 6' 6" e   | 9' 3" a                              | 8' 0" a   | 7' 4" a   | 6' 3" a                              | 8' 11" e  | 8' 0" e   |
| 600S200-54 | 33  | 10' 6" e                         | 9' 5" e   | 8' 7" e   | 7' 9" e                              | 10' 11" a | 9' 5" a   | 8' 7" a                          | 7' 9" a  | 9' 7" e   | 8' 8" e                          | 8' 2" e  | 7' 7" e   | 10' 9" a                             | 9' 5" a   | 8' 7" a   | 7' 9" a                              | 9' 7" e   | 8' 8" e   |
| 600S200-54 | 50  | 10' 6" e                         | 9' 5" e   | 8' 7" e   | 7' 9" e                              | 10' 11" a | 9' 5" a   | 8' 7" a                          | 7' 9" a  | 9' 7" e   | 8' 8" e                          | 8' 2" e  | 7' 7" e   | 10' 9" a                             | 9' 5" a   | 8' 7" a   | 7' 9" a                              | 9' 7" e   | 8' 8" e   |
| 600S200-68 | 33  | 11' 3" e                         | 10' 3" e  | 9' 8" e   | 8' 8" e                              | 12' 3" i  | 10' 7" i  | 9' 8" a                          | 8' 8" a  | 10' 3" e  | 9' 4" e                          | 8' 9" e  | 8' 2" e   | 11' 6" i                             | 10' 5" i  | 9' 8" a   | 8' 8" a                              | 10' 3" e  | 9' 4" e   |
| 600S200-68 | 50  | 11' 3" e                         | 10' 3" e  | 9' 8" e   | 8' 11" e                             | 12' 8" i  | 11' 6" i  | 10' 10" i                        | 10' 1" i | 10' 3" e  | 9' 4" e                          | 8' 9" e  | 8' 2" e   | 11' 6" i                             | 10' 5" i  | 9' 8" a   | 8' 8" a                              | 10' 3" e  | 9' 4" e   |
| 600S200-97 | 33  | 12' 7" e                         | 11' 5" e  | 10' 9" e  | 10' 0" e                             | 14' 1" i  | 12' 9" i  | 11' 7" i                         | 10' 5" i | 11' 5" e  | 10' 4" e                         | 9' 9" e  | 9' 1" e   | 12' 10" i                            | 11' 8" i  | 10' 11" i | 10' 2" i                             | 11' 5" e  | 10' 4" e  |
| 600S200-97 | 50  | 12' 7" e                         | 11' 5" e  | 10' 9" e  | 10' 0" e                             | 14' 1" i  | 12' 10" i | 12' 1" i                         | 11' 2" i | 11' 5" e  | 10' 4" e                         | 9' 9" e  | 9' 1" e   | 12' 10" i                            | 11' 8" i  | 10' 11" i | 10' 2" i                             | 11' 5" e  | 10' 4" e  |
| 600S250-43 | 33  | 9' 6" e                          | 8' 2" e   | 7' 6" e   | 6' 8" e                              | 9' 6" a   | 8' 2" a   | 7' 5" a                          | 6' 4" a  | 9' 4" e   | 8' 2" e                          | 7' 6" e  | 6' 8" e   | 9' 6" a                              | 8' 2" a   | 7' 5" a   | 6' 4" a                              | 9' 4" e   | 8' 2" e   |
| 600S250-54 | 33  | 10' 8" e                         | 9' 3" e   | 8' 5" e   | 7' 6" e                              | 10' 8" a  | 9' 3" a   | 8' 5" a                          | 7' 6" a  | 10' 0" e  | 9' 1" e                          | 8' 5" e  | 7' 6" e   | 10' 8" a                             | 9' 3" a   | 8' 5" a   | 7' 6" a                              | 10' 0" e  | 9' 1" e   |
| 600S250-54 | 50  | 11' 0" e                         | 10' 0" e  | 9' 4" e   | 8' 8" e                              | 12' 4" i  | 10' 11" i | 9' 11" a                         | 8' 11" a | 10' 0" e  | 9' 1" e                          | 8' 6" e  | 7' 11" e  | 11' 2" i                             | 10' 2" i  | 9' 7" i   | 8' 11" a                             | 10' 0" e  | 9' 1" e   |
| 600S250-68 | 33  | 11' 10" e                        | 10' 9" e  | 10' 1" e  | 9' 1" e                              | 12' 9" i  | 11' 1" i  | 10' 1" a                         | 9' 1" a  | 10' 9" e  | 9' 9" e                          | 9' 2" e  | 8' 6" e   | 12' 1" i                             | 10' 11" i | 10' 1" a  | 9' 1" a                              | 10' 9" e  | 9' 9" e   |
| 600S250-68 | 50  | 11' 10" e                        | 10' 9" e  | 10' 1" e  | 9' 5" e                              | 13' 3" i  | 12' 1" i  | 11' 4" i                         | 10' 1" i | 10' 9" e  | 9' 9" e                          | 9' 2" e  | 8' 6" e   | 12' 1" i                             | 10' 11" i | 10' 4" i  | 9' 7" i                              | 10' 9" e  | 9' 9" e   |
| 600S250-97 | 33  | 13' 2" e                         | 12' 0" e  | 11' 3" e  | 10' 5" e                             | 14' 9" i  | 13' 5" i  | 12' 4" i                         | 11' 0" i | 12' 0" e  | 10' 11" e                        | 10' 3" e | 9' 6" e   | 13' 5" i                             | 12' 3" i  | 11' 6" i  | 10' 8" i                             | 12' 0" e  | 10' 11" e |
| 600S250-97 | 50  | 13' 2" e                         | 12' 0" e  | 11' 3" e  | 10' 5" e                             | 14' 9" i  | 13' 5" i  | 12' 8" i                         | 11' 9" i | 12' 0" e  | 10' 11" e                        | 10' 3" e | 9' 6" e   | 13' 5" i                             | 12' 3" i  | 11' 6" i  | 10' 8" i                             | 12' 0" e  | 10' 11" e |
| 800S162-33 | 33  | 7' 0" e                          | 5' 3" e   | 4' 4" e   | 3' 6" e                              | 5' 7" a   | 4' 2" a   | 3' 6" a                          | 2' 10" a | 7' 0" e   | 5' 3" e                          | 4' 4" e  | 3' 6" e   | 5' 7" a                              | 4' 2" a   | 3' 6" a   | 2' 10" a                             | 7' 0" e   | 5' 3" e   |
| 800S162-43 | 33  | 10' 0" e                         | 8' 8" e   | 7' 11" e  | 7' 1" e                              | 9' 5" a   | 7' 8" a   | 6' 8" a                          | 5' 8" a  | 10' 0" e  | 8' 8" e                          | 7' 11" e | 7' 1" e   | 9' 5" a                              | 7' 8" a   | 6' 8" a   | 5' 8" a                              | 10' 0" e  | 8' 8" e   |
| 800S162-54 | 33  | 11' 5" e                         | 9' 11" e  | 9' 0" e   | 8' 1" e                              | 11' 5" a  | 9' 11" a  | 9' 0" a                          | 8' 1" a  | 11' 5" e  | 9' 11" e                         | 9' 0" e  | 8' 1" e   | 11' 5" a                             | 9' 11" a  | 9' 0" a   | 8' 1" a                              | 11' 5" e  | 9' 11" e  |
| 800S162-54 | 50  | 12' 6" e                         | 11' 4" e  | 10' 8" e  | 9' 6" e                              | 13' 6" i  | 11' 8" a  | 10' 8" a                         | 9' 2" a  | 11' 4" e  | 10' 4" e                         | 9' 9" e  | 9' 0" e   | 12' 9" i                             | 11' 7" a  | 10' 8" a  | 9' 2" a                              | 11' 4" e  | 10' 4" e  |
| 800S162-68 | 33  | 13' 0" e                         | 11' 3" e  | 10' 3" e  | 9' 2" e                              | 13' 0" i  | 11' 3" a  | 10' 3" a                         | 9' 2" a  | 12' 4" e  | 11' 2" e                         | 10' 3" e | 9' 2" e   | 13' 0" i                             | 11' 3" a  | 10' 3" a  | 9' 2" a                              | 12' 4" e  | 11' 2" e  |
| 800S162-68 | 50  | 13' 6" e                         | 12' 3" e  | 11' 7" e  | 10' 9" e                             | 15' 2" i  | 13' 7" i  | 12' 5" i                         | 11' 1" i | 12' 3" e  | 11' 2" e                         | 10' 6" e | 9' 9" e   | 13' 9" i                             | 12' 6" i  | 11' 9" i  | 10' 11" i                            | 12' 3" e  | 11' 2" e  |
| 800S162-97 | 33  | 15' 1" e                         | 13' 8" e  | 12' 11" e | 12' 0" e                             | 16' 11" i | 15' 4" i  | 14' 6" i                         | 13' 5" i | 13' 8" e  | 12' 5" e                         | 11' 8" e | 10' 10" e | 15' 4" i                             | 14' 0" i  | 13' 2" i  | 12' 0" i                             | 13' 8" e  | 12' 5" e  |
| 800S162-97 | 50  | 15' 1" e                         | 13' 8" e  | 12' 11" e | 12' 0" e                             | 16' 11" i | 15' 4" i  | 14' 6" i                         | 13' 5" i | 13' 8" e  | 12' 5" e                         | 11' 8" e | 10' 10" e | 15' 4" i                             | 14' 0" i  | 13' 2" i  | 12' 0" i                             | 13' 8" e  | 12' 5" e  |
| 800S200-33 | 33  | 7' 0" e                          | 5' 3" e   | 4' 4" e   | 3' 6" e                              | 5' 7" a   | 4' 2" a   | 3' 6" a                          | 2' 10" a | 7' 0" e   | 5' 3" e                          | 4' 4" e  | 3' 6" e   | 5' 7" a                              | 4' 2" a   | 3' 6" a   | 2' 10" a                             | 7' 0" e   | 5' 3" e   |
| 800S200-43 | 33  | 11' 3" e                         | 9' 9" e   | 8' 11" e  | 7' 9" e                              | 10' 1" a  | 8' 2" a   | 7' 1" a                          | 5' 11" a | 11' 2" e  | 9' 9" e                          | 8' 11" e | 7' 9" e   | 10' 1" a                             | 8' 2" a   | 7' 1" a   | 5' 11" a                             | 11' 2" e  | 9' 9" e   |
| 800S200-54 | 33  | 13' 2" e                         | 11' 6" e  | 10' 6" e  | 9' 5" e                              | 13' 3" a  | 11' 6" a  | 10' 6" a                         | 9' 1" a  | 12' 0" e  | 10' 11" e                        | 10' 3" e | 9' 5" e   | 13' 3" a                             | 11' 6" a  | 10' 6" a  | 9' 1" a                              | 12' 0" e  | 10' 11" e |
| 800S200-54 | 50  | 13' 2" e                         | 12' 0" e  | 11' 3" e  | 10' 6" e                             | 14' 10" i | 12' 11" a | 11' 5" a                         | 9' 9" a  | 12' 0" e  | 10' 11" e                        | 10' 3" e | 9' 6" e   | 13' 6" i                             | 12' 3" a  | 11' 5" a  | 9' 9" a                              | 12' 0" e  | 10' 11" e |
| 800S200-68 | 33  | 14' 2" e                         | 12' 10" e | 11' 10" e | 10' 7" e                             | 14' 11" a | 12' 11" a | 11' 10" a                        | 10' 7" a | 12' 10" e | 11' 8" e                         | 11' 0" e | 10' 3" e  | 14' 5" i                             | 12' 11" a | 11' 10" a | 10' 7" a                             | 12' 10" e | 11' 8" e  |
| 800S200-68 | 50  | 14' 2" e                         | 12' 10" e | 11' 10" e | 10' 7" e                             | 14' 11" a | 12' 11" a | 11' 10" a                        | 10' 7" a | 12' 10" e | 11' 8" e                         | 11' 0" e | 10' 3" e  | 14' 5" i                             | 12' 11" a | 11' 10" a | 10' 7" a                             | 12' 10" e | 11' 8" e  |
| 800S200-97 | 33  | 15' 10" e                        | 14' 4" e  | 13' 6" e  | 12' 6" e                             | 17' 9" i  | 15' 7" i  | 14' 2" i                         | 12' 8" i | 14' 4" e  | 13' 1" e                         | 12' 3" e | 11' 5" e  | 16' 1" i                             | 14' 8" i  | 13' 9" i  | 12' 8" i                             | 14' 4" e  | 13' 1" e  |
| 800S200-97 | 50  | 15' 10" e                        | 14' 4" e  | 13' 6" e  | 12' 6" e                             | 17' 9" i  | 16' 1" i  | 15' 2" i                         | 14' 1" i | 14' 4" e  | 13' 1" e                         | 12' 3" e | 11' 5" e  | 16' 1" i                             | 14' 8" i  | 13' 9" i  | 12' 10" i                            | 14' 4" e  | 13' 1" e  |

## Notes:

- 1 Web punchouts are not considered for shear and web crippling.
- 2 Spans are based on continuous lateral support of the compression flange.
- 3 For two equal spans, tabulated span is the center-to-center distance from either end bearing to the center bearing. The joist must be continuous over the center bearing.
- 4 Web crippling bearing length is assumed to be 3-1/2". Joist flanges must be fastened to the support.
- 5 Deflection checks are computed using unbalanced loads for the two equal span condition.
- 6 "e" indicates that web stiffeners are required at the end supports only.
- 7 "i" indicates that web stiffeners are required at the interior support only.
- 8 "a" indicates that web stiffeners are required at all supports.

Complies with IBC 2006 &amp; AISI-NASPEC, 2001 with 2004 supplement

# FLOOR JOIST SPAN LIMITATIONS

10psf Dead Load and 125psf Live Load (TL Defl.=L/240)

| Member      | ksi | Live Load Deflection L/360    |           |           |           |                                   |           |           |           | Live Load Deflection L/480    |           |           |           |                                   |           |           |           |
|-------------|-----|-------------------------------|-----------|-----------|-----------|-----------------------------------|-----------|-----------|-----------|-------------------------------|-----------|-----------|-----------|-----------------------------------|-----------|-----------|-----------|
|             |     | Single span spacing (in) o.c. |           |           |           | Two equal spans spacing (in) o.c. |           |           |           | Single span spacing (in) o.c. |           |           |           | Two equal spans spacing (in) o.c. |           |           |           |
|             |     | 12                            | 16        | 19.2      | 24        | 12                                | 16        | 19.2      | 24        | 12                            | 16        | 19.2      | 24        | 12                                | 16        | 19.2      | 24        |
| 800S250-43  | 33  | 11' 4" e                      | 9' 10" e  | 8' 11" e  | 7' 9" e   | 10' 1" a                          | 8' 2" a   | 7' 2" a   | 5' 11" a  | 11' 4" e                      | 9' 10" e  | 8' 11" e  | 7' 9" e   | 10' 1" a                          | 8' 2" a   | 7' 2" a   | 5' 11" a  |
| 800S250-54  | 33  | 12' 11" e                     | 11' 2" e  | 10' 3" e  | 9' 2" e   | 12' 11" a                         | 11' 2" a  | 10' 3" a  | 8' 11" a  | 12' 6" e                      | 11' 2" e  | 10' 3" e  | 9' 2" e   | 12' 11" a                         | 11' 2" a  | 10' 3" a  | 8' 11" a  |
| 800S250-54  | 50  | 13' 9" e                      | 12' 6" e  | 11' 9" e  | 10' 7" e  | 15' 0" a                          | 13' 0" a  | 11' 6" a  | 9' 9" a   | 12' 6" e                      | 11' 4" e  | 10' 8" e  | 9' 11" e  | 14' 0" i                          | 12' 9" a  | 11' 6" a  | 9' 9" a   |
| 800S250-68  | 33  | 14' 10" e                     | 13' 5" e  | 12' 3" e  | 11' 0" e  | 15' 6" a                          | 13' 5" a  | 12' 3" a  | 11' 0" a  | 13' 5" e                      | 12' 3" e  | 11' 6" e  | 10' 8" e  | 15' 1" a                          | 13' 5" a  | 12' 3" a  | 11' 0" a  |
| 800S250-68  | 50  | 14' 9" e                      | 13' 5" e  | 12' 8" e  | 11' 9" e  | 16' 7" i                          | 15' 1" i  | 13' 9" i  | 12' 4" a  | 13' 5" e                      | 12' 2" e  | 11' 6" e  | 10' 8" e  | 15' 1" i                          | 13' 8" i  | 12' 11" i | 12' 0" a  |
| 800S250-97  | 33  | 16' 6" e                      | 15' 0" e  | 14' 1" e  | 13' 1" e  | 18' 6" i                          | 16' 4" i  | 14' 11" i | 13' 4" i  | 15' 0" e                      | 13' 8" e  | 12' 10" e | 11' 11" e | 16' 10" i                         | 15' 4" i  | 14' 5" i  | 13' 4" i  |
| 800S250-97  | 50  | 16' 6" e                      | 15' 0" e  | 14' 1" e  | 13' 1" e  | 18' 6" i                          | 16' 10" i | 15' 10" i | 14' 9" i  | 15' 0" e                      | 13' 8" e  | 12' 10" e | 11' 11" e | 16' 10" i                         | 15' 4" i  | 14' 5" i  | 13' 4" i  |
| 1000S162-43 | 33  | 11' 3" e                      | 9' 3" e   | 7' 8" e   | 6' 2" e   | 9' 0" a                           | 7' 2" a   | 6' 2" a   | 4' 11" a  | 11' 3" e                      | 9' 3" e   | 7' 8" e   | 6' 2" e   | 9' 0" a                           | 7' 2" a   | 6' 2" a   | 4' 11" a  |
| 1000S162-54 | 33  | 13' 0" e                      | 11' 3" e  | 10' 3" e  | 9' 2" e   | 13' 0" a                          | 10' 10" a | 9' 7" a   | 8' 2" a   | 13' 0" e                      | 11' 3" e  | 10' 3" e  | 9' 2" e   | 13' 0" a                          | 10' 10" a | 9' 7" a   | 8' 2" a   |
| 1000S162-54 | 50  | 14' 10" e                     | 13' 3" e  | 12' 1" e  | 10' 9" e  | 14' 8" a                          | 11' 11" a | 10' 5" a  | 8' 10" a  | 13' 6" e                      | 12' 3" e  | 11' 7" e  | 10' 9" e  | 14' 8" a                          | 11' 11" a | 10' 5" a  | 8' 10" a  |
| 1000S162-68 | 33  | 14' 11" e                     | 12' 11" e | 11' 9" e  | 10' 6" e  | 14' 11" a                         | 12' 11" a | 11' 9" a  | 10' 6" a  | 14' 9" e                      | 12' 11" e | 11' 9" e  | 10' 6" e  | 14' 11" a                         | 12' 11" a | 11' 9" a  | 10' 6" a  |
| 1000S162-68 | 50  | 16' 1" e                      | 14' 8" e  | 13' 9" e  | 12' 7" e  | 17' 10" i                         | 15' 5" i  | 14' 1" a  | 12' 7" a  | 14' 8" e                      | 13' 4" e  | 12' 6" e  | 11' 7" e  | 16' 5" i                          | 14' 11" i | 14' 1" a  | 12' 7" a  |
| 1000S162-97 | 33  | 18' 2" e                      | 16' 6" e  | 15' 6" e  | 14' 2" e  | 20' 1" i                          | 17' 5" i  | 15' 10" i | 14' 1" a  | 16' 6" e                      | 15' 0" e  | 14' 1" e  | 13' 1" e  | 18' 6" i                          | 16' 10" i | 15' 10" i | 14' 8" i  |
| 1000S162-97 | 50  | 18' 2" e                      | 16' 6" e  | 15' 6" e  | 14' 5" e  | 20' 4" i                          | 18' 6" i  | 17' 5" i  | 15' 7" i  | 16' 6" e                      | 15' 0" e  | 14' 1" e  | 13' 1" e  | 18' 6" i                          | 16' 10" i | 15' 10" i | 14' 8" i  |
| 1000S200-43 | 33  | 12' 0" e                      | 9' 3" e   | 7' 8" e   | 6' 2" e   | 9' 3" a                           | 7' 4" a   | 6' 2" a   | 4' 11" a  | 12' 0" e                      | 9' 3" e   | 7' 8" e   | 6' 2" e   | 9' 3" a                           | 7' 4" a   | 6' 2" a   | 4' 11" a  |
| 1000S200-54 | 33  | 13' 11" e                     | 12' 1" e  | 11' 0" e  | 9' 10" e  | 13' 10" a                         | 11' 4" a  | 9' 11" a  | 8' 5" a   | 13' 11" e                     | 12' 1" e  | 11' 0" e  | 9' 10" e  | 13' 10" a                         | 11' 4" a  | 9' 11" a  | 8' 5" a   |
| 1000S200-54 | 50  | 15' 7" e                      | 13' 9" e  | 12' 7" e  | 11' 3" e  | 15' 0" a                          | 12' 3" a  | 10' 8" a  | 9' 0" a   | 14' 2" e                      | 12' 10" e | 12' 1" e  | 11' 3" e  | 15' 0" a                          | 12' 3" a  | 10' 8" a  | 9' 0" a   |
| 1000S200-68 | 33  | 15' 11" e                     | 13' 10" e | 12' 7" e  | 11' 3" e  | 15' 11" a                         | 13' 10" a | 12' 7" a  | 11' 3" a  | 15' 5" e                      | 13' 10" e | 12' 7" e  | 11' 3" e  | 15' 11" a                         | 13' 10" a | 12' 7" a  | 11' 3" a  |
| 1000S200-68 | 50  | 16' 10" e                     | 15' 4" e  | 14' 5" e  | 13' 4" e  | 18' 11" i                         | 16' 5" a  | 14' 11" a | 13' 4" a  | 15' 4" e                      | 13' 11" e | 13' 1" e  | 12' 2" e  | 17' 2" i                          | 15' 7" i  | 14' 8" a  | 13' 4" a  |
| 1000S200-97 | 33  | 18' 11" e                     | 17' 3" e  | 16' 2" e  | 14' 11" e | 21' 1" i                          | 18' 3" i  | 16' 8" i  | 14' 11" a | 17' 3" e                      | 15' 8" e  | 14' 9" e  | 13' 8" e  | 19' 4" i                          | 17' 7" i  | 16' 6" i  | 14' 11" a |
| 1000S200-97 | 50  | 18' 11" e                     | 17' 3" e  | 16' 2" e  | 15' 0" e  | 20' 3" i                          | 16' 2" i  | 18' 2" i  | 16' 8" i  | 17' 3" e                      | 15' 8" e  | 14' 9" e  | 13' 8" e  | 19' 4" i                          | 17' 7" i  | 16' 6" i  | 14' 11" a |
| 1000S250-43 | 33  | 12' 4" e                      | 9' 3" e   | 7' 8" e   | 6' 2" e   | 9' 5" a                           | 7' 5" a   | 6' 2" a   | 4' 11" a  | 12' 4" e                      | 9' 3" e   | 7' 8" e   | 6' 2" e   | 9' 5" a                           | 7' 5" a   | 6' 2" a   | 4' 11" a  |
| 1000S250-54 | 33  | 14' 11" e                     | 12' 11" e | 11' 9" e  | 10' 7" e  | 14' 5" a                          | 11' 9" a  | 10' 4" a  | 8' 9" a   | 14' 11" e                     | 12' 11" e | 11' 9" e  | 10' 7" e  | 14' 5" a                          | 11' 9" a  | 10' 4" a  | 8' 9" a   |
| 1000S250-54 | 50  | 16' 5" e                      | 14' 5" e  | 13' 2" e  | 11' 10" e | 15' 5" a                          | 12' 6" a  | 10' 11" a | 9' 2" a   | 14' 11" e                     | 13' 7" e  | 12' 9" e  | 11' 10" e | 15' 5" a                          | 12' 6" a  | 10' 11" a | 9' 2" a   |
| 1000S250-68 | 33  | 17' 8" e                      | 15' 8" e  | 14' 4" e  | 12' 10" e | 18' 1" a                          | 15' 8" a  | 14' 4" a  | 12' 10" a | 16' 1" e                      | 14' 7" e  | 13' 9" e  | 12' 9" e  | 18' 0" a                          | 15' 8" a  | 14' 4" a  | 12' 10" a |
| 1000S250-68 | 50  | 17' 8" e                      | 16' 0" e  | 15' 1" e  | 14' 0" e  | 19' 10" i                         | 17' 6" a  | 16' 0" a  | 14' 1" a  | 16' 0" e                      | 14' 7" e  | 13' 9" e  | 12' 9" e  | 18' 0" i                          | 16' 4" a  | 15' 5" a  | 14' 2" a  |
| 1000S250-97 | 33  | 19' 9" e                      | 17' 11" e | 16' 10" e | 15' 7" e  | 22' 1" i                          | 19' 1" i  | 17' 5" a  | 15' 7" a  | 17' 11" e                     | 16' 3" e  | 15' 4" e  | 14' 3" e  | 20' 1" i                          | 18' 3" i  | 17' 2" i  | 15' 7" a  |
| 1000S250-97 | 50  | 19' 9" e                      | 17' 11" e | 16' 10" e | 15' 8" e  | 22' 2" i                          | 20' 1" i  | 18' 11" i | 17' 7" i  | 17' 11" e                     | 16' 3" e  | 15' 4" e  | 14' 3" e  | 20' 1" i                          | 18' 3" i  | 17' 2" i  | 16' 0" i  |
| 1200S162-54 | 33  | 14' 4" e                      | 12' 5" e  | 11' 4" e  | 10' 3" e  | 13' 1" a                          | 10' 7" a  | 9' 3" a   | 7' 9" a   | 14' 4" e                      | 12' 5" e  | 11' 4" e  | 10' 3" e  | 13' 1" a                          | 10' 7" a  | 9' 3" a   | 7' 9" a   |
| 1200S162-54 | 50  | 16' 10" e                     | 14' 7" e  | 12' 9" e  | 10' 3" e  | 14' 3" a                          | 11' 5" a  | 9' 11" a  | 8' 2" a   | 15' 6" e                      | 14' 1" e  | 12' 9" e  | 10' 3" e  | 14' 3" a                          | 11' 5" a  | 9' 11" a  | 8' 2" a   |
| 1200S162-68 | 33  | 16' 7" e                      | 14' 4" e  | 13' 1" e  | 11' 9" e  | 16' 7" a                          | 14' 4" a  | 13' 1" a  | 11' 7" a  | 16' 7" e                      | 14' 4" e  | 13' 1" e  | 11' 9" e  | 16' 7" a                          | 14' 4" a  | 13' 1" a  | 11' 7" a  |
| 1200S162-68 | 50  | 18' 7" e                      | 16' 11" e | 15' 8" e  | 14' 0" e  | 19' 9" i                          | 17' 1" a  | 15' 1" a  | 12' 11" a | 16' 11" e                     | 15' 4" e  | 14' 5" e  | 13' 5" e  | 19' 0" i                          | 17' 1" a  | 15' 1" a  | 12' 11" a |
| 1200S162-97 | 33  | 20' 7" e                      | 17' 10" e | 16' 3" e  | 14' 7" e  | 20' 7" i                          | 17' 10" i | 16' 3" i  | 14' 7" a  | 19' 3" e                      | 16' 3" e  | 16' 3" e  | 14' 7" e  | 20' 7" i                          | 17' 10" i | 16' 3" i  | 14' 7" a  |
| 1200S162-97 | 50  | 21' 1" e                      | 19' 2" e  | 18' 1" e  | 16' 9" e  | 23' 8" i                          | 21' 4" i  | 19' 6" i  | 17' 5" i  | 19' 2" e                      | 17' 5" e  | 16' 5" e  | 15' 3" e  | 21' 6" i                          | 19' 7" i  | 18' 5" i  | 17' 1" i  |

## Notes:

- Web punchouts are not considered for shear and web crippling.
- Spans are based on continuous lateral support of the compression flange.
- For two equal spans, tabulated span is the center-to-center distance from either end bearing to the center bearing. The joist must be continuous over the center bearing.
- Web crippling bearing length is assumed to be 3-1/2". Joist flanges must be fastened to the support.
- Deflection checks are computed using unbalanced loads for the two equal span condition.
- "e" indicates that web stiffeners are required at the end supports only.
- "i" indicates that web stiffeners are required at the interior support only.
- "a" indicates that web stiffeners are required at all supports.

Complies with IBC 2006 & AISI-NASPEC, 2001 with 2004 supplement

Pub. No. CD-STR-TechGuide 2/12

The technical content of this literature is effective 2/1/12 and supersedes all previous information.

clarkdietrich.com

## FLOOR JOIST SPAN LIMITATIONS

## 10psf Dead Load and 125psf Live Load (TL Defl.=L/240)

| Member      | ksi | Live Load Deflection L/360    |           |           |           |                                   |           |           |           | Live Load Deflection L/480    |           |           |           |                                   |           |           |           |
|-------------|-----|-------------------------------|-----------|-----------|-----------|-----------------------------------|-----------|-----------|-----------|-------------------------------|-----------|-----------|-----------|-----------------------------------|-----------|-----------|-----------|
|             |     | Single span spacing (in) o.c. |           |           |           | Two equal spans spacing (in) o.c. |           |           |           | Single span spacing (in) o.c. |           |           |           | Two equal spans spacing (in) o.c. |           |           |           |
|             |     | 12                            | 16        | 19.2      | 24        | 12                                | 16        | 19.2      | 24        | 12                            | 16        | 19.2      | 24        | 12                                | 16        | 19.2      | 24        |
| 1200S200-54 | 33  | 15' 5" e                      | 13' 4" e  | 12' 2" e  | 10' 3" e  | 13' 7" a                          | 10' 11" a | 9' 6" a   | 8' 0" a   | 15' 5" e                      | 13' 4" e  | 12' 2" e  | 10' 3" e  | 13' 7" a                          | 10' 11" a | 9' 6" a   | 8' 0" a   |
| 1200S200-54 | 50  | 17' 6" e                      | 15' 2" e  | 12' 9" e  | 10' 3" e  | 14' 6" a                          | 11' 7" a  | 10' 1" a  | 8' 2" a   | 16' 3" e                      | 14' 9" e  | 12' 9" e  | 10' 3" e  | 14' 6" a                          | 11' 7" a  | 10' 1" a  | 8' 2" a   |
| 1200S200-68 | 33  | 17' 9" e                      | 15' 4" e  | 14' 0" e  | 12' 6" e  | 17' 9" a                          | 15' 4" a  | 14' 0" a  | 12' 1" a  | 17' 9" e                      | 15' 4" e  | 14' 0" e  | 12' 6" e  | 17' 9" a                          | 15' 4" a  | 14' 0" a  | 12' 1" a  |
| 1200S200-68 | 50  | 19' 5" e                      | 17' 7" e  | 16' 6" e  | 14' 10" e | 20' 11" i                         | 17' 9" a  | 15' 7" a  | 13' 4" a  | 17' 7" e                      | 16' 0" e  | 15' 1" e  | 14' 0" e  | 19' 9" i                          | 17' 9" a  | 15' 7" a  | 13' 4" a  |
| 1200S200-97 | 33  | 21' 11" e                     | 19' 0" e  | 17' 4" e  | 15' 6" e  | 21' 11" i                         | 19' 0" i  | 17' 4" a  | 15' 6" a  | 20' 0" e                      | 18' 2" e  | 17' 1" e  | 15' 6" e  | 21' 11" i                         | 19' 0" i  | 17' 4" a  | 15' 6" a  |
| 1200S200-97 | 50  | 22' 0" e                      | 20' 0" e  | 18' 9" e  | 17' 5" e  | 24' 8" i                          | 22' 5" i  | 20' 9" i  | 18' 7" i  | 20' 0" e                      | 18' 2" e  | 17' 1" e  | 15' 10" e | 22' 5" i                          | 20' 4" i  | 19' 2" i  | 17' 9" i  |
| 1200S250-54 | 33  | 15' 7" e                      | 13' 6" e  | 12' 4" e  | 10' 3" e  | 13' 8" a                          | 11' 0" a  | 9' 7" a   | 8' 0" a   | 15' 7" e                      | 13' 6" e  | 12' 4" e  | 10' 3" e  | 13' 8" a                          | 11' 0" a  | 9' 7" a   | 8' 0" a   |
| 1200S250-54 | 50  | 17' 10" e                     | 15' 4" e  | 12' 9" e  | 10' 3" e  | 14' 8" a                          | 11' 8" a  | 10' 1" a  | 8' 2" a   | 16' 11" e                     | 15' 4" e  | 12' 9" e  | 10' 3" e  | 14' 8" a                          | 11' 8" a  | 10' 1" a  | 8' 2" a   |
| 1200S250-68 | 33  | 18' 6" e                      | 16' 0" e  | 14' 7" e  | 13' 1" e  | 18' 6" a                          | 16' 0" a  | 14' 6" a  | 12' 5" a  | 18' 5" e                      | 16' 0" e  | 14' 7" e  | 13' 1" e  | 18' 6" a                          | 16' 0" a  | 14' 6" a  | 12' 5" a  |
| 1200S250-68 | 50  | 20' 2" e                      | 18' 3" e  | 16' 8" e  | 14' 11" e | 21' 1" i                          | 17' 10" a | 15' 8" a  | 13' 4" a  | 18' 4" e                      | 16' 8" e  | 15' 8" e  | 14' 7" e  | 20' 7" i                          | 17' 10" a | 15' 8" a  | 13' 4" a  |
| 1200S250-97 | 33  | 22' 10" e                     | 20' 1" e  | 18' 4" e  | 16' 5" e  | 23' 2" i                          | 20' 1" i  | 18' 4" a  | 16' 5" a  | 20' 9" e                      | 18' 10" e | 17' 9" e  | 16' 5" e  | 23' 2" i                          | 20' 1" i  | 18' 4" a  | 16' 5" a  |
| 1200S250-97 | 50  | 22' 10" e                     | 20' 9" e  | 19' 6" e  | 18' 1" e  | 25' 7" i                          | 23' 3" i  | 21' 7" i  | 19' 4" i  | 20' 9" e                      | 18' 10" e | 17' 9" e  | 16' 5" e  | 23' 3" i                          | 21' 2" i  | 19' 11" i | 18' 6" i  |
| 1400S162-54 | 33  | 15' 7" e                      | 13' 1" e  | 10' 11" e | 8' 9" e   | 12' 8" a                          | 10' 1" a  | 8' 8" a   | 7' 0" a   | 15' 7" e                      | 13' 1" e  | 10' 11" e | 8' 9" e   | 12' 8" a                          | 10' 1" a  | 8' 8" a   | 7' 0" a   |
| 1400S162-54 | 50  | 17' 5" e                      | 13' 1" e  | 10' 11" e | 8' 9" e   | 13' 6" a                          | 10' 6" a  | 8' 9" a   | 7' 0" a   | 17' 5" e                      | 13' 1" e  | 10' 11" e | 8' 9" e   | 13' 6" a                          | 10' 6" a  | 8' 9" a   | 7' 0" a   |
| 1400S162-68 | 33  | 18' 1" e                      | 15' 8" e  | 14' 4" e  | 12' 10" e | 18' 1" a                          | 15' 3" a  | 13' 5" a  | 11' 5" a  | 18' 1" e                      | 15' 8" e  | 14' 4" e  | 12' 10" e | 18' 1" a                          | 15' 3" a  | 13' 5" a  | 11' 5" a  |
| 1400S162-68 | 50  | 21' 0" e                      | 18' 8" e  | 17' 0" e  | 15' 3" e  | 20' 9" a                          | 16' 11" a | 14' 9" a  | 12' 6" a  | 19' 1" e                      | 17' 4" e  | 16' 3" e  | 15' 1" e  | 20' 9" a                          | 16' 11" a | 14' 9" a  | 12' 6" a  |
| 1400S162-97 | 33  | 22' 8" e                      | 19' 8" e  | 17' 11" e | 16' 0" e  | 22' 8" i                          | 19' 8" i  | 17' 11" a | 16' 0" a  | 21' 11" e                     | 19' 8" e  | 17' 11" e | 16' 0" e  | 22' 8" i                          | 19' 8" i  | 17' 11" a | 16' 0" a  |
| 1400S162-97 | 50  | 23' 11" e                     | 21' 9" e  | 20' 5" e  | 19' 0" e  | 26' 10" i                         | 23' 5" i  | 21' 4" i  | 19' 1" i  | 21' 9" e                      | 19' 9" e  | 18' 7" e  | 17' 3" e  | 24' 5" i                          | 22' 2" i  | 20' 10" i | 19' 1" i  |
| 1400S200-54 | 33  | 16' 9" e                      | 13' 1" e  | 10' 11" e | 8' 9" e   | 13' 1" a                          | 10' 4" a  | 8' 9" a   | 7' 0" a   | 16' 9" e                      | 13' 1" e  | 10' 11" e | 8' 9" e   | 13' 1" a                          | 10' 4" a  | 8' 9" a   | 7' 0" a   |
| 1400S200-54 | 50  | 17' 5" e                      | 13' 1" e  | 10' 11" e | 8' 9" e   | 13' 9" a                          | 10' 6" a  | 8' 9" a   | 7' 0" a   | 17' 5" e                      | 13' 1" e  | 10' 11" e | 8' 9" e   | 13' 9" a                          | 10' 6" a  | 8' 9" a   | 7' 0" a   |
| 1400S200-68 | 33  | 19' 4" e                      | 16' 9" e  | 15' 3" e  | 13' 8" e  | 19' 4" a                          | 15' 11" a | 13' 11" a | 11' 10" a | 19' 4" e                      | 16' 9" e  | 15' 3" e  | 13' 8" e  | 19' 4" a                          | 15' 11" a | 13' 11" a | 11' 10" a |
| 1400S200-68 | 50  | 21' 10" e                     | 19' 8" e  | 18' 0" e  | 16' 1" e  | 21' 5" a                          | 17' 5" a  | 15' 2" a  | 12' 10" a | 19' 10" e                     | 18' 0" e  | 17' 0" e  | 15' 9" e  | 21' 5" a                          | 17' 5" a  | 15' 2" a  | 12' 10" a |
| 1400S200-97 | 33  | 24' 1" e                      | 20' 10" e | 19' 0" e  | 17' 0" e  | 24' 1" i                          | 20' 10" a | 19' 0" a  | 17' 0" a  | 22' 9" e                      | 20' 8" e  | 19' 0" e  | 17' 0" e  | 24' 1" i                          | 20' 10" a | 19' 0" a  | 17' 0" a  |
| 1400S200-97 | 50  | 24' 10" e                     | 22' 7" e  | 21' 3" e  | 19' 9" e  | 27' 11" i                         | 24' 11" i | 22' 9" i  | 20' 4" a  | 22' 7" e                      | 20' 6" e  | 19' 3" e  | 17' 11" e | 25' 4" i                          | 23' 0" i  | 21' 8" i  | 20' 1" a  |
| 1400S250-54 | 33  | 16' 11" e                     | 13' 1" e  | 10' 11" e | 8' 9" e   | 13' 1" a                          | 10' 5" a  | 8' 9" a   | 7' 0" a   | 16' 11" e                     | 13' 1" e  | 10' 11" e | 8' 9" e   | 13' 1" a                          | 10' 5" a  | 8' 9" a   | 7' 0" a   |
| 1400S250-54 | 50  | 17' 5" e                      | 13' 1" e  | 10' 11" e | 8' 9" e   | 13' 10" a                         | 10' 6" a  | 8' 9" a   | 7' 0" a   | 17' 5" e                      | 13' 1" e  | 10' 11" e | 8' 9" e   | 13' 10" a                         | 10' 6" a  | 8' 9" a   | 7' 0" a   |
| 1400S250-68 | 33  | 20' 1" e                      | 17' 5" e  | 15' 11" e | 14' 3" e  | 19' 11" a                         | 16' 3" a  | 14' 3" a  | 12' 1" a  | 20' 1" e                      | 17' 5" e  | 15' 11" e | 14' 3" e  | 19' 11" a                         | 16' 3" a  | 14' 3" a  | 12' 1" a  |
| 1400S250-68 | 50  | 22' 9" e                      | 19' 10" e | 18' 1" e  | 16' 2" e  | 21' 6" a                          | 17' 6" a  | 15' 3" a  | 12' 10" a | 20' 8" e                      | 18' 9" e  | 17' 8" e  | 16' 2" e  | 21' 6" a                          | 17' 6" a  | 15' 3" a  | 12' 10" a |
| 1400S250-97 | 33  | 25' 5" e                      | 22' 0" e  | 20' 1" e  | 18' 2" e  | 25' 5" i                          | 22' 0" a  | 20' 1" a  | 18' 2" e  | 23' 7" e                      | 21' 5" e  | 20' 1" e  | 18' 0" e  | 25' 5" i                          | 22' 0" a  | 20' 1" a  | 18' 0" a  |
| 1400S250-97 | 50  | 25' 9" e                      | 23' 5" e  | 22' 0" e  | 20' 5" e  | 28' 11" i                         | 25' 10" i | 23' 7" i  | 21' 1" a  | 23' 5" e                      | 21' 3" e  | 20' 0" e  | 18' 7" e  | 26' 3" i                          | 23' 10" i | 22' 6" i  | 20' 10" a |

## Notes:

- 1 Web punchouts are not considered for shear and web crippling.
- 2 Spans are based on continuous lateral support of the compression flange.
- 3 For two equal spans, tabulated span is the center-to-center distance from either end bearing to the center bearing. The joist must be continuous over the center bearing.
- 4 Web crippling bearing length is assumed to be 3-1/2". Joist flanges must be fastened to the support.
- 5 Deflection checks are computed using unbalanced loads for the two equal span condition.
- 6 "e" indicates that web stiffeners are required at the end supports only.
- 7 "i" indicates that web stiffeners are required at the interior support only.
- 8 "a" indicates that web stiffeners are required at all supports.

Complies with IBC 2006 &amp; AISI-NASPEC, 2001 with 2004 supplement

# FLOOR JOIST SPAN LIMITATIONS

15psf Dead Load and 125psf Live Load (TL Defl.=L/240)

| Member     | ksi | Live Load Deflection L/360    |           |           |           |                                   |           |           |           | Live Load Deflection L/480    |           |          |           |                                   |           |           |           |
|------------|-----|-------------------------------|-----------|-----------|-----------|-----------------------------------|-----------|-----------|-----------|-------------------------------|-----------|----------|-----------|-----------------------------------|-----------|-----------|-----------|
|            |     | Single span spacing (in) o.c. |           |           |           | Two equal spans spacing (in) o.c. |           |           |           | Single span spacing (in) o.c. |           |          |           | Two equal spans spacing (in) o.c. |           |           |           |
|            |     | 12                            | 16        | 19.2      | 24        | 12                                | 16        | 19.2      | 24        | 12                            | 16        | 19.2     | 24        | 12                                | 16        | 19.2      | 24        |
| 600S162-33 | 33  | 7' 5" e                       | 6' 5" e   | 5' 8" e   | 4' 6" e   | 6' 3" a                           | 5' 0" a   | 4' 4" a   | 3' 7" a   | 7' 5" e                       | 6' 5" e   | 5' 8" e  | 4' 6" e   | 6' 3" a                           | 5' 0" a   | 4' 4" a   | 3' 7" a   |
| 600S162-43 | 33  | 8' 11" e                      | 7' 9" e   | 7' 1" e   | 6' 4" e   | 8' 11" a                          | 7' 9" a   | 7' 0" a   | 6' 0" a   | 8' 6" e                       | 7' 8" e   | 7' 1" e  | 6' 4" e   | 8' 11" a                          | 7' 9" a   | 7' 0" a   | 6' 0" a   |
| 600S162-54 | 33  | 10' 0" e                      | 8' 8" e   | 7' 11" e  | 7' 1" e   | 10' 1" a                          | 8' 8" a   | 7' 11" a  | 7' 1" a   | 9' 1" e                       | 8' 3" e   | 7' 9" e  | 7' 1" e   | 10' 1" a                          | 8' 8" a   | 7' 11" a  | 7' 1" a   |
| 600S162-54 | 50  | 10' 0" e                      | 9' 1" e   | 8' 7" e   | 7' 11" e  | 11' 3" i                          | 10' 2" i  | 9' 7" a   | 8' 7" a   | 9' 1" e                       | 8' 3" e   | 7' 9" e  | 7' 3" e   | 10' 2" i                          | 9' 3" i   | 8' 9" i   | 8' 1" a   |
| 600S162-68 | 33  | 10' 9" e                      | 9' 9" e   | 8' 11" e  | 8' 0" e   | 11' 3" i                          | 9' 9" i   | 8' 11" i  | 8' 0" a   | 9' 9" e                       | 8' 10" e  | 8' 4" e  | 7' 9" e   | 10' 11" i                         | 9' 9" i   | 8' 11" i  | 8' 0" a   |
| 600S162-68 | 50  | 10' 9" e                      | 9' 9" e   | 9' 2" e   | 8' 6" e   | 12' 0" i                          | 10' 11" i | 10' 3" i  | 9' 7" i   | 9' 9" e                       | 8' 10" e  | 8' 4" e  | 7' 9" e   | 10' 11" i                         | 9' 11" i  | 9' 4" i   | 8' 8" i   |
| 600S162-97 | 33  | 11' 11" e                     | 10' 10" e | 10' 2" e  | 9' 6" e   | 13' 5" i                          | 11' 9" i  | 10' 9" i  | 9' 7" i   | 10' 10" e                     | 9' 10" e  | 9' 3" e  | 8' 7" e   | 12' 2" i                          | 11' 1" i  | 10' 5" i  | 9' 7" i   |
| 600S162-97 | 50  | 11' 11" e                     | 10' 10" e | 10' 2" e  | 9' 6" e   | 13' 5" e                          | 12' 2" e  | 11' 5" i  | 10' 7" i  | 10' 10" e                     | 9' 10" e  | 9' 3" e  | 8' 7" e   | 12' 2" e                          | 11' 1" e  | 10' 5" e  | 9' 8" e   |
| 600S200-33 | 33  | 7' 7" e                       | 6' 7" e   | 5' 8" e   | 4' 6" e   | 6' 4" a                           | 5' 1" a   | 4' 5" a   | 3' 7" a   | 7' 7" e                       | 6' 7" e   | 5' 8" e  | 4' 6" e   | 6' 4" a                           | 5' 1" a   | 4' 5" a   | 3' 7" a   |
| 600S200-43 | 33  | 9' 1" e                       | 7' 10" e  | 7' 2" e   | 6' 5" e   | 9' 1" a                           | 7' 10" a  | 7' 1" a   | 6' 1" a   | 8' 11" e                      | 7' 10" e  | 7' 2" e  | 6' 5" e   | 9' 1" a                           | 7' 10" a  | 7' 1" a   | 6' 1" a   |
| 600S200-54 | 33  | 10' 6" e                      | 9' 3" e   | 8' 6" e   | 7' 7" e   | 10' 9" a                          | 9' 3" a   | 8' 6" a   | 7' 7" a   | 9' 7" e                       | 8' 8" e   | 8' 2" e  | 7' 7" e   | 10' 9" a                          | 9' 3" a   | 8' 6" a   | 7' 7" a   |
| 600S200-54 | 50  | 10' 6" e                      | 9' 7" e   | 9' 0" e   | 8' 4" e   | 11' 10" i                         | 10' 5" i  | 9' 6" a   | 8' 6" a   | 9' 7" e                       | 8' 8" e   | 8' 2" e  | 7' 7" e   | 10' 9" i                          | 9' 9" i   | 9' 2" i   | 8' 6" a   |
| 600S200-68 | 33  | 11' 3" e                      | 10' 3" e  | 9' 6" e   | 8' 6" e   | 12' 0" i                          | 10' 5" i  | 9' 6" a   | 8' 6" a   | 10' 3" e                      | 9' 4" e   | 8' 9" e  | 8' 2" e   | 11' 6" i                          | 10' 5" i  | 9' 6" a   | 8' 6" a   |
| 600S200-68 | 50  | 11' 3" e                      | 10' 3" e  | 9' 8" e   | 8' 11" e  | 12' 8" i                          | 11' 6" i  | 10' 10" i | 10' 1" i  | 10' 3" e                      | 9' 4" e   | 8' 9" e  | 8' 2" e   | 11' 6" i                          | 10' 5" i  | 9' 10" i  | 9' 2" i   |
| 600S200-97 | 33  | 12' 7" e                      | 11' 5" e  | 10' 9" e  | 10' 0" e  | 14' 1" i                          | 12' 6" i  | 11' 5" i  | 10' 2" i  | 11' 5" e                      | 10' 4" e  | 9' 9" e  | 9' 1" e   | 12' 10" i                         | 11' 8" i  | 10' 11" i | 10' 2" i  |
| 600S200-97 | 50  | 12' 7" e                      | 11' 5" e  | 10' 9" e  | 10' 0" e  | 14' 1" e                          | 12' 10" e | 12' 1" i  | 11' 2" i  | 11' 5" e                      | 10' 4" e  | 9' 9" e  | 9' 1" e   | 12' 10" e                         | 11' 8" e  | 10' 11" e | 10' 2" i  |
| 600S250-43 | 33  | 9' 4" e                       | 8' 1" e   | 7' 4" e   | 6' 7" e   | 9' 4" a                           | 8' 1" a   | 7' 3" a   | 6' 2" a   | 9' 4" e                       | 8' 1" e   | 7' 4" e  | 6' 7" e   | 9' 4" a                           | 8' 1" a   | 7' 3" a   | 6' 2" a   |
| 600S250-54 | 33  | 10' 5" e                      | 9' 1" e   | 8' 3" e   | 7' 5" e   | 10' 5" a                          | 9' 1" a   | 8' 3" a   | 7' 5" a   | 10' 0" e                      | 9' 1" e   | 8' 3" e  | 7' 5" e   | 10' 5" a                          | 9' 1" a   | 8' 3" a   | 7' 5" a   |
| 600S250-54 | 50  | 11' 0" e                      | 10' 0" e  | 9' 4" e   | 8' 8" e   | 12' 4" i                          | 10' 8" i  | 9' 9" a   | 8' 9" a   | 10' 0" e                      | 9' 1" e   | 8' 6" e  | 7' 11" e  | 11' 2" i                          | 10' 2" i  | 9' 7" a   | 8' 9" a   |
| 600S250-68 | 33  | 11' 10" e                     | 10' 9" e  | 9' 11" e  | 8' 11" e  | 12' 7" i                          | 10' 11" i | 9' 11" a  | 8' 11" a  | 10' 9" e                      | 9' 9" e   | 9' 2" e  | 8' 6" e   | 12' 1" i                          | 10' 11" i | 9' 11" a  | 8' 11" a  |
| 600S250-68 | 50  | 11' 10" e                     | 10' 9" e  | 10' 1" e  | 9' 5" e   | 13' 3" i                          | 12' 1" i  | 11' 1" i  | 9' 11" i  | 10' 9" e                      | 9' 9" e   | 9' 2" e  | 8' 6" e   | 12' 1" i                          | 10' 11" i | 10' 4" i  | 9' 7" i   |
| 600S250-97 | 33  | 13' 2" e                      | 12' 0" e  | 11' 3" e  | 10' 5" e  | 14' 9" i                          | 13' 3" i  | 12' 1" i  | 10' 10" i | 12' 0" e                      | 10' 11" e | 10' 3" e | 9' 6" e   | 13' 5" i                          | 12' 3" i  | 11' 6" i  | 10' 8" i  |
| 600S250-97 | 50  | 13' 2" e                      | 12' 0" e  | 11' 3" e  | 10' 5" e  | 14' 9" e                          | 13' 5" e  | 12' 8" i  | 11' 9" i  | 12' 0" e                      | 10' 11" e | 10' 3" e | 9' 6" e   | 13' 5" e                          | 12' 3" e  | 11' 6" e  | 10' 8" i  |
| 800S162-33 | 33  | 6' 9" e                       | 5' 1" e   | 4' 3" e   | 3' 4" e   | 5' 5" a                           | 4' 1" a   | 3' 4" a   | 2' 8" a   | 6' 9" e                       | 5' 1" e   | 4' 3" e  | 3' 4" e   | 5' 5" a                           | 4' 1" a   | 3' 4" a   | 2' 8" a   |
| 800S162-43 | 33  | 9' 9" e                       | 8' 6" e   | 7' 9" e   | 6' 11" e  | 9' 2" a                           | 7' 5" a   | 6' 6" a   | 5' 6" a   | 9' 9" e                       | 8' 6" e   | 7' 9" e  | 6' 11" e  | 9' 2" a                           | 7' 5" a   | 6' 6" a   | 5' 6" a   |
| 800S162-54 | 33  | 11' 2" e                      | 9' 8" e   | 8' 10" e  | 7' 11" e  | 11' 2" a                          | 9' 8" a   | 8' 10" a  | 7' 11" a  | 11' 2" e                      | 9' 8" e   | 8' 10" e | 7' 11" e  | 11' 2" a                          | 9' 8" a   | 8' 10" a  | 7' 11" a  |
| 800S162-54 | 50  | 12' 6" e                      | 11' 4" e  | 10' 6" e  | 9' 4" e   | 13' 3" i                          | 11' 6" a  | 10' 6" a  | 8' 11" a  | 11' 4" e                      | 10' 4" e  | 9' 9" e  | 9' 0" e   | 12' 9" i                          | 11' 6" a  | 10' 6" a  | 8' 11" a  |
| 800S162-68 | 33  | 12' 9" e                      | 11' 1" e  | 10' 1" e  | 9' 0" e   | 12' 9" i                          | 11' 1" a  | 10' 1" a  | 9' 0" a   | 12' 4" e                      | 11' 1" e  | 10' 1" e | 9' 0" e   | 12' 9" i                          | 11' 1" a  | 10' 1" a  | 9' 0" a   |
| 800S162-68 | 50  | 13' 6" e                      | 12' 3" e  | 11' 7" e  | 10' 9" e  | 15' 2" i                          | 13' 4" i  | 12' 2" i  | 10' 11" i | 12' 3" e                      | 11' 2" e  | 10' 6" e | 9' 9" e   | 13' 9" i                          | 12' 6" i  | 11' 9" i  | 10' 11" i |
| 800S162-97 | 33  | 15' 1" e                      | 13' 8" e  | 12' 11" e | 11' 10" e | 16' 8" i                          | 14' 5" i  | 13' 2" i  | 11' 10" i | 13' 8" e                      | 12' 5" e  | 11' 8" e | 10' 10" e | 15' 4" i                          | 14' 0" i  | 13' 2" i  | 11' 10" i |
| 800S162-97 | 50  | 15' 1" e                      | 13' 8" e  | 12' 11" e | 12' 0" e  | 16' 11" e                         | 15' 4" i  | 14' 6" i  | 13' 5" i  | 13' 8" e                      | 12' 5" e  | 11' 8" e | 10' 10" e | 15' 4" i                          | 14' 0" e  | 13' 2" i  | 12' 2" i  |
| 800S200-33 | 33  | 6' 9" e                       | 5' 1" e   | 4' 3" e   | 3' 4" e   | 5' 5" a                           | 4' 1" a   | 3' 4" a   | 2' 8" a   | 6' 9" e                       | 5' 1" e   | 4' 3" e  | 3' 4" e   | 5' 5" a                           | 4' 1" a   | 3' 4" a   | 2' 8" a   |
| 800S200-43 | 33  | 11' 0" e                      | 9' 7" e   | 8' 9" e   | 7' 6" e   | 9' 10" a                          | 7' 11" a  | 6' 11" a  | 5' 9" a   | 11' 0" e                      | 9' 7" e   | 8' 9" e  | 7' 6" e   | 9' 10" a                          | 7' 11" a  | 6' 11" a  | 5' 9" a   |
| 800S200-54 | 33  | 13' 1" e                      | 11' 4" e  | 10' 4" e  | 9' 3" e   | 13' 1" a                          | 11' 4" a  | 10' 4" a  | 8' 10" a  | 12' 0" e                      | 10' 11" e | 10' 3" e | 9' 3" e   | 13' 1" a                          | 11' 4" a  | 10' 4" a  | 8' 10" a  |
| 800S200-54 | 50  | 13' 2" e                      | 12' 0" e  | 11' 3" e  | 10' 4" e  | 14' 8" a                          | 12' 7" a  | 11' 1" a  | 9' 6" a   | 12' 0" e                      | 10' 11" e | 10' 3" e | 9' 6" e   | 13' 6" i                          | 12' 3" a  | 11' 1" a  | 9' 6" a   |
| 800S200-68 | 33  | 14' 2" e                      | 12' 9" e  | 11' 7" e  | 10' 5" e  | 14' 8" a                          | 12' 9" a  | 11' 7" a  | 10' 5" a  | 12' 10" e                     | 11' 8" e  | 11' 0" e | 10' 3" e  | 14' 5" a                          | 12' 9" a  | 11' 7" a  | 10' 5" a  |
| 800S200-68 | 50  | 14' 2" e                      | 12' 10" e | 12' 1" e  | 11' 3" e  | 15' 11" i                         | 14' 5" i  | 13' 7" i  | 12' 7" a  | 12' 10" e                     | 11' 8" e  | 11' 0" e | 10' 3" e  | 14' 5" i                          | 13' 2" i  | 12' 4" i  | 11' 6" a  |
| 800S200-97 | 33  | 15' 10" e                     | 14' 4" e  | 13' 6" e  | 12' 6" e  | 17' 8" i                          | 15' 3" i  | 13' 11" i | 12' 6" i  | 14' 4" e                      | 13' 1" e  | 12' 3" e | 11' 5" e  | 16' 1" i                          | 14' 8" i  | 13' 9" i  | 12' 6" i  |
| 800S200-97 | 50  | 15' 10" e                     | 14' 4" e  | 13' 6" e  | 12' 6" e  | 17' 9" e                          | 16' 1" i  | 15' 2" i  | 14' 1" i  | 14' 4" e                      | 13' 1" e  | 12' 3" e | 11' 5" e  | 16' 1" i                          | 14' 8" e  | 13' 9" i  | 12' 10" i |

## Notes:

- Web punchouts are not considered for shear and web crippling.
- Spans are based on continuous lateral support of the compression flange.
- For two equal spans, tabulated span is the center-to-center distance from either end bearing to the center bearing. The joist must be continuous over the center bearing.
- Web crippling bearing length is assumed to be 3-1/2". Joist flanges must be fastened to the support.
- Deflection checks are computed using unbalanced loads for the two equal span condition.
- "e" indicates that web stiffeners are required at the end supports only.
- "i" indicates that web stiffeners are required at the interior support only.
- "a" indicates that web stiffeners are required at all supports.

## FLOOR JOIST SPAN LIMITATIONS

## 15psf Dead Load and 125psf Live Load (TL Defl.=L/240)

| Member      | ksi | Live Load Deflection L/360    |           |           |          |                                   |           |           |           | Live Load Deflection L/480    |           |           |           |                                   |           |           |          |
|-------------|-----|-------------------------------|-----------|-----------|----------|-----------------------------------|-----------|-----------|-----------|-------------------------------|-----------|-----------|-----------|-----------------------------------|-----------|-----------|----------|
|             |     | Single span spacing (in) o.c. |           |           |          | Two equal spans spacing (in) o.c. |           |           |           | Single span spacing (in) o.c. |           |           |           | Two equal spans spacing (in) o.c. |           |           |          |
|             |     | 12                            | 16        | 19.2      | 24       | 12                                | 16        | 19.2      | 24        | 12                            | 16        | 19.2      | 24        | 12                                | 16        | 19.2      | 24       |
| 800S250-43  | 33  | 11' 1" e                      | 9' 8" e   | 8' 9" e   | 7' 6" e  | 9' 10" a                          | 8' 0" a   | 6' 11" a  | 5' 9" a   | 11' 1" e                      | 9' 8" e   | 8' 9" e   | 7' 6" e   | 9' 10" a                          | 8' 0" a   | 6' 11" a  | 5' 9" a  |
| 800S250-54  | 33  | 12' 8" e                      | 11' 0" e  | 10' 0" e  | 9' 0" e  | 12' 8" a                          | 11' 0" a  | 10' 0" a  | 8' 9" a   | 12' 6" e                      | 11' 0" e  | 10' 0" e  | 9' 0" e   | 12' 8" a                          | 11' 0" a  | 10' 0" a  | 8' 9" a  |
| 800S250-54  | 50  | 13' 9" e                      | 12' 6" e  | 11' 8" e  | 10' 5" e | 14' 9" a                          | 12' 8" a  | 11' 2" a  | 9' 6" a   | 12' 6" e                      | 11' 4" e  | 10' 8" e  | 9' 11" e  | 14' 0" i                          | 12' 8" a  | 11' 2" a  | 9' 6" a  |
| 800S250-68  | 33  | 14' 10" e                     | 13' 2" e  | 12' 1" e  | 10' 9" e | 15' 3" a                          | 13' 2" a  | 12' 1" a  | 10' 9" a  | 13' 5" e                      | 12' 3" e  | 11' 6" e  | 10' 8" e  | 15' 1" a                          | 13' 2" a  | 12' 1" a  | 10' 9" a |
| 800S250-68  | 50  | 14' 9" e                      | 13' 5" e  | 12' 8" e  | 11' 9" e | 16' 7" i                          | 14' 10" i | 13' 6" i  | 12' 1" a  | 13' 5" e                      | 12' 2" e  | 11' 6" e  | 10' 8" e  | 15' 1" i                          | 13' 8" i  | 12' 11" i | 12' 0" a |
| 800S250-97  | 33  | 16' 6" e                      | 15' 0" e  | 14' 1" e  | 13' 1" e | 18' 6" i                          | 16' 1" i  | 14' 8" i  | 13' 2" i  | 15' 0" e                      | 13' 8" e  | 12' 10" e | 11' 11" e | 16' 10" i                         | 15' 4" i  | 14' 5" i  | 13' 2" i |
| 800S250-97  | 50  | 16' 6" e                      | 15' 0" e  | 14' 1" e  | 13' 1" e | 18' 6" i                          | 16' 10" i | 15' 10" i | 14' 9" i  | 15' 0" e                      | 13' 8" e  | 12' 10" e | 11' 11" e | 16' 10" i                         | 15' 4" i  | 14' 5" i  | 13' 4" i |
| 1000S162-43 | 33  | 11' 1" e                      | 8' 11" e  | 7' 5" e   | 5' 11" e | 8' 9" a                           | 7' 0" a   | 5' 11" a  | 4' 9" a   | 11' 1" e                      | 8' 11" e  | 7' 5" e   | 5' 11" e  | 8' 9" a                           | 7' 0" a   | 5' 11" a  | 4' 9" a  |
| 1000S162-54 | 33  | 12' 9" e                      | 11' 0" e  | 10' 1" e  | 9' 0" e  | 12' 9" a                          | 10' 7" a  | 9' 4" a   | 7' 11" a  | 12' 9" e                      | 11' 0" e  | 10' 1" e  | 9' 0" e   | 12' 9" a                          | 10' 7" a  | 9' 4" a   | 7' 11" a |
| 1000S162-54 | 50  | 14' 10" e                     | 13' 0" e  | 11' 10" e | 10' 7" e | 14' 3" a                          | 11' 8" a  | 10' 2" a  | 8' 7" a   | 13' 6" e                      | 12' 3" e  | 11' 7" e  | 10' 7" e  | 14' 3" a                          | 11' 8" a  | 10' 2" a  | 8' 7" a  |
| 1000S162-68 | 33  | 14' 8" e                      | 12' 8" e  | 11' 7" e  | 10' 4" e | 14' 8" a                          | 12' 8" a  | 11' 7" a  | 10' 4" a  | 14' 8" e                      | 12' 8" e  | 11' 7" e  | 10' 4" e  | 14' 8" a                          | 12' 8" a  | 11' 7" a  | 10' 4" a |
| 1000S162-68 | 50  | 16' 1" e                      | 14' 8" e  | 13' 9" e  | 12' 5" e | 17' 6" i                          | 15' 2" i  | 13' 10" a | 12' 5" a  | 14' 8" e                      | 13' 4" e  | 12' 6" e  | 11' 7" e  | 16' 5" i                          | 14' 11" i | 13' 10" a | 12' 5" a |
| 1000S162-97 | 33  | 18' 2" e                      | 16' 6" e  | 15' 6" e  | 14' 5" e | 19' 11" e                         | 17' 1" i  | 15' 7" i  | 13' 10" a | 16' 6" e                      | 15' 0" e  | 14' 1" e  | 13' 1" e  | 18' 6" i                          | 16' 10" i | 15' 10" i | 14' 8" i |
| 1000S162-97 | 50  | 18' 2" e                      | 16' 6" e  | 15' 6" e  | 14' 5" e | 20' 4" i                          | 18' 6" i  | 17' 1" i  | 15' 4" i  | 16' 6" e                      | 15' 0" e  | 14' 1" e  | 13' 1" e  | 18' 6" i                          | 16' 10" i | 15' 10" i | 14' 8" i |
| 1000S200-43 | 33  | 11' 9" e                      | 8' 11" e  | 7' 5" e   | 5' 11" e | 9' 0" a                           | 7' 2" a   | 5' 11" a  | 4' 9" a   | 11' 9" e                      | 8' 11" e  | 7' 5" e   | 5' 11" e  | 9' 0" a                           | 7' 2" a   | 5' 11" a  | 4' 9" a  |
| 1000S200-54 | 33  | 13' 8" e                      | 11' 10" e | 10' 10" e | 9' 8" e  | 13' 6" a                          | 11' 1" a  | 9' 8" a   | 8' 3" a   | 13' 8" e                      | 11' 10" e | 10' 10" e | 9' 8" e   | 13' 6" a                          | 11' 1" a  | 9' 8" a   | 8' 3" a  |
| 1000S200-54 | 50  | 15' 7" e                      | 13' 6" e  | 12' 4" e  | 11' 0" e | 14' 8" a                          | 11' 11" a | 10' 5" a  | 8' 9" a   | 14' 2" e                      | 12' 10" e | 12' 1" e  | 11' 0" e  | 14' 8" a                          | 11' 11" a | 10' 5" a  | 8' 9" a  |
| 1000S200-68 | 33  | 15' 8" e                      | 13' 7" e  | 12' 5" e  | 11' 1" e | 15' 8" a                          | 13' 7" a  | 12' 5" a  | 11' 1" a  | 15' 5" e                      | 13' 7" e  | 12' 5" e  | 11' 1" e  | 15' 8" a                          | 13' 7" a  | 12' 5" a  | 11' 1" a |
| 1000S200-68 | 50  | 16' 10" e                     | 15' 4" e  | 14' 5" e  | 13' 2" e | 18' 7" i                          | 16' 1" a  | 14' 8" a  | 13' 2" a  | 15' 4" e                      | 13' 11" e | 13' 1" e  | 12' 2" e  | 17' 2" i                          | 15' 7" i  | 14' 8" a  | 13' 2" a |
| 1000S200-97 | 33  | 18' 11" e                     | 17' 3" e  | 16' 2" e  | 14' 8" e | 20' 9" i                          | 17' 11" i | 16' 4" i  | 14' 8" a  | 17' 3" e                      | 15' 8" e  | 14' 9" e  | 13' 8" e  | 19' 4" i                          | 17' 7" i  | 16' 4" i  | 14' 8" a |
| 1000S200-97 | 50  | 18' 11" e                     | 17' 3" e  | 16' 2" e  | 15' 0" e | 21' 3" i                          | 19' 4" i  | 18' 2" i  | 16' 4" i  | 17' 3" e                      | 15' 8" e  | 14' 9" e  | 13' 8" e  | 19' 4" i                          | 17' 7" i  | 16' 6" i  | 15' 4" i |
| 1000S250-43 | 33  | 11' 11" e                     | 8' 11" e  | 7' 5" e   | 5' 11" e | 9' 2" a                           | 7' 2" a   | 5' 11" a  | 4' 9" a   | 11' 11" e                     | 8' 11" e  | 7' 5" e   | 5' 11" e  | 9' 2" a                           | 7' 2" a   | 5' 11" a  | 4' 9" a  |
| 1000S250-54 | 33  | 14' 8" e                      | 12' 8" e  | 11' 7" e  | 10' 4" e | 14' 1" a                          | 11' 6" a  | 10' 0" a  | 8' 6" a   | 14' 8" e                      | 12' 8" e  | 11' 7" e  | 10' 4" e  | 14' 1" a                          | 11' 6" a  | 10' 0" a  | 8' 6" a  |
| 1000S250-54 | 50  | 16' 5" e                      | 14' 2" e  | 12' 11" e | 11' 7" e | 15' 1" a                          | 12' 2" a  | 10' 8" a  | 8' 11" a  | 14' 11" e                     | 13' 7" e  | 12' 9" e  | 11' 7" e  | 15' 1" a                          | 12' 2" a  | 10' 8" a  | 8' 11" a |
| 1000S250-68 | 33  | 17' 8" e                      | 15' 5" e  | 14' 1" e  | 12' 7" e | 17' 9" a                          | 15' 5" a  | 14' 1" a  | 12' 7" a  | 16' 1" e                      | 14' 7" e  | 13' 9" e  | 12' 7" e  | 17' 9" a                          | 15' 5" a  | 14' 1" a  | 12' 7" a |
| 1000S250-68 | 50  | 17' 8" e                      | 16' 0" e  | 15' 1" e  | 14' 0" e | 19' 10" i                         | 17' 2" a  | 15' 8" a  | 13' 9" a  | 16' 0" e                      | 14' 7" e  | 13' 9" e  | 12' 9" e  | 18' 0" i                          | 16' 4" a  | 15' 5" a  | 13' 9" a |
| 1000S250-97 | 33  | 19' 9" e                      | 17' 11" e | 16' 10" e | 15' 4" e | 21' 8" i                          | 18' 9" i  | 17' 2" a  | 15' 4" a  | 17' 11" e                     | 16' 3" e  | 15' 4" e  | 14' 3" e  | 20' 1" i                          | 18' 3" i  | 17' 2" a  | 15' 4" a |
| 1000S250-97 | 50  | 19' 9" e                      | 17' 11" e | 16' 10" e | 15' 8" e | 22' 2" i                          | 20' 1" i  | 18' 11" i | 17' 7" i  | 17' 11" e                     | 16' 3" e  | 15' 4" e  | 14' 3" e  | 20' 1" i                          | 18' 3" i  | 17' 2" i  | 16' 0" i |
| 1200S162-54 | 33  | 14' 1" e                      | 12' 2" e  | 11' 2" e  | 9' 10" e | 12' 9" a                          | 10' 3" a  | 8' 11" a  | 7' 6" a   | 14' 1" e                      | 12' 2" e  | 11' 2" e  | 9' 10" e  | 12' 9" a                          | 10' 3" a  | 8' 11" a  | 7' 6" a  |
| 1200S162-54 | 50  | 16' 6" e                      | 14' 4" e  | 12' 4" e  | 9' 10" e | 13' 10" a                         | 11' 1" a  | 9' 7" a   | 7' 11" a  | 15' 6" e                      | 14' 1" e  | 12' 4" e  | 9' 10" e  | 13' 10" a                         | 11' 1" a  | 9' 7" a   | 7' 11" a |
| 1200S162-68 | 33  | 16' 3" e                      | 14' 1" e  | 12' 10" e | 11' 6" e | 16' 3" a                          | 14' 1" a  | 12' 10" a | 11' 4" a  | 16' 3" e                      | 14' 1" e  | 12' 10" e | 11' 6" e  | 16' 3" a                          | 14' 1" a  | 12' 10" a | 11' 4" a |
| 1200S162-68 | 50  | 18' 7" e                      | 16' 10" e | 15' 4" e  | 13' 9" e | 19' 5" i                          | 16' 9" a  | 14' 9" a  | 12' 7" a  | 16' 11" e                     | 15' 4" e  | 14' 5" e  | 13' 5" e  | 19' 0" i                          | 16' 9" a  | 14' 9" a  | 12' 7" a |
| 1200S162-97 | 33  | 20' 3" e                      | 17' 6" e  | 16' 0" e  | 14' 4" e | 20' 3" i                          | 17' 6" i  | 16' 0" i  | 14' 4" a  | 19' 3" e                      | 17' 6" e  | 16' 0" e  | 14' 4" e  | 20' 3" i                          | 17' 6" i  | 16' 0" i  | 14' 4" a |
| 1200S162-97 | 50  | 21' 1" e                      | 19' 2" e  | 18' 1" e  | 16' 9" e | 23' 8" i                          | 20' 11" i | 19' 2" i  | 17' 1" i  | 19' 2" e                      | 17' 5" e  | 16' 5" e  | 15' 3" e  | 21' 6" i                          | 19' 7" i  | 18' 5" i  | 17' 1" i |

## Notes:

- 1 Web punchouts are not considered for shear and web crippling.
- 2 Spans are based on continuous lateral support of the compression flange.
- 3 For two equal spans, tabulated span is the center-to-center distance from either end bearing to the center bearing. The joist must be continuous over the center bearing.
- 4 Web crippling bearing length is assumed to be 3-1/2". Joist flanges must be fastened to the support.
- 5 Deflection checks are computed using unbalanced loads for the two equal span condition.
- 6 "e" indicates that web stiffeners are required at the end supports only.
- 7 "i" indicates that web stiffeners are required at the interior support only.
- 8 "a" indicates that web stiffeners are required at all supports.

Complies with IBC 2006 &amp; AISI-NASPEC, 2001 with 2004 supplement

# FLOOR JOIST SPAN LIMITATIONS

15psf Dead Load and 125psf Live Load (TL Defl.=L/240)

| Member      | ksi | Live Load Deflection L/360    |           |           |           |                                   |           |           |           | Live Load Deflection L/480    |           |           |           |                                   |           |           |           |
|-------------|-----|-------------------------------|-----------|-----------|-----------|-----------------------------------|-----------|-----------|-----------|-------------------------------|-----------|-----------|-----------|-----------------------------------|-----------|-----------|-----------|
|             |     | Single span spacing (in) o.c. |           |           |           | Two equal spans spacing (in) o.c. |           |           |           | Single span spacing (in) o.c. |           |           |           | Two equal spans spacing (in) o.c. |           |           |           |
|             |     | 12                            | 16        | 19.2      | 24        | 12                                | 16        | 19.2      | 24        | 12                            | 16        | 19.2      | 24        | 12                                | 16        | 19.2      | 24        |
| 1200S200-54 | 33  | 15' 1" e                      | 13' 1" e  | 11' 11" e | 9' 10" e  | 13' 2" a                          | 10' 8" a  | 9' 3" a   | 7' 9" a   | 15' 1" e                      | 13' 1" e  | 11' 11" e | 9' 10" e  | 13' 2" a                          | 10' 8" a  | 9' 3" a   | 7' 9" a   |
| 1200S200-54 | 50  | 17' 2" e                      | 14' 9" e  | 12' 4" e  | 9' 10" e  | 14' 1" a                          | 11' 3" a  | 9' 9" a   | 7' 11" a  | 16' 3" e                      | 14' 9" e  | 12' 4" e  | 9' 10" e  | 14' 1" a                          | 11' 3" a  | 9' 9" a   | 7' 11" a  |
| 1200S200-68 | 33  | 17' 5" e                      | 15' 1" e  | 13' 9" e  | 12' 4" e  | 17' 5" a                          | 15' 1" a  | 13' 9" a  | 11' 10" a | 17' 5" e                      | 15' 1" e  | 13' 9" e  | 12' 4" e  | 17' 5" a                          | 15' 1" a  | 13' 9" a  | 11' 10" a |
| 1200S200-68 | 50  | 19' 5" e                      | 17' 7" e  | 16' 3" e  | 14' 6" e  | 20' 7" a                          | 17' 4" a  | 15' 3" a  | 12' 11" a | 17' 7" e                      | 16' 0" e  | 15' 1" e  | 14' 0" e  | 19' 9" i                          | 17' 4" a  | 15' 3" a  | 12' 11" a |
| 1200S200-97 | 33  | 21' 6" e                      | 18' 8" e  | 17' 0" e  | 15' 3" e  | 21' 6" i                          | 18' 8" i  | 17' 0" a  | 15' 3" a  | 20' 0" e                      | 18' 2" e  | 17' 0" e  | 15' 3" e  | 21' 6" i                          | 18' 8" i  | 17' 0" a  | 15' 3" a  |
| 1200S200-97 | 50  | 22' 0" e                      | 20' 0" e  | 18' 9" e  | 17' 5" e  | 24' 8" i                          | 22' 4" i  | 20' 5" i  | 18' 3" i  | 20' 0" e                      | 18' 2" e  | 17' 1" e  | 15' 10" e | 22' 5" i                          | 20' 4" i  | 19' 2" i  | 17' 9" i  |
| 1200S250-54 | 33  | 15' 3" e                      | 13' 3" e  | 12' 1" e  | 9' 10" e  | 13' 3" a                          | 10' 8" a  | 9' 3" a   | 7' 9" a   | 15' 3" e                      | 13' 3" e  | 12' 1" e  | 9' 10" e  | 13' 3" a                          | 10' 8" a  | 9' 3" a   | 7' 9" a   |
| 1200S250-54 | 50  | 17' 6" e                      | 14' 9" e  | 12' 4" e  | 9' 10" e  | 14' 3" a                          | 11' 4" a  | 9' 10" a  | 7' 11" a  | 16' 11" e                     | 14' 9" e  | 12' 4" e  | 9' 10" e  | 14' 3" a                          | 11' 4" a  | 9' 10" a  | 7' 11" a  |
| 1200S250-68 | 33  | 18' 2" e                      | 15' 8" e  | 14' 4" e  | 12' 10" e | 18' 2" a                          | 15' 8" a  | 14' 2" a  | 12' 1" a  | 18' 2" e                      | 15' 8" e  | 14' 4" e  | 12' 10" e | 18' 2" a                          | 15' 8" a  | 14' 2" a  | 12' 1" a  |
| 1200S250-68 | 50  | 20' 2" e                      | 17' 11" e | 16' 4" e  | 14' 8" e  | 20' 8" a                          | 17' 5" a  | 15' 3" a  | 13' 0" a  | 18' 4" e                      | 16' 8" e  | 15' 8" e  | 14' 7" e  | 20' 7" a                          | 17' 5" a  | 15' 3" a  | 13' 0" a  |
| 1200S250-97 | 33  | 22' 9" e                      | 19' 9" e  | 18' 0" e  | 16' 1" e  | 22' 9" i                          | 19' 9" a  | 18' 0" a  | 16' 1" a  | 20' 9" e                      | 18' 10" e | 17' 9" e  | 16' 1" e  | 22' 9" i                          | 19' 9" a  | 18' 0" a  | 16' 1" a  |
| 1200S250-97 | 50  | 22' 10" e                     | 20' 9" e  | 19' 6" e  | 18' 1" e  | 25' 7" i                          | 23' 3" i  | 21' 2" i  | 18' 11" i | 20' 9" e                      | 18' 10" e | 17' 9" e  | 16' 5" e  | 23' 3" i                          | 21' 2" i  | 19' 11" i | 18' 6" i  |
| 1400S162-54 | 33  | 15' 4" e                      | 12' 7" e  | 10' 6" e  | 8' 5" e   | 12' 4" a                          | 9' 10" a  | 8' 5" a   | 6' 9" a   | 15' 4" e                      | 12' 7" e  | 10' 6" e  | 8' 5" e   | 12' 4" a                          | 9' 10" a  | 8' 5" a   | 6' 9" a   |
| 1400S162-54 | 50  | 16' 10" e                     | 12' 7" e  | 10' 6" e  | 8' 5" e   | 13' 2" a                          | 10' 1" a  | 8' 5" a   | 6' 9" a   | 16' 10" e                     | 12' 7" e  | 10' 6" e  | 8' 5" e   | 13' 2" a                          | 10' 1" a  | 8' 5" a   | 6' 9" a   |
| 1400S162-68 | 33  | 17' 9" e                      | 15' 5" e  | 14' 1" e  | 12' 7" e  | 17' 9" a                          | 14' 11" a | 13' 1" a  | 11' 2" a  | 17' 9" e                      | 15' 5" e  | 14' 1" e  | 12' 7" e  | 17' 9" a                          | 14' 11" a | 13' 1" a  | 11' 2" a  |
| 1400S162-68 | 50  | 21' 0" e                      | 18' 4" e  | 16' 8" e  | 14' 11" e | 20' 3" a                          | 16' 6" a  | 14' 4" a  | 12' 2" a  | 19' 1" e                      | 17' 4" e  | 16' 3" e  | 14' 11" e | 20' 3" a                          | 16' 6" a  | 14' 4" a  | 12' 2" a  |
| 1400S162-97 | 33  | 22' 3" e                      | 19' 3" e  | 17' 7" e  | 15' 9" e  | 22' 3" i                          | 19' 3" a  | 17' 7" a  | 15' 9" a  | 21' 11" e                     | 19' 3" e  | 17' 7" e  | 15' 9" e  | 22' 3" i                          | 19' 3" a  | 17' 7" a  | 15' 9" a  |
| 1400S162-97 | 50  | 23' 11" e                     | 21' 9" e  | 20' 5" e  | 18' 9" e  | 26' 6" i                          | 22' 11" i | 20' 11" i | 18' 9" i  | 21' 9" e                      | 19' 9" e  | 18' 7" e  | 17' 3" e  | 24' 5" i                          | 22' 2" i  | 20' 10" i | 18' 9" i  |
| 1400S200-54 | 33  | 16' 5" e                      | 12' 7" e  | 10' 6" e  | 8' 5" e   | 12' 8" a                          | 10' 1" a  | 8' 5" a   | 6' 9" a   | 16' 5" e                      | 12' 7" e  | 10' 6" e  | 8' 5" e   | 12' 8" a                          | 10' 1" a  | 8' 5" a   | 6' 9" a   |
| 1400S200-54 | 50  | 16' 10" e                     | 12' 7" e  | 10' 6" e  | 8' 5" e   | 13' 4" a                          | 10' 1" a  | 8' 5" a   | 6' 9" a   | 16' 10" e                     | 12' 7" e  | 10' 6" e  | 8' 5" e   | 13' 4" a                          | 10' 1" a  | 8' 5" a   | 6' 9" a   |
| 1400S200-68 | 33  | 19' 0" e                      | 16' 5" e  | 15' 0" e  | 13' 5" e  | 18' 11" a                         | 15' 6" a  | 13' 7" a  | 11' 6" a  | 19' 0" e                      | 16' 5" e  | 15' 0" e  | 13' 5" e  | 18' 11" a                         | 15' 6" a  | 13' 7" a  | 11' 6" a  |
| 1400S200-68 | 50  | 21' 10" e                     | 19' 4" e  | 17' 8" e  | 15' 10" e | 20' 11" a                         | 16' 11" a | 14' 9" a  | 12' 5" a  | 19' 10" e                     | 18' 0" e  | 17' 0" e  | 15' 9" e  | 20' 11" a                         | 16' 11" a | 14' 9" a  | 12' 5" a  |
| 1400S200-97 | 33  | 23' 8" e                      | 20' 6" e  | 18' 8" e  | 16' 9" e  | 23' 8" i                          | 20' 6" a  | 18' 8" a  | 16' 9" a  | 22' 9" e                      | 20' 6" e  | 18' 8" e  | 16' 9" e  | 23' 8" i                          | 20' 6" a  | 18' 8" a  | 16' 9" a  |
| 1400S200-97 | 50  | 24' 10" e                     | 22' 7" e  | 21' 3" e  | 19' 9" e  | 27' 11" i                         | 24' 5" i  | 22' 4" i  | 20' 0" a  | 22' 7" e                      | 20' 6" e  | 19' 3" e  | 17' 11" e | 25' 4" i                          | 23' 0" i  | 21' 8" i  | 20' 0" a  |
| 1400S250-54 | 33  | 16' 7" e                      | 12' 7" e  | 10' 6" e  | 8' 5" e   | 12' 9" a                          | 10' 1" a  | 8' 5" a   | 6' 9" a   | 16' 7" e                      | 12' 7" e  | 10' 6" e  | 8' 5" e   | 12' 9" a                          | 10' 1" a  | 8' 5" a   | 6' 9" a   |
| 1400S250-54 | 50  | 16' 10" e                     | 12' 7" e  | 10' 6" e  | 8' 5" e   | 13' 5" a                          | 10' 1" a  | 8' 5" a   | 6' 9" a   | 16' 10" e                     | 12' 7" e  | 10' 6" e  | 8' 5" e   | 13' 5" a                          | 10' 1" a  | 8' 5" a   | 6' 9" a   |
| 1400S250-68 | 33  | 19' 9" e                      | 17' 1" e  | 15' 7" e  | 14' 0" e  | 19' 5" a                          | 15' 10" a | 13' 10" a | 11' 9" a  | 19' 9" e                      | 17' 1" e  | 15' 7" e  | 14' 0" e  | 19' 5" a                          | 15' 10" a | 13' 10" a | 11' 9" a  |
| 1400S250-68 | 50  | 22' 6" e                      | 19' 6" e  | 17' 9" e  | 15' 11" e | 20' 11" a                         | 17' 0" a  | 14' 10" a | 12' 6" a  | 20' 8" e                      | 18' 9" e  | 17' 8" e  | 15' 11" e | 20' 11" a                         | 17' 0" a  | 14' 10" a | 12' 6" a  |
| 1400S250-97 | 33  | 25' 0" e                      | 21' 8" e  | 19' 9" e  | 17' 8" e  | 25' 0" i                          | 21' 8" a  | 19' 8" a  | 17' 8" a  | 23' 7" e                      | 21' 5" e  | 19' 9" e  | 17' 8" e  | 25' 0" i                          | 21' 8" a  | 19' 9" a  | 17' 8" a  |
| 1400S250-97 | 50  | 25' 9" e                      | 23' 5" e  | 22' 0" e  | 20' 5" e  | 28' 11" i                         | 25' 4" i  | 23' 2" i  | 20' 8" a  | 23' 5" e                      | 21' 3" e  | 20' 0" e  | 18' 7" e  | 26' 3" i                          | 23' 10" i | 22' 6" i  | 20' 8" a  |

## Notes:

- Web punchouts are not considered for shear and web crippling.
- Spans are based on continuous lateral support of the compression flange.
- For two equal spans, tabulated span is the center-to-center distance from either end bearing to the center bearing. The joist must be continuous over the center bearing.
- Web crippling bearing length is assumed to be 3-1/2". Joist flanges must be fastened to the support.
- Deflection checks are computed using unbalanced loads for the two equal span condition.
- "e" indicates that web stiffeners are required at the end supports only.
- "i" indicates that web stiffeners are required at the interior support only.
- "a" indicates that web stiffeners are required at all supports.

Complies with IBC 2006 & AISI-NASPEC, 2001 with 2004 supplement

## FLOOR JOIST SPAN LIMITATIONS

## 25psf Dead Load and 125psf Live Load (TL Defl.=L/240)

| Member     | ksi | Live Load Deflection L/360    |           |           |          |           |           |                                   |          |           | Live Load Deflection L/480    |          |           |           |           |           |                                   |           |           |
|------------|-----|-------------------------------|-----------|-----------|----------|-----------|-----------|-----------------------------------|----------|-----------|-------------------------------|----------|-----------|-----------|-----------|-----------|-----------------------------------|-----------|-----------|
|            |     | Single span spacing (in) o.c. |           |           |          |           |           | Two equal spans spacing (in) o.c. |          |           | Single span spacing (in) o.c. |          |           |           |           |           | Two equal spans spacing (in) o.c. |           |           |
|            |     | 12                            | 16        | 19.2      | 24       | 12        | 16        | 19.2                              | 24       | 12        | 16                            | 19.2     | 24        | 12        | 16        | 19.2      | 24                                | 12        | 16        |
| 600S162-33 | 33  | 7' 2" e                       | 6' 2" e   | 5' 3" e   | 4' 3" e  | 5' 11" a  | 4' 9" a   | 4' 1" a                           | 3' 5" a  | 7' 2" e   | 6' 2" e                       | 5' 3" e  | 4' 3" e   | 5' 11" a  | 4' 9" a   | 4' 1" a   | 3' 5" a                           | 7' 2" e   | 6' 2" e   |
| 600S162-43 | 33  | 8' 8" e                       | 7' 6" e   | 6' 10" e  | 6' 1" e  | 8' 8" a   | 7' 6" a   | 6' 8" a                           | 5' 9" a  | 8' 6" e   | 7' 6" e                       | 6' 10" e | 6' 1" e   | 8' 8" a   | 7' 6" a   | 6' 8" a   | 5' 9" a                           | 8' 6" e   | 7' 6" e   |
| 600S162-54 | 33  | 9' 8" e                       | 8' 5" e   | 7' 8" e   | 6' 10" e | 9' 8" a   | 8' 5" a   | 7' 8" a                           | 6' 10" a | 9' 1" e   | 8' 3" e                       | 7' 8" e  | 6' 10" e  | 9' 8" a   | 8' 5" a   | 7' 8" a   | 6' 10" a                          | 9' 1" e   | 8' 3" e   |
| 600S162-54 | 50  | 10' 0" e                      | 9' 1" e   | 8' 7" e   | 7' 11" e | 11' 3" i  | 10' 1" i  | 9' 3" a                           | 8' 3" a  | 9' 1" e   | 8' 3" e                       | 7' 9" e  | 7' 3" e   | 10' 2" i  | 9' 3" i   | 8' 9" i   | 8' 1" a                           | 9' 1" e   | 8' 3" e   |
| 600S162-68 | 33  | 10' 9" e                      | 9' 5" e   | 8' 7" e   | 7' 9" e  | 10' 11" i | 9' 5" i   | 8' 7" i                           | 7' 9" a  | 9' 9" e   | 8' 10" e                      | 8' 4" e  | 7' 9" e   | 10' 11" i | 9' 5" i   | 8' 7" i   | 7' 9" a                           | 9' 9" e   | 8' 10" e  |
| 600S162-68 | 50  | 10' 9" e                      | 9' 9" e   | 9' 2" e   | 8' 6" e  | 12' 0" i  | 10' 11" i | 10' 3" i                          | 9' 5" i  | 9' 9" e   | 8' 10" e                      | 8' 4" e  | 7' 9" e   | 10' 11" i | 9' 11" i  | 9' 4" i   | 8' 8" i                           | 9' 9" e   | 8' 10" e  |
| 600S162-97 | 33  | 11' 11" e                     | 10' 10" e | 10' 2" e  | 9' 3" e  | 13' 1" i  | 11' 4" i  | 10' 4" i                          | 9' 3" i  | 10' 10" e | 9' 10" e                      | 9' 3" e  | 8' 7" e   | 12' 2" i  | 11' 1" i  | 10' 4" i  | 9' 3" i                           | 10' 10" e | 9' 10" e  |
| 600S162-97 | 50  | 11' 11" e                     | 10' 10" e | 10' 2" e  | 9' 3" e  | 13' 5" i  | 12' 2" i  | 11' 5" i                          | 10' 7" i | 10' 10" e | 9' 10" e                      | 9' 3" e  | 8' 7" e   | 12' 2" i  | 11' 1" i  | 10' 5" i  | 9' 8" i                           | 10' 10" e | 9' 10" e  |
| 600S200-33 | 33  | 7' 4" e                       | 6' 4" e   | 5' 3" e   | 4' 3" e  | 6' 0" a   | 4' 10" a  | 4' 2" a                           | 3' 5" a  | 7' 4" e   | 6' 4" e                       | 5' 3" e  | 4' 3" e   | 6' 0" a   | 4' 10" a  | 4' 2" a   | 3' 5" a                           | 7' 4" e   | 6' 4" e   |
| 600S200-43 | 33  | 8' 9" e                       | 7' 7" e   | 6' 11" e  | 6' 2" e  | 8' 9" a   | 7' 7" a   | 6' 9" a                           | 5' 9" a  | 8' 9" e   | 7' 7" e                       | 6' 11" e | 6' 2" e   | 8' 9" a   | 7' 7" a   | 6' 9" a   | 5' 9" a                           | 8' 9" e   | 7' 7" e   |
| 600S200-54 | 33  | 10' 4" e                      | 9' 0" e   | 8' 2" e   | 7' 4" e  | 10' 4" a  | 9' 0" a   | 8' 2" a                           | 7' 4" a  | 9' 7" e   | 8' 8" e                       | 8' 2" e  | 7' 4" e   | 10' 4" a  | 9' 0" a   | 8' 2" a   | 7' 4" a                           | 9' 7" e   | 8' 8" e   |
| 600S200-54 | 50  | 10' 6" e                      | 9' 7" e   | 8' 0" e   | 8' 3" e  | 11' 8" i  | 10' 1" i  | 9' 2" a                           | 8' 3" a  | 9' 7" e   | 8' 8" e                       | 8' 2" e  | 7' 7" e   | 10' 9" i  | 9' 9" i   | 9' 2" a   | 8' 3" a                           | 9' 7" e   | 8' 8" e   |
| 600S200-68 | 33  | 11' 3" e                      | 10' 1" e  | 9' 2" e   | 8' 3" e  | 11' 7" i  | 10' 1" i  | 9' 2" a                           | 8' 3" a  | 10' 3" e  | 9' 4" e                       | 8' 9" e  | 8' 2" e   | 11' 6" i  | 10' 1" i  | 9' 2" a   | 8' 3" a                           | 10' 3" e  | 9' 4" e   |
| 600S200-68 | 50  | 11' 3" e                      | 10' 3" e  | 9' 8" e   | 8' 11" e | 12' 8" i  | 11' 6" i  | 10' 10" i                         | 9' 11" i | 10' 3" e  | 9' 4" e                       | 8' 9" e  | 8' 2" e   | 11' 6" i  | 10' 5" i  | 9' 10" i  | 9' 2" i                           | 10' 3" e  | 9' 4" e   |
| 600S200-97 | 33  | 12' 7" e                      | 11' 5" e  | 10' 9" e  | 9' 10" e | 13' 11" i | 12' 1" i  | 11' 0" i                          | 9' 10" i | 11' 5" e  | 10' 4" e                      | 9' 9" e  | 9' 1" e   | 12' 10" i | 11' 8" i  | 10' 11" i | 9' 10" i                          | 11' 5" e  | 10' 4" e  |
| 600S200-97 | 50  | 12' 7" e                      | 11' 5" e  | 10' 9" e  | 9' 10" e | 14' 1" e  | 12' 10" i | 12' 1" i                          | 11' 2" i | 11' 5" e  | 10' 4" e                      | 9' 9" e  | 9' 1" e   | 12' 10" i | 11' 8" i  | 10' 11" i | 9' 10" i                          | 11' 5" e  | 10' 4" e  |
| 600S250-43 | 33  | 9' 0" e                       | 7' 9" e   | 7' 1" e   | 6' 4" e  | 9' 0" a   | 7' 9" a   | 6' 11" a                          | 5' 10" a | 9' 0" e   | 7' 9" e                       | 7' 1" e  | 6' 4" e   | 9' 0" a   | 7' 9" a   | 6' 11" a  | 5' 10" a                          | 9' 0" e   | 7' 9" e   |
| 600S250-54 | 33  | 10' 1" e                      | 8' 9" e   | 8' 0" e   | 7' 2" e  | 10' 1" a  | 8' 9" a   | 8' 0" a                           | 7' 2" a  | 10' 0" e  | 8' 9" e                       | 8' 0" e  | 7' 2" e   | 10' 1" a  | 8' 9" a   | 8' 0" a   | 7' 2" a                           | 10' 0" e  | 8' 9" e   |
| 600S250-54 | 50  | 11' 0" e                      | 10' 0" e  | 9' 4" e   | 8' 5" e  | 11' 11" i | 10' 4" i  | 9' 5" a                           | 8' 5" a  | 10' 0" e  | 9' 1" e                       | 8' 6" e  | 7' 11" e  | 11' 2" i  | 10' 2" i  | 9' 5" a   | 8' 5" a                           | 10' 0" e  | 9' 1" e   |
| 600S250-68 | 33  | 11' 10" e                     | 10' 6" e  | 9' 7" e   | 8' 7" e  | 12' 2" i  | 10' 6" i  | 9' 7" a                           | 8' 7" a  | 10' 9" e  | 9' 9" e                       | 9' 2" e  | 8' 6" e   | 12' 1" i  | 10' 6" i  | 9' 7" a   | 8' 7" a                           | 10' 9" e  | 9' 9" e   |
| 600S250-68 | 50  | 11' 10" e                     | 10' 9" e  | 10' 1" e  | 9' 5" e  | 13' 3" i  | 11' 9" i  | 10' 9" i                          | 9' 7" i  | 10' 9" e  | 9' 9" e                       | 9' 2" e  | 8' 6" e   | 12' 1" i  | 10' 11" i | 10' 4" i  | 9' 7" i                           | 10' 9" e  | 9' 9" e   |
| 600S250-97 | 33  | 13' 2" e                      | 12' 0" e  | 11' 3" e  | 10' 5" e | 14' 9" i  | 12' 9" i  | 11' 8" i                          | 10' 5" i | 12' 0" e  | 10' 11" e                     | 10' 3" e | 9' 6" e   | 13' 5" i  | 12' 3" i  | 11' 6" i  | 10' 5" i                          | 12' 0" e  | 10' 11" e |
| 600S250-97 | 50  | 13' 2" e                      | 12' 0" e  | 11' 3" e  | 10' 5" e | 14' 9" i  | 13' 5" i  | 12' 8" i                          | 11' 9" i | 12' 0" e  | 10' 11" e                     | 10' 3" e | 9' 6" e   | 13' 5" i  | 12' 3" i  | 11' 6" i  | 10' 8" i                          | 12' 0" e  | 10' 11" e |
| 800S162-33 | 33  | 6' 4" e                       | 4' 9" e   | 3' 11" e  | 3' 2" e  | 5' 0" a   | 3' 9" a   | 3' 2" a                           | 2' 6" a  | 6' 4" e   | 4' 9" e                       | 3' 11" e | 3' 2" e   | 5' 0" a   | 3' 9" a   | 3' 2" a   | 2' 6" a                           | 6' 4" e   | 4' 9" e   |
| 800S162-43 | 33  | 9' 5" e                       | 8' 2" e   | 7' 6" e   | 6' 8" e  | 8' 9" a   | 7' 1" a   | 6' 2" a                           | 5' 2" a  | 9' 5" e   | 8' 2" e                       | 7' 6" e  | 6' 8" e   | 8' 9" a   | 7' 1" a   | 6' 2" a   | 5' 2" a                           | 9' 5" e   | 8' 2" e   |
| 800S162-54 | 33  | 10' 10" e                     | 9' 5" e   | 8' 7" e   | 7' 8" e  | 10' 10" a | 9' 5" a   | 8' 7" a                           | 7' 8" a  | 10' 10" e | 9' 5" e                       | 8' 7" e  | 7' 8" e   | 10' 10" a | 9' 5" a   | 8' 7" a   | 7' 8" a                           | 10' 10" e | 9' 5" e   |
| 800S162-54 | 50  | 12' 6" e                      | 11' 1" e  | 10' 1" e  | 9' 1" e  | 12' 10" i | 11' 1" a  | 9' 11" a                          | 8' 6" a  | 11' 4" e  | 10' 4" e                      | 9' 9" e  | 9' 0" e   | 12' 9" i  | 11' 1" a  | 9' 11" a  | 8' 6" a                           | 11' 4" e  | 10' 4" e  |
| 800S162-68 | 33  | 12' 4" e                      | 10' 8" e  | 9' 9" e   | 8' 9" e  | 12' 4" i  | 10' 8" a  | 9' 9" a                           | 8' 9" a  | 12' 4" e  | 10' 8" e                      | 9' 9" e  | 8' 9" e   | 12' 4" i  | 10' 8" a  | 9' 9" a   | 8' 9" a                           | 12' 4" e  | 10' 8" e  |
| 800S162-68 | 50  | 13' 6" e                      | 12' 3" e  | 11' 7" e  | 10' 6" e | 14' 10" i | 12' 11" i | 11' 9" i                          | 10' 6" a | 12' 3" e  | 11' 2" e                      | 10' 6" e | 9' 9" e   | 13' 9" i  | 12' 6" i  | 11' 9" i  | 10' 6" a                          | 12' 3" e  | 11' 2" e  |
| 800S162-97 | 33  | 15' 1" e                      | 13' 8" e  | 12' 9" e  | 11' 5" e | 16' 1" i  | 14' 0" i  | 12' 9" i                          | 11' 5" i | 13' 8" e  | 12' 5" e                      | 11' 8" e | 10' 10" e | 15' 4" i  | 14' 0" i  | 12' 9" i  | 11' 5" i                          | 13' 8" e  | 12' 5" e  |
| 800S162-97 | 50  | 15' 1" e                      | 13' 8" e  | 12' 11" e | 12' 0" e | 16' 11" i | 15' 4" i  | 14' 6" i                          | 13' 5" i | 13' 8" e  | 12' 5" e                      | 11' 8" e | 10' 10" e | 15' 4" i  | 14' 0" i  | 13' 2" i  | 12' 2" i                          | 13' 8" e  | 12' 5" e  |
| 800S200-33 | 33  | 6' 4" e                       | 4' 9" e   | 3' 11" e  | 3' 2" e  | 5' 0" a   | 3' 9" a   | 3' 2" a                           | 2' 6" a  | 6' 4" e   | 4' 9" e                       | 3' 11" e | 3' 2" e   | 5' 0" a   | 3' 9" a   | 3' 2" a   | 2' 6" a                           | 6' 4" e   | 4' 9" e   |
| 800S200-43 | 33  | 10' 8" e                      | 9' 3" e   | 8' 5" e   | 7' 0" e  | 9' 4" a   | 7' 6" a   | 6' 6" a                           | 5' 5" a  | 10' 8" e  | 9' 3" e                       | 8' 5" e  | 7' 0" e   | 9' 4" a   | 7' 6" a   | 6' 6" a   | 5' 5" a                           | 10' 8" e  | 9' 3" e   |
| 800S200-54 | 33  | 12' 7" e                      | 10' 11" e | 10' 0" e  | 8' 11" e | 12' 7" a  | 10' 11" a | 9' 11" a                          | 8' 5" a  | 12' 0" e  | 10' 11" e                     | 10' 0" e | 8' 11" e  | 12' 7" a  | 10' 11" a | 9' 11" a  | 8' 5" a                           | 12' 0" e  | 10' 11" e |
| 800S200-54 | 50  | 13' 2" e                      | 12' 0" e  | 11' 2" e  | 10' 0" e | 14' 2" a  | 12' 0" a  | 10' 7" a                          | 9' 0" a  | 12' 0" e  | 10' 11" e                     | 10' 3" e | 9' 6" e   | 13' 6" i  | 12' 0" a  | 10' 7" a  | 9' 0" a                           | 12' 0" e  | 10' 11" e |
| 800S200-68 | 33  | 14' 2" e                      | 12' 3" e  | 11' 3" e  | 10' 0" e | 14' 2" a  | 12' 3" a  | 11' 3" a                          | 10' 0" a | 12' 10" e | 11' 8" e                      | 11' 0" e | 10' 0" e  | 14' 2" a  | 12' 3" a  | 11' 3" a  | 10' 0" a                          | 12' 10" e | 11' 8" e  |
| 800S200-68 | 50  | 14' 2" e                      | 12' 10" e | 12' 1" e  | 11' 3" e | 15' 11" i | 14' 5" i  | 13' 7" a                          | 12' 1" a | 12' 10" e | 11' 8" e                      | 11' 0" e | 10' 3" e  | 14' 5" i  | 13' 2" i  | 12' 4" i  | 11' 6" a                          | 12' 10" e | 11' 8" e  |
| 800S200-97 | 33  | 15' 10" e                     | 14' 4" e  | 13' 6" e  | 12' 1" e | 17' 0" i  | 14' 9" i  | 13' 6" i                          | 12' 1" i | 14' 4" e  | 13' 1" e                      | 12' 3" e | 11' 5" e  | 16' 1" i  | 14' 8" i  | 13' 6" i  | 12' 1" i                          | 14' 4" e  | 13' 1" e  |
| 800S200-97 | 50  | 15' 10" e                     | 14' 4" e  | 13' 6" e  | 12' 6" e | 17' 9" i  | 16' 1" i  | 15' 2" i                          | 14' 1" i | 14' 4" e  | 13' 1" e                      | 12' 3" e | 11' 5" e  | 16' 1" i  | 14' 8" i  | 13' 9" i  | 12' 10" i                         | 14' 4" e  | 13' 1" e  |

## Notes:

- 1 Web punchouts are not considered for shear and web crippling.
- 2 Spans are based on continuous lateral support of the compression flange.
- 3 For two equal spans, tabulated span is the center-to-center distance from either end bearing to the center bearing. The joist must be continuous over the center bearing.
- 4 Web crippling bearing length is assumed to be 3-1/2". Joist flanges must be fastened to the support.
- 5 Deflection checks are computed using unbalanced loads for the two equal span condition.
- 6 "e" indicates that web stiffeners are required at the end supports only.
- 7 "i" indicates that web stiffeners are required at the interior support only.
- 8 "a" indicates that web stiffeners are required at all supports.

Complies with IBC 2006 &amp; AISI-NASPEC, 2001 with 2004 supplement

The technical content of this literature is effective 2/1/12 and supersedes all previous information.

# FLOOR JOIST SPAN LIMITATIONS

25psf Dead Load and 125psf Live Load (TL Defl.=L/240)

| Member      | ksi | Live Load Deflection L/360    |           |           |           |                                   |           |           |           | Live Load Deflection L/480    |           |           |           |                                   |           |           |           |
|-------------|-----|-------------------------------|-----------|-----------|-----------|-----------------------------------|-----------|-----------|-----------|-------------------------------|-----------|-----------|-----------|-----------------------------------|-----------|-----------|-----------|
|             |     | Single span spacing (in) o.c. |           |           |           | Two equal spans spacing (in) o.c. |           |           |           | Single span spacing (in) o.c. |           |           |           | Two equal spans spacing (in) o.c. |           |           |           |
|             |     | 12                            | 16        | 19.2      | 24        | 12                                | 16        | 19.2      | 24        | 12                            | 16        | 19.2      | 24        | 12                                | 16        | 19.2      | 24        |
| 800S250-43  | 33  | 10' 9" e                      | 9' 4" e   | 8' 6" e   | 7' 0" e   | 9' 4" a                           | 7' 6" a   | 6' 7" a   | 5' 6" a   | 10' 9" e                      | 9' 4" e   | 8' 6" e   | 7' 0" e   | 9' 4" a                           | 7' 6" a   | 6' 7" a   | 5' 6" a   |
| 800S250-54  | 33  | 12' 3" e                      | 10' 7" e  | 9' 8" e   | 8' 8" e   | 12' 3" a                          | 10' 7" a  | 9' 8" a   | 8' 4" a   | 12' 3" e                      | 10' 7" e  | 9' 8" e   | 8' 8" e   | 12' 3" a                          | 10' 7" a  | 9' 8" a   | 8' 4" a   |
| 800S250-54  | 50  | 13' 9" e                      | 12' 4" e  | 11' 3" e  | 10' 1" e  | 14' 3" a                          | 12' 1" a  | 10' 8" a  | 9' 1" a   | 12' 6" e                      | 11' 4" e  | 10' 8" e  | 9' 11" e  | 14' 0" a                          | 12' 1" a  | 10' 8" a  | 9' 1" a   |
| 800S250-68  | 33  | 14' 9" e                      | 12' 9" e  | 11' 8" e  | 10' 5" e  | 14' 9" a                          | 12' 9" a  | 11' 8" a  | 10' 5" a  | 13' 5" e                      | 12' 3" e  | 11' 6" e  | 10' 5" e  | 14' 9" a                          | 12' 9" a  | 11' 8" a  | 10' 5" a  |
| 800S250-68  | 50  | 14' 9" e                      | 13' 5" e  | 12' 8" e  | 11' 8" e  | 16' 7" i                          | 14' 4" i  | 13' 1" a  | 11' 8" a  | 13' 5" e                      | 12' 2" e  | 11' 6" e  | 10' 8" e  | 15' 1" i                          | 13' 8" i  | 12' 11" a | 11' 8" a  |
| 800S250-97  | 33  | 16' 6" e                      | 15' 0" e  | 14' 1" e  | 12' 8" e  | 17' 11" i                         | 15' 6" i  | 14' 2" i  | 12' 8" i  | 15' 0" e                      | 13' 8" e  | 12' 10" e | 11' 11" e | 16' 10" i                         | 15' 4" i  | 14' 2" i  | 12' 8" i  |
| 800S250-97  | 50  | 16' 6" e                      | 15' 0" e  | 14' 1" e  | 13' 1" e  | 18' 6" i                          | 16' 10" i | 15' 10" i | 14' 9" i  | 15' 0" e                      | 13' 8" e  | 12' 10" e | 11' 11" e | 16' 10" i                         | 15' 4" i  | 14' 5" i  | 13' 4" i  |
| 1000S162-43 | 33  | 10' 8" e                      | 8' 4" e   | 6' 11" e  | 5' 7" e   | 8' 4" a                           | 6' 7" a   | 5' 7" a   | 4' 5" a   | 10' 8" e                      | 8' 4" e   | 6' 11" e  | 5' 7" e   | 8' 4" a                           | 6' 7" a   | 5' 7" a   | 4' 5" a   |
| 1000S162-54 | 33  | 12' 4" e                      | 10' 8" e  | 9' 9" e   | 8' 8" e   | 12' 4" a                          | 10' 1" a  | 8' 10" a  | 7' 6" a   | 12' 4" e                      | 10' 8" e  | 9' 9" e   | 8' 8" e   | 12' 4" a                          | 10' 1" a  | 8' 10" a  | 7' 6" a   |
| 1000S162-54 | 50  | 14' 6" e                      | 12' 6" e  | 11' 5" e  | 10' 3" e  | 13' 7" a                          | 11' 0" a  | 9' 8" a   | 8' 1" a   | 13' 6" e                      | 12' 3" e  | 11' 5" e  | 10' 3" e  | 13' 7" a                          | 11' 0" a  | 9' 8" a   | 8' 1" a   |
| 1000S162-68 | 33  | 14' 2" e                      | 12' 3" e  | 11' 2" e  | 10' 0" e  | 14' 2" a                          | 12' 3" a  | 11' 2" a  | 10' 0" a  | 14' 2" e                      | 12' 3" e  | 11' 2" e  | 10' 0" e  | 14' 2" a                          | 12' 3" a  | 11' 2" a  | 10' 0" a  |
| 1000S162-68 | 50  | 16' 1" e                      | 14' 8" e  | 13' 5" e  | 12' 0" e  | 16' 11" i                         | 14' 8" i  | 13' 5" a  | 12' 0" a  | 14' 8" e                      | 13' 4" e  | 12' 6" e  | 11' 7" e  | 16' 5" i                          | 14' 8" i  | 13' 5" a  | 12' 0" a  |
| 1000S162-97 | 33  | 18' 2" e                      | 16' 6" e  | 15' 1" e  | 13' 0" e  | 19' 1" i                          | 16' 6" i  | 15' 1" i  | 13' 0" i  | 16' 6" e                      | 15' 0" e  | 14' 1" e  | 13' 1" e  | 18' 6" i                          | 16' 10" i | 15' 10" i | 14' 8" i  |
| 1000S162-97 | 50  | 18' 2" e                      | 16' 6" e  | 15' 6" e  | 14' 5" e  | 20' 4" i                          | 18' 1" i  | 16' 6" i  | 14' 9" i  | 16' 6" e                      | 15' 0" e  | 14' 1" e  | 13' 1" e  | 18' 6" i                          | 16' 10" i | 15' 10" i | 14' 8" i  |
| 1000S200-43 | 33  | 11' 1" e                      | 8' 4" e   | 6' 11" e  | 5' 7" e   | 8' 6" a                           | 6' 8" a   | 5' 7" a   | 4' 5" a   | 11' 1" e                      | 8' 4" e   | 6' 11" e  | 5' 7" e   | 8' 6" a                           | 6' 8" a   | 5' 7" a   | 4' 5" a   |
| 1000S200-54 | 33  | 13' 2" e                      | 11' 5" e  | 10' 5" e  | 9' 4" e   | 12' 10" a                         | 10' 6" a  | 9' 2" a   | 7' 9" a   | 13' 2" e                      | 11' 5" e  | 10' 5" e  | 9' 4" e   | 12' 10" a                         | 10' 6" a  | 9' 2" a   | 7' 9" a   |
| 1000S200-54 | 50  | 15' 1" e                      | 13' 1" e  | 11' 11" e | 10' 8" e  | 13' 11" a                         | 11' 4" a  | 9' 10" a  | 8' 3" a   | 14' 2" e                      | 12' 10" e | 11' 11" e | 10' 8" e  | 13' 11" a                         | 11' 4" a  | 9' 10" a  | 8' 3" a   |
| 1000S200-68 | 33  | 15' 2" e                      | 13' 1" e  | 12' 0" e  | 10' 8" e  | 15' 2" a                          | 13' 1" a  | 12' 0" a  | 10' 8" a  | 15' 2" e                      | 13' 1" e  | 12' 0" e  | 10' 8" e  | 15' 2" a                          | 13' 1" a  | 12' 0" a  | 10' 8" a  |
| 1000S200-68 | 50  | 16' 10" e                     | 15' 4" e  | 14' 2" e  | 12' 8" e  | 17' 11" i                         | 15' 6" a  | 14' 2" a  | 12' 7" a  | 15' 4" e                      | 13' 11" e | 13' 1" e  | 12' 2" e  | 17' 2" i                          | 15' 6" a  | 14' 2" a  | 12' 7" a  |
| 1000S200-97 | 33  | 18' 11" e                     | 17' 3" e  | 15' 10" e | 14' 2" e  | 20' 0" i                          | 17' 4" i  | 15' 10" i | 14' 2" a  | 17' 3" e                      | 15' 8" e  | 14' 9" e  | 13' 8" e  | 19' 4" i                          | 17' 4" i  | 15' 10" i | 14' 2" a  |
| 1000S200-97 | 50  | 18' 11" e                     | 17' 3" e  | 16' 2" e  | 15' 0" e  | 21' 3" i                          | 19' 4" i  | 17' 8" i  | 15' 10" i | 17' 3" e                      | 15' 8" e  | 14' 9" e  | 13' 8" e  | 19' 4" i                          | 17' 4" i  | 16' 6" i  | 15' 4" i  |
| 1000S250-43 | 33  | 11' 1" e                      | 8' 4" e   | 6' 11" e  | 5' 7" e   | 8' 8" a                           | 6' 8" a   | 5' 7" a   | 4' 5" a   | 11' 1" e                      | 8' 4" e   | 6' 11" e  | 5' 7" e   | 8' 8" a                           | 6' 8" a   | 5' 7" a   | 4' 5" a   |
| 1000S250-54 | 33  | 14' 2" e                      | 12' 3" e  | 11' 2" e  | 10' 0" e  | 13' 5" a                          | 10' 11" a | 9' 7" a   | 8' 0" a   | 14' 2" e                      | 12' 3" e  | 11' 2" e  | 10' 0" e  | 13' 5" a                          | 10' 11" a | 9' 7" a   | 8' 0" a   |
| 1000S250-54 | 50  | 15' 10" e                     | 13' 8" e  | 12' 6" e  | 11' 1" e  | 14' 4" a                          | 11' 7" a  | 10' 1" a  | 8' 5" a   | 14' 11" e                     | 13' 7" e  | 12' 6" e  | 11' 1" e  | 14' 4" a                          | 11' 7" a  | 10' 1" a  | 8' 5" a   |
| 1000S250-68 | 33  | 17' 2" e                      | 14' 11" e | 13' 7" e  | 12' 2" e  | 17' 2" a                          | 14' 11" a | 13' 7" a  | 12' 2" a  | 16' 1" e                      | 14' 7" e  | 13' 7" e  | 12' 2" e  | 17' 2" a                          | 14' 11" a | 13' 7" a  | 12' 2" a  |
| 1000S250-68 | 50  | 17' 8" e                      | 16' 0" e  | 15' 1" e  | 13' 7" e  | 19' 2" i                          | 16' 7" a  | 15' 2" a  | 13' 1" a  | 16' 0" e                      | 14' 7" e  | 13' 9" e  | 12' 9" e  | 18' 0" i                          | 16' 4" a  | 15' 2" a  | 13' 1" a  |
| 1000S250-97 | 33  | 19' 9" e                      | 17' 11" e | 16' 7" e  | 14' 10" e | 20' 11" i                         | 18' 2" i  | 16' 7" a  | 14' 10" a | 17' 11" e                     | 16' 3" e  | 15' 4" e  | 14' 3" e  | 20' 1" i                          | 18' 2" i  | 16' 7" a  | 14' 10" a |
| 1000S250-97 | 50  | 19' 9" e                      | 17' 11" e | 16' 10" e | 15' 8" e  | 22' 2" i                          | 20' 1" i  | 18' 11" i | 17' 7" i  | 17' 11" e                     | 16' 3" e  | 15' 4" e  | 14' 3" e  | 20' 1" i                          | 18' 3" i  | 17' 2" i  | 16' 0" i  |
| 1200S162-54 | 33  | 13' 7" e                      | 11' 9" e  | 10' 9" e  | 9' 2" e   | 12' 1" a                          | 9' 9" a   | 8' 0" a   | 7' 1" a   | 13' 7" e                      | 11' 9" e  | 10' 9" e  | 9' 2" e   | 12' 1" a                          | 9' 9" a   | 8' 0" a   | 7' 1" a   |
| 1200S162-54 | 50  | 16' 0" e                      | 13' 10" e | 11' 6" e  | 9' 2" e   | 13' 2" a                          | 10' 6" a  | 9' 1" a   | 7' 4" a   | 15' 6" e                      | 13' 10" e | 11' 6" e  | 9' 2" e   | 13' 2" a                          | 10' 6" a  | 9' 1" a   | 7' 4" a   |
| 1200S162-68 | 33  | 15' 9" e                      | 13' 7" e  | 12' 5" e  | 11' 1" e  | 15' 9" a                          | 13' 7" a  | 12' 5" a  | 10' 9" a  | 15' 9" e                      | 13' 7" e  | 12' 5" e  | 11' 1" e  | 15' 9" a                          | 13' 7" a  | 12' 5" a  | 10' 9" a  |
| 1200S162-68 | 50  | 18' 7" e                      | 16' 3" e  | 14' 10" e | 13' 3" e  | 18' 9" i                          | 15' 11" a | 14' 0" a  | 11' 11" a | 16' 11" e                     | 15' 4" e  | 14' 5" e  | 13' 3" e  | 18' 9" i                          | 15' 11" a | 14' 0" a  | 11' 11" a |
| 1200S162-97 | 33  | 19' 6" e                      | 16' 11" e | 15' 5" e  | 13' 10" e | 19' 6" i                          | 16' 11" i | 15' 5" a  | 13' 10" a | 19' 3" e                      | 16' 11" e | 15' 5" e  | 13' 10" e | 19' 6" i                          | 16' 11" i | 15' 5" a  | 13' 10" a |
| 1200S162-97 | 50  | 21' 1" e                      | 19' 2" e  | 18' 1" e  | 16' 6" e  | 23' 4" i                          | 20' 3" i  | 18' 6" i  | 16' 6" i  | 19' 2" e                      | 17' 5" e  | 16' 5" e  | 15' 3" e  | 21' 6" i                          | 19' 7" i  | 18' 5" i  | 16' 6" i  |

## Notes:

- Web punchouts are not considered for shear and web crippling.
- Spans are based on continuous lateral support of the compression flange.
- For two equal spans, tabulated span is the center-to-center distance from either end bearing to the center bearing. The joist must be continuous over the center bearing.
- Web crippling bearing length is assumed to be 3-1/2". Joist flanges must be fastened to the support.
- Deflection checks are computed using unbalanced loads for the two equal span condition.
- "e" indicates that web stiffeners are required at the end supports only.
- "i" indicates that web stiffeners are required at the interior support only.
- "a" indicates that web stiffeners are required at all supports.

Complies with IBC 2006 & AISI-NASPEC, 2001 with 2004 supplement

Pub. No. CD-STR-TechGuide 2/12

The technical content of this literature is effective 2/1/12 and supersedes all previous information.

clarkdietrich.com

## FLOOR JOIST SPAN LIMITATIONS

## 25psf Dead Load and 125psf Live Load (TL Defl.=L/240)

| Member      | ksi | Live Load Deflection L/360    |           |           |           |                                   |           |           |           | Live Load Deflection L/480    |           |           |           |                                   |           |           |           |
|-------------|-----|-------------------------------|-----------|-----------|-----------|-----------------------------------|-----------|-----------|-----------|-------------------------------|-----------|-----------|-----------|-----------------------------------|-----------|-----------|-----------|
|             |     | Single span spacing (in) o.c. |           |           |           | Two equal spans spacing (in) o.c. |           |           |           | Single span spacing (in) o.c. |           |           |           | Two equal spans spacing (in) o.c. |           |           |           |
|             |     | 12                            | 16        | 19.2      | 24        | 12                                | 16        | 19.2      | 24        | 12                            | 16        | 19.2      | 24        | 12                                | 16        | 19.2      | 24        |
| 1200S200-54 | 33  | 14' 7" e                      | 12' 8" e  | 11' 6" e  | 9' 2" e   | 12' 7" a                          | 10' 1" a  | 8' 9" a   | 7' 4" a   | 14' 7" e                      | 12' 8" e  | 11' 6" e  | 9' 2" e   | 12' 7" a                          | 10' 1" a  | 8' 9" a   | 7' 4" a   |
| 1200S200-54 | 50  | 16' 7" e                      | 13' 10" e | 11' 6" e  | 9' 2" e   | 13' 5" a                          | 10' 8" a  | 9' 2" a   | 7' 4" a   | 16' 3" e                      | 13' 10" e | 11' 6" e  | 9' 2" e   | 13' 5" a                          | 10' 8" a  | 9' 2" a   | 7' 4" a   |
| 1200S200-68 | 33  | 16' 10" e                     | 14' 7" e  | 13' 3" e  | 11' 11" e | 16' 10" a                         | 14' 7" a  | 13' 1" a  | 11' 3" a  | 16' 10" e                     | 14' 7" e  | 13' 3" e  | 11' 11" e | 16' 10" a                         | 14' 7" a  | 13' 1" a  | 11' 3" a  |
| 1200S200-68 | 50  | 19' 5" e                      | 17' 2" e  | 15' 8" e  | 14' 0" e  | 19' 10" a                         | 16' 6" a  | 14' 6" a  | 12' 4" a  | 17' 7" e                      | 16' 0" e  | 15' 1" e  | 14' 0" e  | 19' 9" a                          | 16' 6" a  | 14' 6" a  | 12' 4" a  |
| 1200S200-97 | 33  | 20' 9" e                      | 18' 0" e  | 16' 5" e  | 14' 8" e  | 20' 9" i                          | 18' 0" i  | 16' 5" a  | 14' 8" a  | 20' 0" e                      | 18' 0" e  | 16' 5" e  | 14' 8" e  | 20' 9" i                          | 18' 0" i  | 16' 5" a  | 14' 8" a  |
| 1200S200-97 | 50  | 22' 0" e                      | 20' 0" e  | 18' 9" e  | 17' 5" e  | 24' 8" i                          | 21' 7" i  | 19' 9" i  | 17' 8" i  | 20' 0" e                      | 18' 2" e  | 17' 1" e  | 15' 10" e | 22' 5" i                          | 20' 4" i  | 19' 2" i  | 17' 8" i  |
| 1200S250-54 | 33  | 14' 9" e                      | 12' 10" e | 11' 6" e  | 9' 2" e   | 12' 8" a                          | 10' 2" a  | 8' 9" a   | 7' 4" a   | 14' 9" e                      | 12' 10" e | 11' 6" e  | 9' 2" e   | 12' 8" a                          | 10' 2" a  | 8' 9" a   | 7' 4" a   |
| 1200S250-54 | 50  | 16' 11" e                     | 13' 10" e | 11' 6" e  | 9' 2" e   | 13' 6" a                          | 10' 9" a  | 9' 2" a   | 7' 4" a   | 16' 11" e                     | 13' 10" e | 11' 6" e  | 9' 2" e   | 13' 6" a                          | 10' 9" a  | 9' 2" a   | 7' 4" a   |
| 1200S250-68 | 33  | 17' 6" e                      | 15' 2" e  | 13' 10" e | 12' 5" e  | 17' 6" a                          | 15' 2" a  | 13' 6" a  | 11' 6" a  | 17' 6" e                      | 15' 2" e  | 13' 10" e | 12' 5" e  | 17' 6" a                          | 15' 2" a  | 13' 6" a  | 11' 6" a  |
| 1200S250-68 | 50  | 20' 0" e                      | 17' 4" e  | 15' 10" e | 14' 2" e  | 20' 0" a                          | 16' 7" a  | 14' 7" a  | 12' 4" a  | 18' 4" e                      | 16' 8" e  | 15' 8" e  | 14' 2" e  | 20' 0" a                          | 16' 7" a  | 14' 7" a  | 12' 4" a  |
| 1200S250-97 | 33  | 22' 0" e                      | 19' 1" e  | 17' 5" e  | 15' 7" e  | 22' 0" i                          | 19' 1" a  | 17' 5" a  | 15' 7" a  | 20' 9" e                      | 18' 10" e | 17' 5" e  | 15' 7" e  | 22' 0" i                          | 19' 1" a  | 17' 5" a  | 15' 7" a  |
| 1200S250-97 | 50  | 22' 10" e                     | 20' 9" e  | 19' 6" e  | 18' 1" e  | 25' 7" i                          | 22' 5" i  | 20' 6" i  | 18' 4" i  | 20' 9" e                      | 18' 10" e | 17' 9" e  | 16' 5" e  | 23' 3" i                          | 21' 2" i  | 19' 11" i | 18' 4" i  |
| 1400S162-54 | 33  | 14' 10" e                     | 11' 9" e  | 9' 10" e  | 7' 10" e  | 11' 8" a                          | 9' 3" a   | 7' 10" a  | 6' 3" a   | 14' 10" e                     | 11' 9" e  | 9' 10" e  | 7' 10" e  | 11' 8" a                          | 9' 3" a   | 7' 10" a  | 6' 3" a   |
| 1400S162-54 | 50  | 15' 9" e                      | 11' 9" e  | 9' 10" e  | 7' 10" e  | 12' 5" a                          | 9' 5" a   | 7' 10" a  | 6' 3" a   | 15' 9" e                      | 11' 9" e  | 9' 10" e  | 7' 10" e  | 12' 5" a                          | 9' 5" a   | 7' 10" a  | 6' 3" a   |
| 1400S162-68 | 33  | 17' 2" e                      | 14' 10" e | 13' 7" e  | 12' 2" e  | 17' 2" a                          | 14' 2" a  | 12' 5" a  | 10' 7" a  | 17' 2" e                      | 14' 10" e | 13' 7" e  | 12' 2" e  | 17' 2" a                          | 14' 2" a  | 12' 5" a  | 10' 7" a  |
| 1400S162-68 | 50  | 20' 5" e                      | 17' 8" e  | 16' 2" e  | 14' 5" e  | 19' 3" a                          | 15' 8" a  | 13' 8" a  | 11' 6" a  | 19' 1" e                      | 17' 4" e  | 16' 2" e  | 14' 5" e  | 19' 3" a                          | 15' 8" a  | 13' 8" a  | 11' 6" a  |
| 1400S162-97 | 33  | 21' 6" e                      | 18' 7" e  | 17' 0" e  | 15' 2" e  | 21' 6" i                          | 18' 7" a  | 17' 0" a  | 15' 2" a  | 21' 6" e                      | 18' 7" e  | 17' 0" e  | 15' 2" e  | 21' 6" i                          | 18' 7" a  | 17' 0" a  | 15' 2" a  |
| 1400S162-97 | 50  | 23' 11" e                     | 21' 9" e  | 20' 3" e  | 18' 1" e  | 25' 7" i                          | 22' 2" i  | 20' 3" i  | 18' 1" i  | 21' 9" e                      | 19' 9" e  | 18' 7" e  | 17' 3" e  | 24' 5" i                          | 22' 2" i  | 20' 3" i  | 18' 1" i  |
| 1400S200-54 | 33  | 15' 9" e                      | 11' 9" e  | 9' 10" e  | 7' 10" e  | 12' 0" a                          | 9' 5" a   | 7' 10" a  | 6' 3" a   | 15' 9" e                      | 11' 9" e  | 9' 10" e  | 7' 10" e  | 12' 0" a                          | 9' 5" a   | 7' 10" a  | 6' 3" a   |
| 1400S200-54 | 50  | 15' 9" e                      | 11' 9" e  | 9' 10" e  | 7' 10" e  | 12' 7" a                          | 9' 5" a   | 7' 10" a  | 6' 3" a   | 15' 9" e                      | 11' 9" e  | 9' 10" e  | 7' 10" e  | 12' 7" a                          | 9' 5" a   | 7' 10" a  | 6' 3" a   |
| 1400S200-68 | 33  | 18' 4" e                      | 15' 10" e | 14' 6" e  | 12' 11" e | 18' 0" a                          | 14' 9" a  | 12' 11" a | 10' 11" a | 18' 4" e                      | 15' 10" e | 14' 6" e  | 12' 11" e | 18' 0" a                          | 14' 9" a  | 12' 11" a | 10' 11" a |
| 1400S200-68 | 50  | 21' 7" e                      | 18' 8" e  | 17' 1" e  | 15' 3" e  | 19' 11" a                         | 16' 1" a  | 14' 0" a  | 11' 10" a | 19' 10" e                     | 18' 0" e  | 17' 0" e  | 15' 3" e  | 19' 11" a                         | 16' 1" a  | 14' 0" a  | 11' 10" a |
| 1400S200-97 | 33  | 22' 10" e                     | 19' 9" e  | 18' 1" e  | 16' 2" e  | 22' 10" i                         | 19' 9" a  | 18' 1" a  | 16' 2" a  | 22' 9" e                      | 19' 9" e  | 18' 1" e  | 16' 2" e  | 22' 10" i                         | 19' 9" a  | 18' 1" a  | 16' 2" a  |
| 1400S200-97 | 50  | 24' 10" e                     | 22' 7" e  | 21' 3" e  | 19' 3" e  | 27' 3" i                          | 23' 8" i  | 21' 7" i  | 19' 3" a  | 22' 7" e                      | 20' 6" e  | 19' 3" e  | 17' 11" e | 25' 4" i                          | 23' 0" i  | 21' 7" i  | 19' 3" a  |
| 1400S250-54 | 33  | 15' 9" e                      | 11' 9" e  | 9' 10" e  | 7' 10" e  | 12' 7" a                          | 9' 5" a   | 7' 10" a  | 6' 3" a   | 15' 9" e                      | 11' 9" e  | 9' 10" e  | 7' 10" e  | 12' 7" a                          | 9' 5" a   | 7' 10" a  | 6' 3" a   |
| 1400S250-54 | 50  | 15' 9" e                      | 11' 9" e  | 9' 10" e  | 7' 10" e  | 12' 7" a                          | 9' 5" a   | 7' 10" a  | 6' 3" a   | 15' 9" e                      | 11' 9" e  | 9' 10" e  | 7' 10" e  | 12' 7" a                          | 9' 5" a   | 7' 10" a  | 6' 3" a   |
| 1400S250-68 | 33  | 19' 1" e                      | 16' 6" e  | 15' 1" e  | 13' 6" e  | 18' 6" a                          | 15' 1" a  | 13' 2" a  | 11' 2" a  | 19' 1" e                      | 16' 6" e  | 15' 1" e  | 13' 6" e  | 18' 6" a                          | 15' 1" a  | 13' 2" a  | 11' 2" a  |
| 1400S250-68 | 50  | 21' 9" e                      | 18' 10" e | 17' 2" e  | 15' 4" e  | 19' 11" a                         | 16' 2" a  | 14' 1" a  | 11' 10" a | 20' 8" e                      | 18' 9" e  | 17' 2" e  | 15' 4" e  | 19' 11" a                         | 16' 2" a  | 14' 1" a  | 11' 10" a |
| 1400S250-97 | 33  | 24' 2" e                      | 20' 11" e | 19' 1" e  | 17' 1" e  | 24' 2" i                          | 20' 11" a | 19' 1" a  | 17' 1" a  | 23' 7" e                      | 20' 11" e | 19' 1" e  | 17' 1" e  | 24' 2" i                          | 20' 11" a | 19' 1" a  | 17' 1" a  |
| 1400S250-97 | 50  | 25' 9" e                      | 23' 5" e  | 22' 0" e  | 20' 0" e  | 28' 3" i                          | 24' 6" i  | 22' 4" i  | 20' 0" a  | 23' 5" e                      | 21' 3" e  | 20' 0" e  | 18' 7" e  | 26' 3" i                          | 23' 10" i | 22' 4" i  | 20' 0" a  |

## Notes:

- 1 Web punchouts are not considered for shear and web crippling.
- 2 Spans are based on continuous lateral support of the compression flange.
- 3 For two equal spans, tabulated span is the center-to-center distance from either end bearing to the center bearing. The joist must be continuous over the center bearing.
- 4 Web crippling bearing length is assumed to be 3-1/2". Joist flanges must be fastened to the support.
- 5 Deflection checks are computed using unbalanced loads for the two equal span condition.
- 6 "e" indicates that web stiffeners are required at the end supports only.
- 7 "i" indicates that web stiffeners are required at the interior support only.
- 8 "a" indicates that web stiffeners are required at all supports.

Complies with IBC 2006 &amp; AISI-NASPEC, 2001 with 2004 supplement

# FLOOR JOIST SPAN LIMITATIONS

## 40psf Dead Load and 125psf Live Load (TL Defl.=L/240)

| Member     | ksi | Live Load Deflection L/360    |           |           |           |           |           |                                   |           |           | Live Load Deflection L/480    |          |           |           |           |           |                                   |           |           |
|------------|-----|-------------------------------|-----------|-----------|-----------|-----------|-----------|-----------------------------------|-----------|-----------|-------------------------------|----------|-----------|-----------|-----------|-----------|-----------------------------------|-----------|-----------|
|            |     | Single span spacing (in) o.c. |           |           |           |           |           | Two equal spans spacing (in) o.c. |           |           | Single span spacing (in) o.c. |          |           |           |           |           | Two equal spans spacing (in) o.c. |           |           |
|            |     | 12                            | 16        | 19.2      | 24        | 12        | 16        | 19.2                              | 24        | 12        | 16                            | 19.2     | 24        | 12        | 16        | 19.2      | 24                                | 12        | 16        |
| 600S162-33 | 33  | 6' 10" e                      | 5' 9" e   | 4' 10" e  | 3' 10" e  | 5' 6" a   | 4' 5" a   | 3' 10" a                          | 3' 1" a   | 6' 10" e  | 5' 9" e                       | 4' 10" e | 3' 10" e  | 5' 6" a   | 4' 5" a   | 3' 10" a  | 3' 1" a                           | 6' 10" e  | 5' 9" e   |
| 600S162-43 | 33  | 8' 3" e                       | 7' 2" e   | 6' 6" e   | 5' 10" e  | 8' 3" a   | 7' 2" a   | 6' 4" a                           | 5' 4" a   | 8' 3" e   | 7' 2" e                       | 6' 6" e  | 5' 10" e  | 8' 3" a   | 7' 2" a   | 6' 4" a   | 5' 4" a                           | 8' 3" e   | 7' 2" e   |
| 600S162-54 | 33  | 9' 3" e                       | 8' 0" e   | 7' 4" e   | 6' 6" e   | 9' 3" a   | 8' 0" a   | 7' 4" a                           | 6' 6" a   | 9' 1" e   | 8' 0" e                       | 7' 4" e  | 6' 6" e   | 9' 3" a   | 8' 0" a   | 7' 4" a   | 6' 6" a                           | 9' 1" e   | 8' 0" e   |
| 600S162-54 | 50  | 10' 0" e                      | 9' 1" e   | 8' 7" e   | 7' 11" e  | 11' 2" i  | 9' 8" i   | 8' 10" a                          | 7' 11" a  | 9' 1" e   | 8' 3" e                       | 7' 9" e  | 7' 3" e   | 10' 2" i  | 9' 3" i   | 8' 9" a   | 7' 11" a                          | 9' 1" e   | 8' 3" e   |
| 600S162-68 | 33  | 10' 5" e                      | 9' 0" e   | 8' 3" e   | 7' 4" e   | 10' 5" i  | 9' 0" i   | 8' 3" a                           | 7' 4" a   | 9' 9" e   | 8' 10" e                      | 8' 3" e  | 7' 4" e   | 10' 5" i  | 9' 0" i   | 8' 3" a   | 7' 4" a                           | 9' 9" e   | 8' 10" e  |
| 600S162-68 | 50  | 10' 9" e                      | 9' 9" e   | 9' 2" e   | 8' 6" e   | 12' 0" i  | 10' 11" i | 10' 0" i                          | 9' 0" i   | 9' 9" e   | 8' 10" e                      | 8' 4" e  | 7' 9" e   | 10' 11" i | 9' 11" i  | 9' 4" i   | 8' 8" i                           | 9' 9" e   | 8' 10" e  |
| 600S162-97 | 33  | 11' 11" e                     | 10' 10" e | 9' 10" e  | 8' 10" e  | 12' 6" i  | 10' 10" i | 9' 10" i                          | 8' 10" i  | 10' 10" e | 9' 10" e                      | 9' 3" e  | 8' 7" e   | 12' 2" i  | 10' 10" i | 9' 10" i  | 8' 10" i                          | 10' 10" e | 9' 10" e  |
| 600S162-97 | 50  | 11' 11" e                     | 10' 10" e | 10' 2" e  | 9' 6" e   | 13' 5" i  | 12' 2" i  | 11' 5" i                          | 10' 7" i  | 10' 10" e | 9' 10" e                      | 9' 3" e  | 8' 7" e   | 12' 2" i  | 11' 1" i  | 10' 5" i  | 9' 8" i                           | 10' 10" e | 9' 10" e  |
| 600S200-33 | 33  | 7' 0" e                       | 5' 9" e   | 4' 10" e  | 3' 10" e  | 5' 7" a   | 4' 5" a   | 3' 10" a                          | 3' 1" a   | 7' 0" e   | 5' 9" e                       | 4' 10" e | 3' 10" e  | 5' 7" a   | 4' 5" a   | 3' 10" a  | 3' 1" a                           | 7' 0" e   | 5' 9" e   |
| 600S200-43 | 33  | 8' 4" e                       | 7' 3" e   | 6' 7" e   | 5' 11" e  | 8' 4" a   | 7' 2" a   | 6' 4" a                           | 5' 5" a   | 8' 4" e   | 7' 3" e                       | 6' 7" e  | 5' 11" e  | 8' 4" a   | 7' 2" a   | 6' 4" a   | 5' 5" a                           | 8' 4" e   | 7' 3" e   |
| 600S200-54 | 33  | 9' 10" e                      | 8' 7" e   | 7' 10" e  | 7' 0" e   | 9' 10" a  | 8' 7" a   | 7' 10" a                          | 7' 0" a   | 9' 7" e   | 8' 7" e                       | 7' 10" e | 7' 0" e   | 9' 10" a  | 8' 7" a   | 7' 10" a  | 7' 0" a                           | 9' 7" e   | 8' 7" e   |
| 600S200-54 | 50  | 10' 6" e                      | 9' 7" e   | 8' 9" e   | 7' 10" e  | 11' 1" i  | 9' 7" i   | 8' 9" a                           | 7' 10" a  | 9' 7" e   | 8' 8" e                       | 8' 2" e  | 7' 7" e   | 10' 9" i  | 9' 7" i   | 8' 9" a   | 7' 10" a                          | 9' 7" e   | 8' 8" e   |
| 600S200-68 | 33  | 11' 1" e                      | 9' 7" e   | 8' 9" e   | 7' 10" e  | 11' 1" i  | 9' 7" i   | 8' 9" a                           | 7' 10" a  | 10' 3" e  | 9' 4" e                       | 8' 9" e  | 7' 10" e  | 11' 1" i  | 9' 7" i   | 8' 9" a   | 7' 10" a                          | 10' 3" e  | 9' 4" e   |
| 600S200-68 | 50  | 11' 3" e                      | 10' 3" e  | 9' 8" e   | 8' 11" e  | 12' 8" i  | 11' 6" i  | 10' 7" i                          | 9' 6" i   | 10' 3" e  | 9' 4" e                       | 8' 9" e  | 8' 2" e   | 11' 6" i  | 10' 5" i  | 9' 10" i  | 9' 2" i                           | 10' 3" e  | 9' 4" e   |
| 600S200-97 | 33  | 12' 7" e                      | 11' 5" e  | 10' 6" e  | 9' 5" e   | 13' 3" i  | 11' 6" i  | 10' 6" i                          | 9' 5" i   | 11' 5" e  | 10' 4" e                      | 9' 9" e  | 9' 1" e   | 12' 10" i | 11' 6" i  | 10' 6" i  | 9' 5" i                           | 11' 5" e  | 10' 4" e  |
| 600S200-97 | 50  | 12' 7" e                      | 11' 5" e  | 10' 9" e  | 10' 0" e  | 14' 1" i  | 12' 10" i | 12' 1" i                          | 11' 2" i  | 11' 5" e  | 10' 4" e                      | 9' 9" e  | 9' 1" e   | 12' 10" i | 11' 8" e  | 10' 11" i | 10' 2" i                          | 11' 5" e  | 10' 4" e  |
| 600S250-43 | 33  | 8' 7" e                       | 7' 5" e   | 6' 9" e   | 6' 1" e   | 8' 7" a   | 7' 4" a   | 6' 5" a                           | 5' 6" a   | 8' 7" e   | 7' 5" e                       | 6' 9" e  | 6' 1" e   | 8' 7" a   | 7' 4" a   | 6' 5" a   | 5' 6" a                           | 8' 7" e   | 7' 5" e   |
| 600S250-54 | 33  | 9' 7" e                       | 8' 4" e   | 7' 7" e   | 6' 10" e  | 9' 7" a   | 8' 4" a   | 7' 7" a                           | 6' 10" a  | 9' 7" e   | 8' 4" e                       | 7' 7" e  | 6' 10" e  | 9' 7" a   | 8' 4" a   | 7' 7" a   | 6' 10" a                          | 9' 7" e   | 8' 4" e   |
| 600S250-54 | 50  | 11' 0" e                      | 9' 10" e  | 9' 0" e   | 8' 1" e   | 11' 4" i  | 9' 10" a  | 9' 0" a                           | 8' 1" a   | 10' 0" e  | 9' 1" e                       | 8' 6" e  | 7' 11" e  | 11' 2" i  | 9' 10" a  | 9' 0" a   | 8' 1" a                           | 10' 0" e  | 9' 1" e   |
| 600S250-68 | 33  | 11' 7" e                      | 10' 0" e  | 9' 2" e   | 8' 2" e   | 11' 7" i  | 10' 0" a  | 9' 2" a                           | 8' 2" a   | 10' 9" e  | 9' 9" e                       | 9' 2" e  | 8' 2" e   | 11' 7" i  | 10' 0" a  | 9' 2" a   | 8' 2" a                           | 10' 9" e  | 9' 9" e   |
| 600S250-68 | 50  | 11' 10" e                     | 10' 9" e  | 10' 1" e  | 9' 2" e   | 12' 11" i | 11' 3" i  | 10' 3" i                          | 9' 2" i   | 10' 9" e  | 9' 9" e                       | 9' 2" e  | 8' 6" e   | 12' 1" i  | 10' 11" i | 10' 3" i  | 9' 2" i                           | 10' 9" e  | 9' 9" e   |
| 600S250-97 | 33  | 13' 2" e                      | 12' 0" e  | 11' 2" e  | 9' 11" e  | 14' 1" i  | 12' 2" i  | 11' 2" i                          | 9' 11" i  | 12' 0" e  | 10' 11" e                     | 10' 3" e | 9' 6" e   | 13' 5" i  | 12' 2" i  | 11' 2" i  | 9' 11" i                          | 12' 0" e  | 10' 11" e |
| 600S250-97 | 50  | 13' 2" e                      | 12' 0" e  | 11' 3" e  | 10' 5" e  | 14' 9" i  | 13' 5" i  | 12' 8" i                          | 11' 9" i  | 12' 0" e  | 10' 11" e                     | 10' 3" e | 9' 6" e   | 13' 5" i  | 12' 3" i  | 11' 6" i  | 10' 8" i                          | 12' 0" e  | 10' 11" e |
| 800S162-33 | 33  | 5' 9" e                       | 4' 4" e   | 3' 7" e   | 2' 10" e  | 4' 7" a   | 3' 5" a   | 2' 10" a                          | 2' 3" a   | 5' 9" e   | 4' 4" e                       | 3' 7" e  | 2' 10" e  | 4' 7" a   | 3' 5" a   | 2' 10" a  | 2' 3" a                           | 5' 9" e   | 4' 4" e   |
| 800S162-43 | 33  | 9' 0" e                       | 7' 10" e  | 7' 2" e   | 6' 4" e   | 8' 2" a   | 6' 7" a   | 5' 9" a                           | 4' 10" a  | 9' 0" e   | 7' 10" e                      | 7' 2" e  | 6' 4" e   | 8' 2" a   | 6' 7" a   | 5' 9" a   | 4' 10" a                          | 9' 0" e   | 7' 10" e  |
| 800S162-54 | 33  | 10' 4" e                      | 8' 11" e  | 8' 2" e   | 7' 4" e   | 10' 4" a  | 8' 11" a  | 8' 2" a                           | 7' 3" a   | 10' 4" e  | 8' 11" e                      | 8' 2" e  | 7' 4" e   | 10' 4" a  | 8' 11" a  | 8' 2" a   | 7' 3" a                           | 10' 4" e  | 8' 11" e  |
| 800S162-54 | 50  | 12' 2" e                      | 10' 7" e  | 9' 8" e   | 8' 7" e   | 12' 2" i  | 10' 7" a  | 9' 4" a                           | 7' 11" a  | 11' 4" e  | 10' 4" e                      | 9' 8" e  | 8' 7" e   | 12' 2" i  | 10' 7" a  | 9' 4" a   | 7' 11" a                          | 11' 4" e  | 10' 4" e  |
| 800S162-68 | 33  | 11' 9" e                      | 10' 2" e  | 9' 4" e   | 8' 4" e   | 11' 9" i  | 10' 2" a  | 9' 4" a                           | 8' 4" a   | 11' 9" e  | 10' 2" e                      | 9' 4" e  | 8' 4" e   | 11' 9" i  | 10' 2" a  | 9' 4" a   | 8' 4" a                           | 11' 9" e  | 10' 2" e  |
| 800S162-68 | 50  | 13' 6" e                      | 12' 3" e  | 11' 3" e  | 10' 0" e  | 14' 2" i  | 12' 3" i  | 11' 3" i                          | 10' 0" a  | 12' 3" e  | 11' 2" e                      | 10' 6" e | 9' 9" e   | 13' 9" i  | 12' 3" i  | 11' 3" i  | 10' 0" a                          | 12' 3" e  | 11' 2" e  |
| 800S162-97 | 33  | 15' 1" e                      | 13' 4" e  | 12' 2" e  | 10' 10" e | 15' 4" i  | 13' 4" i  | 12' 2" i                          | 10' 10" i | 13' 8" e  | 12' 5" e                      | 11' 8" e | 10' 10" e | 15' 4" i  | 13' 4" i  | 12' 2" i  | 10' 10" i                         | 13' 8" e  | 12' 5" e  |
| 800S162-97 | 50  | 15' 1" e                      | 13' 8" e  | 12' 11" e | 12' 0" e  | 16' 11" i | 15' 4" i  | 14' 6" i                          | 13' 3" i  | 13' 8" e  | 12' 5" e                      | 11' 8" e | 10' 10" e | 15' 4" i  | 14' 0" i  | 13' 2" i  | 12' 2" i                          | 13' 8" e  | 12' 5" e  |
| 800S200-33 | 33  | 5' 9" e                       | 4' 4" e   | 3' 7" e   | 2' 10" e  | 4' 7" a   | 3' 5" a   | 2' 10" a                          | 2' 3" a   | 5' 9" e   | 4' 4" e                       | 3' 7" e  | 2' 10" e  | 4' 7" a   | 3' 5" a   | 2' 10" a  | 2' 3" a                           | 5' 9" e   | 4' 4" e   |
| 800S200-43 | 33  | 10' 2" e                      | 8' 10" e  | 7' 11" e  | 6' 4" e   | 8' 8" a   | 7' 0" a   | 6' 1" a                           | 5' 1" a   | 10' 2" e  | 8' 10" e                      | 7' 11" e | 6' 4" e   | 8' 8" a   | 7' 0" a   | 6' 1" a   | 5' 1" a                           | 10' 2" e  | 8' 10" e  |
| 800S200-54 | 33  | 12' 0" e                      | 10' 5" e  | 9' 6" e   | 8' 6" e   | 12' 0" a  | 10' 5" a  | 9' 3" a                           | 7' 11" a  | 12' 0" e  | 10' 5" e                      | 9' 6" e  | 8' 6" e   | 12' 0" a  | 10' 5" a  | 9' 3" a   | 7' 11" a                          | 12' 0" e  | 10' 5" e  |
| 800S200-54 | 50  | 13' 2" e                      | 11' 8" e  | 10' 8" e  | 9' 6" e   | 13' 6" a  | 11' 3" a  | 9' 11" a                          | 8' 5" a   | 12' 0" e  | 10' 11" e                     | 10' 3" e | 9' 6" e   | 13' 6" a  | 11' 3" a  | 9' 11" a  | 8' 5" a                           | 12' 0" e  | 10' 11" e |
| 800S200-68 | 33  | 13' 6" e                      | 11' 9" e  | 10' 8" e  | 9' 7" e   | 13' 6" a  | 11' 9" a  | 10' 8" a                          | 9' 7" a   | 12' 10" e | 11' 8" e                      | 10' 8" e | 9' 7" e   | 13' 6" a  | 11' 9" a  | 10' 8" a  | 9' 7" a                           | 12' 10" e | 11' 8" e  |
| 800S200-68 | 50  | 14' 2" e                      | 12' 10" e | 12' 1" e  | 11' 3" e  | 15' 11" i | 14' 2" i  | 12' 11" a                         | 11' 7" a  | 12' 10" e | 11' 8" e                      | 11' 0" e | 10' 3" e  | 14' 5" i  | 13' 2" i  | 12' 4" a  | 11' 6" a                          | 12' 10" e | 11' 8" e  |
| 800S200-97 | 33  | 15' 10" e                     | 14' 1" e  | 12' 10" e | 11' 6" e  | 16' 3" i  | 14' 1" i  | 12' 10" i                         | 11' 6" i  | 14' 4" e  | 13' 1" e                      | 12' 3" e | 11' 5" e  | 16' 1" i  | 14' 1" i  | 12' 10" i | 11' 6" i                          | 14' 4" e  | 13' 1" e  |
| 800S200-97 | 50  | 15' 10" e                     | 14' 4" e  | 13' 6" e  | 12' 6" e  | 17' 9" i  | 16' 1" i  | 15' 2" i                          | 14' 0" i  | 14' 4" e  | 13' 1" e                      | 12' 3" e | 11' 5" e  | 16' 1" i  | 14' 8" i  | 13' 9" i  | 12' 10" i                         | 14' 4" e  | 13' 1" e  |

### Notes:

- Web punchouts are not considered for shear and web crippling.
- Spans are based on continuous lateral support of the compression flange.
- For two equal spans, tabulated span is the center-to-center distance from either end bearing to the center bearing. The joist must be continuous over the center bearing.
- Web crippling bearing length is assumed to be 3-1/2". Joist flanges must be fastened to the support.
- Deflection checks are computed using unbalanced loads for the two equal span condition.
- "e" indicates that web stiffeners are required at the end supports only.
- "i" indicates that web stiffeners are required at the interior support only.
- "a" indicates that web stiffeners are required at all supports.

Complies with IBC 2006 & AISI-NASPEC, 2001 with 2004 supplement

The technical content of this literature is effective 2/1/12 and supersedes all previous information.

## FLOOR JOIST SPAN LIMITATIONS

## 40psf Dead Load and 125psf Live Load (TL Defl.=L/240)

| Member      | ksi | Live Load Deflection L/360    |           |           |           |                                   |           |           |           | Live Load Deflection L/480    |           |           |           |                                   |           |           |           |
|-------------|-----|-------------------------------|-----------|-----------|-----------|-----------------------------------|-----------|-----------|-----------|-------------------------------|-----------|-----------|-----------|-----------------------------------|-----------|-----------|-----------|
|             |     | Single span spacing (in) o.c. |           |           |           | Two equal spans spacing (in) o.c. |           |           |           | Single span spacing (in) o.c. |           |           |           | Two equal spans spacing (in) o.c. |           |           |           |
|             |     | 12                            | 16        | 19.2      | 24        | 12                                | 16        | 19.2      | 24        | 12                            | 16        | 19.2      | 24        | 12                                | 16        | 19.2      | 24        |
| 800S250-43  | 33  | 10' 3" e                      | 8' 10" e  | 7' 11" e  | 6' 4" e   | 8' 9" a                           | 7' 0" a   | 6' 1" a   | 5' 1" a   | 10' 3" e                      | 8' 10" e  | 7' 11" e  | 6' 4" e   | 8' 9" a                           | 7' 0" a   | 6' 1" a   | 5' 1" a   |
| 800S250-54  | 33  | 11' 8" e                      | 10' 2" e  | 9' 3" e   | 8' 3" e   | 11' 8" a                          | 10' 2" a  | 9' 1" a   | 7' 9" a   | 11' 8" e                      | 10' 2" e  | 9' 3" e   | 8' 3" e   | 11' 8" a                          | 10' 2" a  | 9' 1" a   | 7' 9" a   |
| 800S250-54  | 50  | 13' 7" e                      | 11' 9" e  | 10' 9" e  | 9' 7" e   | 13' 7" a                          | 11' 4" a  | 9' 11" a  | 8' 5" a   | 12' 6" e                      | 11' 4" e  | 10' 8" e  | 9' 7" e   | 13' 7" a                          | 11' 4" a  | 9' 11" a  | 8' 5" a   |
| 800S250-68  | 33  | 14' 0" e                      | 12' 2" e  | 11' 1" e  | 9' 11" e  | 14' 0" a                          | 12' 2" a  | 11' 1" a  | 9' 11" a  | 13' 5" e                      | 12' 2" e  | 11' 1" e  | 9' 11" e  | 14' 0" a                          | 12' 2" a  | 11' 1" a  | 9' 11" a  |
| 800S250-68  | 50  | 14' 9" e                      | 13' 5" e  | 12' 6" e  | 11' 2" e  | 15' 9" i                          | 13' 8" i  | 12' 6" a  | 11' 2" a  | 13' 5" e                      | 12' 2" e  | 11' 6" e  | 10' 8" e  | 15' 1" i                          | 13' 8" i  | 12' 6" a  | 11' 2" a  |
| 800S250-97  | 33  | 16' 6" e                      | 14' 10" e | 13' 6" e  | 12' 1" e  | 17' 1" i                          | 14' 10" i | 13' 6" i  | 12' 1" a  | 15' 0" e                      | 13' 8" e  | 12' 10" e | 11' 11" e | 16' 10" i                         | 14' 10" i | 13' 6" i  | 12' 1" a  |
| 800S250-97  | 50  | 16' 6" e                      | 15' 0" e  | 14' 1" e  | 13' 1" e  | 18' 6" i                          | 16' 10" i | 15' 10" i | 14' 6" i  | 15' 0" e                      | 13' 8" e  | 12' 10" e | 11' 11" e | 16' 10" i                         | 15' 4" i  | 14' 5" i  | 13' 4" i  |
| 1000S162-43 | 33  | 10' 1" e                      | 7' 7" e   | 6' 4" e   | 5' 1" e   | 7' 8" a                           | 6' 1" a   | 5' 1" a   | 4' 0" a   | 10' 1" e                      | 7' 7" e   | 6' 4" e   | 5' 1" e   | 7' 8" a                           | 6' 1" a   | 5' 1" a   | 4' 0" a   |
| 1000S162-54 | 33  | 11' 9" e                      | 10' 2" e  | 9' 3" e   | 8' 4" e   | 11' 7" a                          | 9' 5" a   | 8' 3" a   | 7' 0" a   | 11' 9" e                      | 10' 2" e  | 9' 3" e   | 8' 4" e   | 11' 7" a                          | 9' 5" a   | 8' 3" a   | 7' 0" a   |
| 1000S162-54 | 50  | 13' 10" e                     | 11' 11" e | 10' 11" e | 9' 9" e   | 12' 9" a                          | 10' 3" a  | 8' 11" a  | 7' 7" a   | 13' 6" e                      | 11' 11" e | 10' 11" e | 9' 9" e   | 12' 9" a                          | 10' 3" a  | 8' 11" a  | 7' 7" a   |
| 1000S162-68 | 33  | 13' 6" e                      | 11' 8" e  | 10' 8" e  | 9' 6" e   | 13' 6" a                          | 11' 8" a  | 10' 8" a  | 9' 6" a   | 13' 6" e                      | 11' 8" e  | 10' 8" e  | 9' 6" e   | 13' 6" a                          | 11' 8" a  | 10' 8" a  | 9' 6" a   |
| 1000S162-68 | 50  | 16' 1" e                      | 14' 0" e  | 12' 9" e  | 11' 5" e  | 16' 2" i                          | 14' 0" a  | 12' 9" a  | 11' 4" a  | 14' 8" e                      | 13' 4" e  | 12' 6" e  | 11' 5" e  | 16' 2" i                          | 14' 0" a  | 12' 9" a  | 11' 4" a  |
| 1000S162-97 | 33  | 18' 2" e                      | 15' 9" e  | 14' 4" e  | 12' 10" e | 18' 2" i                          | 15' 9" i  | 14' 4" i  | 12' 10" a | 16' 6" e                      | 15' 0" e  | 14' 1" e  | 12' 10" e | 18' 2" i                          | 15' 9" i  | 14' 4" i  | 12' 10" a |
| 1000S162-97 | 50  | 18' 2" e                      | 16' 6" e  | 15' 6" e  | 14' 1" e  | 19' 11" i                         | 17' 3" i  | 15' 9" i  | 14' 1" i  | 16' 6" e                      | 15' 0" e  | 14' 1" e  | 13' 1" e  | 18' 6" i                          | 16' 10" i | 15' 9" i  | 14' 1" i  |
| 1000S200-43 | 33  | 10' 1" e                      | 7' 7" e   | 6' 4" e   | 5' 1" e   | 7' 11" a                          | 6' 1" a   | 5' 1" a   | 4' 0" a   | 10' 1" e                      | 7' 7" e   | 6' 4" e   | 5' 1" e   | 7' 11" a                          | 6' 1" a   | 5' 1" a   | 4' 0" a   |
| 1000S200-54 | 33  | 12' 7" e                      | 10' 11" e | 9' 11" e  | 8' 11" e  | 12' 1" a                          | 9' 10" a  | 8' 7" a   | 7' 3" a   | 12' 7" e                      | 10' 11" e | 9' 11" e  | 8' 11" e  | 12' 1" a                          | 9' 10" a  | 8' 7" a   | 7' 3" a   |
| 1000S200-54 | 50  | 14' 4" e                      | 12' 5" e  | 11' 4" e  | 10' 1" e  | 13' 0" a                          | 10' 6" a  | 9' 2" a   | 7' 8" a   | 14' 2" e                      | 12' 5" e  | 11' 4" e  | 10' 1" e  | 13' 0" a                          | 10' 6" a  | 9' 2" a   | 7' 8" a   |
| 1000S200-68 | 33  | 14' 5" e                      | 12' 6" e  | 11' 5" e  | 10' 2" e  | 14' 5" a                          | 12' 6" a  | 11' 5" a  | 10' 2" a  | 14' 5" e                      | 12' 6" e  | 11' 5" e  | 10' 2" e  | 14' 5" a                          | 12' 6" a  | 11' 5" a  | 10' 2" a  |
| 1000S200-68 | 50  | 16' 10" e                     | 14' 10" e | 13' 6" e  | 12' 1" e  | 17' 1" i                          | 14' 10" a | 13' 6" a  | 11' 9" a  | 15' 4" e                      | 13' 11" e | 13' 1" e  | 12' 1" e  | 17' 1" i                          | 14' 10" a | 13' 6" a  | 11' 9" a  |
| 1000S200-97 | 33  | 18' 11" e                     | 16' 6" e  | 15' 1" e  | 13' 6" e  | 19' 1" i                          | 16' 6" i  | 15' 1" a  | 13' 6" a  | 17' 3" e                      | 15' 8" e  | 14' 9" e  | 13' 6" e  | 19' 1" i                          | 16' 6" i  | 15' 1" a  | 13' 6" a  |
| 1000S200-97 | 50  | 18' 11" e                     | 17' 3" e  | 16' 2" e  | 15' 0" e  | 21' 3" i                          | 16' 6" i  | 16' 10" i | 15' 1" i  | 17' 3" e                      | 15' 8" e  | 14' 9" e  | 13' 6" e  | 19' 4" i                          | 17' 7" i  | 16' 6" i  | 15' 1" i  |
| 1000S250-43 | 33  | 10' 1" e                      | 7' 7" e   | 6' 4" e   | 5' 1" e   | 8' 0" a                           | 6' 1" a   | 5' 1" a   | 4' 0" a   | 10' 1" e                      | 7' 7" e   | 6' 4" e   | 5' 1" e   | 8' 0" a                           | 6' 1" a   | 5' 1" a   | 4' 0" a   |
| 1000S250-54 | 33  | 13' 6" e                      | 11' 8" e  | 10' 8" e  | 9' 6" e   | 12' 6" a                          | 10' 2" a  | 8' 10" a  | 7' 6" a   | 13' 6" e                      | 11' 8" e  | 10' 8" e  | 9' 6" e   | 12' 6" a                          | 10' 2" a  | 8' 10" a  | 7' 6" a   |
| 1000S250-54 | 50  | 15' 1" e                      | 13' 1" e  | 11' 11" e | 10' 1" e  | 13' 4" a                          | 10' 9" a  | 9' 4" a   | 7' 10" a  | 14' 11" e                     | 13' 1" e  | 11' 11" e | 10' 1" e  | 13' 4" a                          | 10' 9" a  | 9' 4" a   | 7' 10" a  |
| 1000S250-68 | 33  | 16' 5" e                      | 14' 2" e  | 12' 11" e | 11' 7" e  | 16' 5" a                          | 14' 2" a  | 12' 11" a | 11' 6" a  | 16' 1" e                      | 14' 2" e  | 12' 11" e | 11' 7" e  | 16' 5" a                          | 14' 2" a  | 12' 11" a | 11' 6" a  |
| 1000S250-68 | 50  | 17' 8" e                      | 15' 10" e | 14' 6" e  | 12' 11" e | 18' 4" a                          | 15' 10" a | 14' 4" a  | 12' 3" a  | 16' 0" e                      | 14' 7" e  | 13' 9" e  | 12' 9" e  | 18' 0" i                          | 15' 10" a | 14' 4" a  | 12' 3" a  |
| 1000S250-97 | 33  | 19' 9" e                      | 17' 4" e  | 15' 9" e  | 14' 1" e  | 20' 0" i                          | 17' 4" i  | 15' 9" a  | 14' 1" a  | 17' 11" e                     | 16' 3" e  | 15' 4" e  | 14' 1" e  | 20' 0" i                          | 17' 4" i  | 15' 9" a  | 14' 1" a  |
| 1000S250-97 | 50  | 19' 9" e                      | 17' 11" e | 16' 10" e | 15' 8" e  | 22' 2" i                          | 20' 1" i  | 18' 11" i | 16' 11" i | 17' 11" e                     | 16' 3" e  | 15' 4" e  | 14' 3" e  | 20' 1" i                          | 18' 3" i  | 17' 2" i  | 16' 0" i  |
| 1200S162-54 | 33  | 13' 0" e                      | 11' 3" e  | 10' 3" e  | 8' 4" e   | 11' 3" a                          | 9' 1" a   | 7' 10" a  | 6' 7" a   | 13' 0" e                      | 11' 3" e  | 10' 3" e  | 8' 4" e   | 11' 3" a                          | 9' 1" a   | 7' 10" a  | 6' 7" a   |
| 1200S162-54 | 50  | 15' 3" e                      | 12' 6" e  | 10' 5" e  | 8' 4" e   | 12' 3" a                          | 9' 9" a   | 8' 4" a   | 6' 8" a   | 15' 3" e                      | 12' 6" e  | 10' 5" e  | 8' 4" e   | 12' 3" a                          | 9' 9" a   | 8' 4" a   | 6' 8" a   |
| 1200S162-68 | 33  | 15' 0" e                      | 13' 0" e  | 11' 10" e | 10' 7" e  | 15' 0" a                          | 13' 0" a  | 11' 9" a  | 10' 1" a  | 15' 0" e                      | 13' 0" e  | 11' 10" e | 10' 7" e  | 15' 0" a                          | 13' 0" a  | 11' 9" a  | 10' 1" a  |
| 1200S162-68 | 50  | 17' 11" e                     | 15' 6" e  | 14' 2" e  | 12' 8" e  | 17' 11" a                         | 14' 11" a | 13' 1" a  | 11' 2" a  | 16' 11" e                     | 15' 4" e  | 14' 2" e  | 12' 8" e  | 17' 11" a                         | 14' 11" a | 13' 1" a  | 11' 2" a  |
| 1200S162-97 | 33  | 18' 8" e                      | 16' 2" e  | 14' 9" e  | 13' 2" e  | 18' 8" i                          | 16' 2" i  | 14' 9" a  | 13' 2" a  | 18' 8" e                      | 16' 2" e  | 14' 9" e  | 13' 2" e  | 18' 8" i                          | 16' 2" i  | 14' 9" a  | 13' 2" a  |
| 1200S162-97 | 50  | 21' 1" e                      | 19' 2" e  | 17' 7" e  | 15' 9" e  | 22' 3" i                          | 19' 4" i  | 17' 7" i  | 15' 9" i  | 19' 2" e                      | 17' 5" e  | 16' 5" e  | 15' 3" e  | 21' 6" i                          | 19' 4" i  | 17' 7" i  | 15' 9" i  |

## Notes:

- 1 Web punchouts are not considered for shear and web crippling.
- 2 Spans are based on continuous lateral support of the compression flange.
- 3 For two equal spans, tabulated span is the center-to-center distance from either end bearing to the center bearing. The joist must be continuous over the center bearing.
- 4 Web crippling bearing length is assumed to be 3-1/2". Joist flanges must be fastened to the support.
- 5 Deflection checks are computed using unbalanced loads for the two equal span condition.
- 6 "e" indicates that web stiffeners are required at the end supports only.
- 7 "i" indicates that web stiffeners are required at the interior support only.
- 8 "a" indicates that web stiffeners are required at all supports.

Complies with IBC 2006 &amp; AISI-NASPEC, 2001 with 2004 supplement

# FLOOR JOIST SPAN LIMITATIONS

## 40psf Dead Load and 125psf Live Load (TL Defl.=L/240)

| Member      | ksi | Live Load Deflection L/360    |           |           |           |                                   |           |           |           | Live Load Deflection L/480    |           |           |           |                                   |           |           |           |           |
|-------------|-----|-------------------------------|-----------|-----------|-----------|-----------------------------------|-----------|-----------|-----------|-------------------------------|-----------|-----------|-----------|-----------------------------------|-----------|-----------|-----------|-----------|
|             |     | Single span spacing (in) o.c. |           |           |           | Two equal spans spacing (in) o.c. |           |           |           | Single span spacing (in) o.c. |           |           |           | Two equal spans spacing (in) o.c. |           |           |           |           |
|             |     | 12                            | 16        | 19.2      | 24        | 12                                | 16        | 19.2      | 24        | 12                            | 16        | 19.2      | 24        | 12                                | 16        | 19.2      | 24        |           |
| 1200S200-54 | 33  | 13' 11" e                     | 12' 1" e  | 10' 5" e  | 8' 4" e   | 11' 9" a                          | 9' 4" a   | 8' 1" a   | 6' 8" a   | 13' 11" e                     | 12' 1" e  | 10' 5" e  | 8' 4" e   | 11' 9" a                          | 9' 4" a   | 8' 1" a   | 6' 8" a   | 6' 8" a   |
| 1200S200-54 | 50  | 15' 10" e                     | 12' 6" e  | 10' 5" e  | 8' 4" e   | 12' 5" a                          | 9' 10" a  | 8' 4" a   | 6' 8" a   | 15' 10" e                     | 12' 6" e  | 10' 5" e  | 8' 4" e   | 12' 5" a                          | 9' 10" a  | 8' 4" a   | 6' 8" a   | 6' 8" a   |
| 1200S200-68 | 33  | 16' 0" e                      | 13' 10" e | 12' 8" e  | 11' 4" e  | 16' 0" a                          | 13' 10" a | 12' 3" a  | 10' 6" a  | 16' 0" e                      | 13' 10" e | 12' 8" e  | 11' 4" e  | 16' 0" a                          | 13' 10" a | 12' 3" a  | 10' 6" a  | 10' 6" a  |
| 1200S200-68 | 50  | 18' 11" e                     | 16' 5" e  | 15' 0" e  | 13' 5" e  | 18' 10" a                         | 15' 5" a  | 13' 7" a  | 11' 6" a  | 17' 7" e                      | 16' 0" e  | 15' 0" e  | 13' 5" e  | 18' 10" a                         | 15' 5" a  | 13' 7" a  | 11' 6" a  | 11' 6" a  |
| 1200S200-97 | 33  | 19' 10" e                     | 17' 2" e  | 15' 8" e  | 14' 0" e  | 19' 10" i                         | 17' 2" a  | 15' 8" a  | 14' 0" a  | 19' 10" e                     | 17' 2" e  | 15' 8" e  | 14' 0" e  | 19' 10" i                         | 17' 2" a  | 15' 8" a  | 14' 0" a  | 14' 0" a  |
| 1200S200-97 | 50  | 22' 0" e                      | 20' 0" e  | 18' 9" e  | 16' 10" e | 23' 9" i                          | 20' 7" i  | 18' 10" i | 16' 10" i | 20' 0" e                      | 18' 2" e  | 17' 1" e  | 15' 10" e | 22' 5" i                          | 20' 4" i  | 18' 10" i | 16' 10" i | 16' 10" i |
| 1200S250-54 | 33  | 14' 1" e                      | 12' 2" e  | 10' 5" e  | 8' 4" e   | 11' 9" a                          | 9' 5" a   | 8' 2" a   | 6' 8" a   | 14' 1" e                      | 12' 2" e  | 10' 5" e  | 8' 4" e   | 11' 9" a                          | 9' 5" a   | 8' 2" a   | 6' 8" a   | 6' 8" a   |
| 1200S250-54 | 50  | 16' 2" e                      | 12' 6" e  | 10' 5" e  | 8' 4" e   | 12' 6" a                          | 9' 11" a  | 8' 4" a   | 6' 8" a   | 16' 2" e                      | 12' 6" e  | 10' 5" e  | 8' 4" e   | 12' 6" a                          | 9' 11" a  | 8' 4" a   | 6' 8" a   | 6' 8" a   |
| 1200S250-68 | 33  | 16' 8" e                      | 14' 6" e  | 13' 2" e  | 11' 10" e | 16' 8" a                          | 14' 4" a  | 12' 7" a  | 10' 9" a  | 16' 8" e                      | 14' 6" e  | 13' 2" e  | 11' 10" e | 16' 8" a                          | 14' 4" a  | 12' 7" a  | 10' 9" a  | 10' 9" a  |
| 1200S250-68 | 50  | 19' 1" e                      | 16' 6" e  | 15' 1" e  | 13' 6" e  | 18' 11" a                         | 15' 6" a  | 13' 7" a  | 11' 6" a  | 18' 4" e                      | 16' 6" e  | 15' 1" e  | 13' 6" e  | 18' 11" a                         | 15' 6" a  | 13' 7" a  | 11' 6" a  | 11' 6" a  |
| 1200S250-97 | 33  | 21' 0" e                      | 18' 2" e  | 16' 7" e  | 14' 10" e | 21' 0" i                          | 18' 2" a  | 16' 7" a  | 14' 10" a | 20' 9" e                      | 18' 2" e  | 16' 7" e  | 14' 10" e | 21' 0" i                          | 18' 2" a  | 16' 7" a  | 14' 10" a | 14' 10" a |
| 1200S250-97 | 50  | 22' 10" e                     | 20' 9" e  | 19' 6" e  | 17' 6" e  | 24' 8" i                          | 21' 5" i  | 19' 6" i  | 17' 6" a  | 20' 9" e                      | 18' 10" e | 17' 9" e  | 16' 5" e  | 23' 3" i                          | 21' 2" i  | 19' 6" i  | 17' 6" a  | 17' 6" a  |
| 1400S162-54 | 33  | 14' 1" e                      | 10' 9" e  | 8' 11" e  | 7' 2" e   | 10' 10" a                         | 8' 7" a   | 7' 2" a   | 5' 9" a   | 14' 1" e                      | 10' 9" e  | 8' 11" e  | 7' 2" e   | 10' 10" a                         | 8' 7" a   | 7' 2" a   | 5' 9" a   | 5' 9" a   |
| 1400S162-54 | 50  | 14' 3" e                      | 10' 9" e  | 8' 11" e  | 7' 2" e   | 11' 5" a                          | 8' 7" a   | 7' 2" a   | 5' 9" a   | 14' 3" e                      | 10' 9" e  | 8' 11" e  | 7' 2" e   | 11' 5" a                          | 8' 7" a   | 7' 2" a   | 5' 9" a   | 5' 9" a   |
| 1400S162-68 | 33  | 16' 4" e                      | 14' 2" e  | 12' 11" e | 11' 7" e  | 16' 2" a                          | 13' 3" a  | 11' 7" a  | 9' 10" a  | 16' 4" e                      | 14' 2" e  | 12' 11" e | 11' 7" e  | 16' 2" a                          | 13' 3" a  | 11' 7" a  | 9' 10" a  | 9' 10" a  |
| 1400S162-68 | 50  | 19' 6" e                      | 16' 10" e | 15' 5" e  | 13' 9" e  | 18' 0" a                          | 14' 7" a  | 12' 9" a  | 10' 8" a  | 19' 1" e                      | 16' 10" e | 15' 5" e  | 13' 9" e  | 18' 0" a                          | 14' 7" a  | 12' 9" a  | 10' 8" a  | 10' 8" a  |
| 1400S162-97 | 33  | 20' 6" e                      | 17' 9" e  | 16' 3" e  | 14' 6" e  | 20' 6" i                          | 17' 9" a  | 16' 3" a  | 14' 6" a  | 20' 6" e                      | 17' 9" e  | 16' 3" e  | 14' 6" e  | 20' 6" i                          | 17' 9" a  | 16' 3" a  | 14' 6" a  | 14' 6" a  |
| 1400S162-97 | 50  | 23' 11" e                     | 21' 2" e  | 19' 4" e  | 17' 3" e  | 24' 5" i                          | 21' 2" i  | 19' 4" i  | 17' 3" a  | 21' 9" e                      | 19' 9" e  | 18' 7" e  | 17' 3" e  | 24' 5" i                          | 21' 2" i  | 19' 4" i  | 17' 3" a  | 17' 3" a  |
| 1400S200-54 | 33  | 14' 3" e                      | 10' 9" e  | 8' 11" e  | 7' 2" e   | 11' 2" a                          | 8' 7" a   | 7' 2" a   | 5' 9" a   | 14' 3" e                      | 10' 9" e  | 8' 11" e  | 7' 2" e   | 11' 2" a                          | 8' 7" a   | 7' 2" a   | 5' 9" a   | 5' 9" a   |
| 1400S200-54 | 50  | 14' 3" e                      | 10' 9" e  | 8' 11" e  | 7' 2" e   | 11' 5" a                          | 8' 7" a   | 7' 2" a   | 5' 9" a   | 14' 3" e                      | 10' 9" e  | 8' 11" e  | 7' 2" e   | 11' 5" a                          | 8' 7" a   | 7' 2" a   | 5' 9" a   | 5' 9" a   |
| 1400S200-68 | 33  | 17' 6" e                      | 15' 2" e  | 13' 10" e | 12' 4" e  | 16' 11" a                         | 13' 9" a  | 12' 0" a  | 10' 2" a  | 17' 6" e                      | 15' 2" e  | 13' 10" e | 12' 4" e  | 16' 11" a                         | 13' 9" a  | 12' 0" a  | 10' 2" a  | 10' 2" a  |
| 1400S200-68 | 50  | 20' 7" e                      | 17' 10" e | 16' 3" e  | 14' 4" e  | 18' 6" a                          | 15' 0" a  | 13' 1" a  | 10' 11" a | 19' 10" e                     | 17' 10" e | 16' 3" e  | 14' 4" e  | 18' 6" a                          | 15' 0" a  | 13' 1" a  | 10' 11" a | 10' 11" a |
| 1400S200-97 | 33  | 21' 9" e                      | 18' 10" e | 17' 3" e  | 15' 5" e  | 21' 9" i                          | 18' 10" a | 17' 3" a  | 15' 5" a  | 21' 9" e                      | 18' 10" e | 17' 3" e  | 15' 5" e  | 21' 9" i                          | 18' 10" a | 17' 3" a  | 15' 5" a  | 15' 5" a  |
| 1400S200-97 | 50  | 24' 10" e                     | 22' 6" e  | 20' 7" e  | 18' 5" e  | 26' 0" i                          | 22' 6" i  | 20' 7" i  | 18' 5" a  | 22' 7" e                      | 20' 6" e  | 19' 3" e  | 17' 11" e | 25' 4" i                          | 22' 6" i  | 20' 7" i  | 18' 5" a  | 18' 5" a  |
| 1400S250-54 | 33  | 14' 3" e                      | 10' 9" e  | 8' 11" e  | 7' 2" e   | 11' 2" a                          | 8' 7" a   | 7' 2" a   | 5' 9" a   | 14' 3" e                      | 10' 9" e  | 8' 11" e  | 7' 2" e   | 11' 2" a                          | 8' 7" a   | 7' 2" a   | 5' 9" a   | 5' 9" a   |
| 1400S250-54 | 50  | 14' 3" e                      | 10' 9" e  | 8' 11" e  | 7' 2" e   | 11' 5" a                          | 8' 7" a   | 7' 2" a   | 5' 9" a   | 14' 3" e                      | 10' 9" e  | 8' 11" e  | 7' 2" e   | 11' 5" a                          | 8' 7" a   | 7' 2" a   | 5' 9" a   | 5' 9" a   |
| 1400S250-68 | 33  | 18' 2" e                      | 15' 9" e  | 14' 5" e  | 12' 10" e | 17' 4" a                          | 14' 0" a  | 12' 4" a  | 10' 4" a  | 18' 2" e                      | 15' 9" e  | 14' 5" e  | 12' 10" e | 17' 4" a                          | 14' 0" a  | 12' 4" a  | 10' 4" a  | 10' 4" a  |
| 1400S250-68 | 50  | 20' 9" e                      | 17' 11" e | 16' 5" e  | 14' 4" e  | 18' 8" a                          | 15' 0" a  | 13' 1" a  | 11' 0" a  | 20' 8" e                      | 17' 11" e | 16' 5" e  | 14' 4" e  | 18' 8" a                          | 15' 0" a  | 13' 1" a  | 11' 0" a  | 11' 0" a  |
| 1400S250-97 | 33  | 23' 0" e                      | 19' 11" e | 18' 2" e  | 16' 3" e  | 23' 0" a                          | 19' 11" a | 18' 2" a  | 16' 3" a  | 23' 0" e                      | 19' 11" e | 18' 2" e  | 16' 3" e  | 23' 0" a                          | 19' 11" a | 18' 2" a  | 16' 3" a  | 16' 3" a  |
| 1400S250-97 | 50  | 25' 9" e                      | 23' 4" e  | 21' 4" e  | 19' 1" e  | 27' 0" i                          | 23' 4" i  | 21' 4" a  | 19' 1" a  | 23' 5" e                      | 21' 3" e  | 20' 0" e  | 18' 7" e  | 26' 3" i                          | 23' 4" i  | 21' 4" a  | 19' 1" a  | 19' 1" a  |

### Notes:

- Web punchouts are not considered for shear and web crippling.
- Spans are based on continuous lateral support of the compression flange.
- For two equal spans, tabulated span is the center-to-center distance from either end bearing to the center bearing. The joist must be continuous over the center bearing.
- Web crippling bearing length is assumed to be 3-1/2". Joist flanges must be fastened to the support.
- Deflection checks are computed using unbalanced loads for the two equal span condition.
- "e" indicates that web stiffeners are required at the end supports only.
- "i" indicates that web stiffeners are required at the interior support only.
- "a" indicates that web stiffeners are required at all supports.

Complies with IBC 2006 & AISI-NASPEC, 2001 with 2004 supplement

The technical content of this literature is effective 2/1/12 and supersedes all previous information.



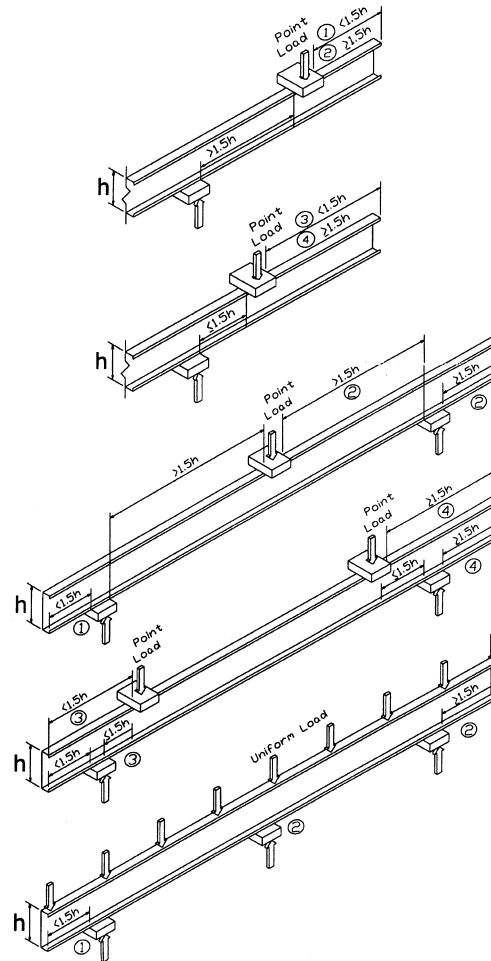
## ALLOWABLE WEB CRIPPLING LOADS

## Web crippling

The tables that follow identify the loads that can be handled by the joist web under four different conditions without web stiffeners. Web crippling can occur at member ends or at interior points along the member. A point load is considered to be an interior point if it is within the ends of the member by a distance that is 1-1/2 times the web depth (h) or more. Web crippling also can occur either with point loading on one flange of the member or on both flanges. The following illustrations identify the four possible conditions.

### General Notes:

- 1 Capacities are calculated according to the AISI-NASPEC, 2001 with 2004 supplement.
- 2 For single and built-up stud member web crippling, the code does not give values if  $h/t > 200$ ,  $N/t > 210$ , or  $N/h > 2$ . As a result, values are not printed for such conditions.
- 3 The tabulated values are for a single member. For multiple members, multiply the tabulated values by the number of members in the assembly.
- 4 All web crippling values are for studs with stiffened flanges.
- 5 Values are based on the flange of member being fastened at all support locations.



### Load Conditions:

- 1 End one flange loading
- 2 Interior one flange loading
- 3 End two flange loading
- 4 Interior two flange loading

## ALLOWABLE WEB CRIPPLING LOADS

For single members (lb)

| Member      | ksi | End One Flange Loading (Single Members)<br>Bearing Length (in) |      |      |      |      |      | Interior One Flange Loading (Single Members)<br>Bearing Length (in) |      |      |      |      |      | End Two Flange Loading (Single Members)<br>Bearing Length (in) |      |      |      |      |      | Interior Two Flange Loading (Single Members)<br>Bearing Length (in) |      |      |      |      |      |
|-------------|-----|----------------------------------------------------------------|------|------|------|------|------|---------------------------------------------------------------------|------|------|------|------|------|----------------------------------------------------------------|------|------|------|------|------|---------------------------------------------------------------------|------|------|------|------|------|
|             |     | 1.25                                                           | 3    | 3.5  | 5.5  | 6    | 8    | 1.25                                                                | 3    | 3.5  | 5.5  | 6    | 8    | 1.25                                                           | 3    | 3.5  | 5.5  | 6    | 8    | 1.25                                                                | 3    | 3.5  | 5.5  | 6    | 8    |
| 362Sxxx-33  | 33  | 186                                                            | 255  | 271  | 325  | 336  | —    | 371                                                                 | 464  | 485  | 557  | 573  | —    | 137                                                            | 169  | 176  | 200  | 206  | —    | 406                                                                 | 478  | 495  | 550  | 563  | —    |
| 362Sxxx-43  | 33  | 298                                                            | 404  | 428  | 510  | 528  | —    | 601                                                                 | 742  | 773  | 882  | 905  | —    | 246                                                            | 299  | 311  | 351  | 360  | —    | 698                                                                 | 811  | 837  | 925  | 944  | —    |
| 362Sxxx-54  | 33  | —                                                              | —    | —    | —    | —    | —    | —                                                                   | —    | —    | —    | —    | —    | —                                                              | —    | —    | —    | —    | —    | —                                                                   | —    | —    | —    | —    | —    |
| 362Sxxx-54  | 50  | 680                                                            | 912  | 964  | 1144 | 1183 | —    | 1389                                                                | 1692 | 1760 | 1994 | 2045 | —    | 612                                                            | 733  | 761  | 854  | 875  | —    | 1686                                                                | 1939 | 1996 | 2191 | 2234 | —    |
| 362Sxxx-68  | 33  | —                                                              | —    | —    | —    | —    | —    | —                                                                   | —    | —    | —    | —    | —    | —                                                              | —    | —    | —    | —    | —    | —                                                                   | —    | —    | —    | —    | —    |
| 362Sxxx-68  | 50  | 1025                                                           | 1360 | 1435 | 1694 | 1751 | —    | 2125                                                                | 2557 | 2654 | 2987 | 3061 | —    | 995                                                            | 1178 | 1220 | 1361 | 1392 | —    | 2686                                                                | 3056 | 3140 | 3426 | 3489 | —    |
| 362Sxxx-97  | 33  | —                                                              | —    | —    | —    | —    | —    | —                                                                   | —    | —    | —    | —    | —    | —                                                              | —    | —    | —    | —    | —    | —                                                                   | —    | —    | —    | —    | —    |
| 362Sxxx-97  | 50  | 1975                                                           | 2573 | 2708 | 3169 | 3271 | —    | 4271                                                                | 5044 | 5218 | 5815 | 5946 | —    | 2100                                                           | 2441 | 2518 | 2782 | 2840 | —    | 5562                                                                | 6231 | 6383 | 6900 | 7013 | —    |
| 400Sxxx-33  | 33  | 184                                                            | 252  | 267  | 320  | 332  | —    | 369                                                                 | 462  | 483  | 554  | 570  | —    | 130                                                            | 160  | 167  | 190  | 196  | —    | 396                                                                 | 467  | 483  | 537  | 549  | —    |
| 400Sxxx-43  | 33  | 295                                                            | 400  | 423  | 504  | 522  | —    | 598                                                                 | 738  | 769  | 877  | 901  | —    | 237                                                            | 287  | 299  | 338  | 346  | —    | 684                                                                 | 795  | 820  | 906  | 925  | —    |
| 400Sxxx-54  | 33  | —                                                              | —    | —    | —    | —    | —    | —                                                                   | —    | —    | —    | —    | —    | —                                                              | —    | —    | —    | —    | —    | —                                                                   | —    | —    | —    | —    | —    |
| 400Sxxx-54  | 50  | 673                                                            | 903  | 955  | 1132 | 1171 | —    | 1383                                                                | 1684 | 1752 | 1985 | 2036 | —    | 592                                                            | 710  | 736  | 827  | 847  | —    | 1657                                                                | 1906 | 1962 | 2154 | 2196 | —    |
| 400Sxxx-68  | 33  | —                                                              | —    | —    | —    | —    | —    | —                                                                   | —    | —    | —    | —    | —    | —                                                              | —    | —    | —    | —    | —    | —                                                                   | —    | —    | —    | —    | —    |
| 400Sxxx-68  | 50  | 1016                                                           | 1348 | 1423 | 1679 | 1736 | —    | 2117                                                                | 2546 | 2643 | 2975 | 3048 | —    | 969                                                            | 1147 | 1187 | 1324 | 1355 | —    | 2646                                                                | 3011 | 3093 | 3375 | 3437 | —    |
| 400Sxxx-97  | 33  | —                                                              | —    | —    | —    | —    | —    | —                                                                   | —    | —    | —    | —    | —    | —                                                              | —    | —    | —    | —    | —    | —                                                                   | —    | —    | —    | —    | —    |
| 400Sxxx-97  | 50  | 1961                                                           | 2554 | 2688 | 3146 | 3247 | —    | 4257                                                                | 5027 | 5201 | 5795 | 5926 | —    | 2055                                                           | 2390 | 2465 | 2724 | 2780 | —    | 5495                                                                | 6156 | 6306 | 6816 | 6929 | —    |
| 600Sxxx-33  | 33  | 172                                                            | 236  | 251  | 300  | 311  | —    | 359                                                                 | 449  | 469  | 539  | 554  | —    | 99                                                             | 122  | 127  | 145  | 149  | —    | 351                                                                 | 414  | 428  | 477  | 487  | —    |
| 600Sxxx-43  | 33  | 279                                                            | 378  | 401  | 478  | 494  | 556  | 584                                                                 | 720  | 751  | 856  | 879  | 963  | 193                                                            | 234  | 243  | 275  | 282  | 307  | 620                                                                 | 721  | 743  | 821  | 838  | 901  |
| 600Sxxx-54  | 33  | —                                                              | —    | —    | —    | —    | —    | —                                                                   | —    | —    | —    | —    | —    | —                                                              | —    | —    | —    | —    | —    | —                                                                   | —    | —    | —    | —    | —    |
| 600Sxxx-54  | 50  | 642                                                            | 861  | 910  | 1080 | 1117 | 1252 | 1353                                                                | 1648 | 1715 | 1943 | 1993 | 2175 | 502                                                            | 601  | 624  | 700  | 717  | 779  | 1523                                                                | 1752 | 1804 | 1980 | 2019 | 2160 |
| 600Sxxx-68  | 33  | —                                                              | —    | —    | —    | —    | —    | —                                                                   | —    | —    | —    | —    | —    | —                                                              | —    | —    | —    | —    | —    | —                                                                   | —    | —    | —    | —    | —    |
| 600Sxxx-68  | 50  | 975                                                            | 1293 | 1365 | 1611 | 1665 | 1861 | 2077                                                                | 2498 | 2594 | 2919 | 2991 | 3251 | 845                                                            | 1000 | 1035 | 1155 | 1181 | 1277 | 2462                                                                | 2801 | 2878 | 3140 | 3198 | 3407 |
| 600Sxxx-97  | 33  | —                                                              | —    | —    | —    | —    | —    | —                                                                   | —    | —    | —    | —    | —    | —                                                              | —    | —    | —    | —    | —    | —                                                                   | —    | —    | —    | —    | —    |
| 600Sxxx-97  | 50  | 1895                                                           | 2468 | 2598 | 3041 | 3138 | 3492 | 4190                                                                | 4947 | 5119 | 5704 | 5833 | 6300 | 1852                                                           | 2153 | 2221 | 2454 | 2505 | 2691 | 5187                                                                | 5811 | 5952 | 6434 | 6540 | 6925 |
| 800Sxxx-43  | 33  | 266                                                            | 361  | 382  | 455  | 471  | 530  | 572                                                                 | 705  | 736  | 839  | 861  | 944  | 156                                                            | 189  | 197  | 222  | 228  | 249  | 566                                                                 | 658  | 679  | 750  | 766  | 823  |
| 800Sxxx-54  | 33  | —                                                              | —    | —    | —    | —    | —    | —                                                                   | —    | —    | —    | —    | —    | —                                                              | —    | —    | —    | —    | —    | —                                                                   | —    | —    | —    | —    | —    |
| 800Sxxx-54  | 50  | 616                                                            | 826  | 873  | 1036 | 1071 | 1201 | 1329                                                                | 1618 | 1684 | 1908 | 1957 | 2135 | 426                                                            | 511  | 530  | 595  | 609  | 661  | 1412                                                                | 1624 | 1672 | 1835 | 1871 | 2002 |
| 800Sxxx-68  | 33  | —                                                              | —    | —    | —    | —    | —    | —                                                                   | —    | —    | —    | —    | —    | —                                                              | —    | —    | —    | —    | —    | —                                                                   | —    | —    | —    | —    | —    |
| 800Sxxx-68  | 50  | 940                                                            | 1247 | 1316 | 1554 | 1606 | 1795 | 2044                                                                | 2458 | 2552 | 2873 | 2943 | 3199 | 742                                                            | 878  | 909  | 1014 | 1037 | 1121 | 2308                                                                | 2626 | 2698 | 2944 | 2998 | 3194 |
| 800Sxxx-97  | 33  | —                                                              | —    | —    | —    | —    | —    | —                                                                   | —    | —    | —    | —    | —    | —                                                              | —    | —    | —    | —    | —    | —                                                                   | —    | —    | —    | —    | —    |
| 800Sxxx-97  | 50  | 1840                                                           | 2397 | 2523 | 2953 | 3048 | 3391 | 4134                                                                | 4882 | 5051 | 5628 | 5755 | 6217 | 1682                                                           | 1956 | 2018 | 2229 | 2276 | 2445 | 4930                                                                | 5523 | 5658 | 6116 | 6216 | 6583 |
| 1000Sxxx-54 | 33  | —                                                              | —    | —    | —    | —    | —    | —                                                                   | —    | —    | —    | —    | —    | —                                                              | —    | —    | —    | —    | —    | —                                                                   | —    | —    | —    | —    | —    |
| 1000Sxxx-54 | 50  | 593                                                            | 795  | 841  | 997  | 1032 | 1156 | 1307                                                                | 1592 | 1657 | 1877 | 1925 | 2101 | 360                                                            | 431  | 447  | 502  | 514  | 558  | 1314                                                                | 1511 | 1556 | 1708 | 1742 | 1863 |
| 1000Sxxx-68 | 33  | —                                                              | —    | —    | —    | —    | —    | —                                                                   | —    | —    | —    | —    | —    | —                                                              | —    | —    | —    | —    | —    | —                                                                   | —    | —    | —    | —    | —    |
| 1000Sxxx-68 | 50  | 910                                                            | 1207 | 1274 | 1504 | 1554 | 1737 | 2014                                                                | 2423 | 2516 | 2832 | 2901 | 3154 | 651                                                            | 771  | 798  | 891  | 911  | 985  | 2174                                                                | 2473 | 2541 | 2773 | 2823 | 3008 |
| 1000Sxxx-97 | 33  | —                                                              | —    | —    | —    | —    | —    | —                                                                   | —    | —    | —    | —    | —    | —                                                              | —    | —    | —    | —    | —    | —                                                                   | —    | —    | —    | —    | —    |
| 1000Sxxx-97 | 50  | 1792                                                           | 2335 | 2457 | 2876 | 2969 | 3303 | 4086                                                                | 4824 | 4991 | 5562 | 5688 | 6144 | 1534                                                           | 1784 | 1840 | 2033 | 2076 | 2230 | 4706                                                                | 5272 | 5400 | 5838 | 5934 | 6283 |
| 1200Sxxx-68 | 33  | —                                                              | —    | —    | —    | —    | —    | —                                                                   | —    | —    | —    | —    | —    | —                                                              | —    | —    | —    | —    | —    | —                                                                   | —    | —    | —    | —    | —    |
| 1200Sxxx-68 | 50  | 883                                                            | 1171 | 1236 | 1459 | 1507 | 1685 | 1988                                                                | 2392 | 2483 | 2795 | 2863 | 3113 | 570                                                            | 675  | 698  | 779  | 797  | 862  | 2053                                                                | 2336 | 2399 | 2618 | 2666 | 2841 |
| 1200Sxxx-97 | 33  | —                                                              | —    | —    | —    | —    | —    | —                                                                   | —    | —    | —    | —    | —    | —                                                              | —    | —    | —    | —    | —    | —                                                                   | —    | —    | —    | —    | —    |
| 1200Sxxx-97 | 50  | 1749                                                           | 2279 | 2398 | 2807 | 2897 | 3224 | 4042                                                                | 4773 | 4938 | 5503 | 5627 | 6078 | 1401                                                           | 1629 | 1681 | 1857 | 1896 | 2036 | 4505                                                                | 5047 | 5169 | 5588 | 5680 | 6014 |
| 1400Sxxx-68 | 33  | —                                                              | —    | —    | —    | —    | —    | —                                                                   | —    | —    | —    | —    | —    | —                                                              | —    | —    | —    | —    | —    | —                                                                   | —    | —    | —    | —    | —    |
| 1400Sxxx-68 | 50  | 858                                                            | 1138 | 1201 | 1417 | 1465 | 1638 | 1964                                                                | 2363 | 2453 | 2761 | 2829 | 3075 | 495                                                            | 586  | 607  | 677  | 693  | 749  | 1941                                                                | 2209 | 2270 | 2476 | 2522 | 2687 |
| 1400Sxxx-97 | 33  | —                                                              | —    | —    | —    | —    | —    | —                                                                   | —    | —    | —    | —    | —    | —                                                              | —    | —    | —    | —    | —    | —                                                                   | —    | —    | —    | —    | —    |
| 1400Sxxx-97 | 50  | 1710                                                           | 2227 | 2344 | 2744 | 2832 | 3151 | 4002                                                                | 4725 | 4889 | 5448 | 5571 | 6018 | 1279                                                           | 1487 | 1534 | 1695 | 1731 | 1859 | 4320                                                                | 4840 | 4957 | 5359 | 5447 | 5768 |

For web crippling general notes, see page 100.

Complies with IBC 2006 &amp; AISI-NASPEC, 2001 with 2004 supplement

# ALLOWABLE WEB CRIPPLING LOADS

For built-up members (lbs)

| Member      | ksi | End One Flange Loading (Single Members)<br>Bearing Length (in) |      |      |      |      |      | Interior One Flange Loading (Single Members)<br>Bearing Length (in) |      |      |      |      |      | End Two Flange Loading (Single Members)<br>Bearing Length (in) |      |      |      |      |      | Interior Two Flange Loading (Single Members)<br>Bearing Length (in) |      |      |      |      |      |
|-------------|-----|----------------------------------------------------------------|------|------|------|------|------|---------------------------------------------------------------------|------|------|------|------|------|----------------------------------------------------------------|------|------|------|------|------|---------------------------------------------------------------------|------|------|------|------|------|
|             |     | 1.25                                                           | 3    | 3.5  | 5.5  | 6    | 8    | 1.25                                                                | 3    | 3.5  | 5.5  | 6    | 8    | 1.25                                                           | 3    | 3.5  | 5.5  | 6    | 8    | 1.25                                                                | 3    | 3.5  | 5.5  | 6    | 8    |
| 362Sxxx-33  | 33  | 435                                                            | 585  | 619  | 735  | 761  | —    | 494                                                                 | 557  | 571  | 619  | 630  | —    | 243                                                            | 286  | 296  | 329  | 337  | —    | 525                                                                 | 619  | 640  | 712  | 728  | —    |
| 362Sxxx-43  | 33  | 681                                                            | 904  | 954  | 1126 | 1164 | —    | 815                                                                 | 909  | 930  | 1002 | 1018 | —    | 428                                                            | 498  | 514  | 568  | 580  | —    | 927                                                                 | 1077 | 1111 | 1228 | 1254 | —    |
| 362Sxxx-54  | 33  | —                                                              | —    | —    | —    | —    | —    | —                                                                   | —    | —    | —    | —    | —    | —                                                              | —    | —    | —    | —    | —    | —                                                                   | —    | —    | —    | —    | —    |
| 362Sxxx-54  | 50  | 1526                                                           | 2003 | 2110 | 2478 | 2559 | —    | 1914                                                                | 2114 | 2159 | 2314 | 2348 | —    | 1054                                                           | 1212 | 1248 | 1370 | 1397 | —    | 2279                                                                | 2621 | 2699 | 2963 | 3021 | —    |
| 362Sxxx-68  | 33  | —                                                              | —    | —    | —    | —    | —    | —                                                                   | —    | —    | —    | —    | —    | —                                                              | —    | —    | —    | —    | —    | —                                                                   | —    | —    | —    | —    | —    |
| 362Sxxx-68  | 50  | 2270                                                           | 2943 | 3095 | 3615 | 3729 | —    | 2977                                                                | 3260 | 3324 | 3543 | 3591 | —    | 1704                                                           | 1939 | 1992 | 2174 | 2214 | —    | 3686                                                                | 4194 | 4309 | 4701 | 4788 | —    |
| 362Sxxx-97  | 33  | —                                                              | —    | —    | —    | —    | —    | —                                                                   | —    | —    | —    | —    | —    | —                                                              | —    | —    | —    | —    | —    | —                                                                   | —    | —    | —    | —    | —    |
| 362Sxxx-97  | 50  | 4303                                                           | 5474 | 5739 | 6643 | 6842 | —    | 6037                                                                | 6532 | 6644 | 7026 | 7110 | —    | 3587                                                           | 4018 | 4116 | 4449 | 4522 | —    | 7817                                                                | 8758 | 8971 | 9697 | 9857 | —    |
| 400Sxxx-33  | 33  | 435                                                            | 585  | 619  | 735  | 760  | —    | 493                                                                 | 556  | 570  | 618  | 629  | —    | 234                                                            | 276  | 285  | 318  | 325  | —    | 506                                                                 | 597  | 617  | 687  | 702  | —    |
| 400Sxxx-43  | 33  | 680                                                            | 903  | 953  | 1126 | 1163 | —    | 814                                                                 | 908  | 929  | 1001 | 1016 | —    | 416                                                            | 484  | 499  | 552  | 563  | —    | 900                                                                 | 1047 | 1080 | 1193 | 1218 | —    |
| 400Sxxx-54  | 33  | —                                                              | —    | —    | —    | —    | —    | —                                                                   | —    | —    | —    | —    | —    | —                                                              | —    | —    | —    | —    | —    | —                                                                   | —    | —    | —    | —    | —    |
| 400Sxxx-54  | 50  | 1526                                                           | 2002 | 2109 | 2477 | 2558 | —    | 1912                                                                | 2111 | 2157 | 2311 | 2345 | —    | 1028                                                           | 1183 | 1218 | 1337 | 1363 | —    | 2224                                                                | 2558 | 2633 | 2891 | 2948 | —    |
| 400Sxxx-68  | 33  | —                                                              | —    | —    | —    | —    | —    | —                                                                   | —    | —    | —    | —    | —    | —                                                              | —    | —    | —    | —    | —    | —                                                                   | —    | —    | —    | —    | —    |
| 400Sxxx-68  | 50  | 2269                                                           | 2942 | 3094 | 3613 | 3728 | —    | 2973                                                                | 3256 | 3320 | 3538 | 3586 | —    | 1669                                                           | 1899 | 1951 | 2129 | 2168 | —    | 3610                                                                | 4107 | 4220 | 4604 | 4689 | —    |
| 400Sxxx-97  | 33  | —                                                              | —    | —    | —    | —    | —    | —                                                                   | —    | —    | —    | —    | —    | —                                                              | —    | —    | —    | —    | —    | —                                                                   | —    | —    | —    | —    | —    |
| 400Sxxx-97  | 50  | 4302                                                           | 5472 | 5737 | 6641 | 6840 | —    | 6031                                                                | 6525 | 6637 | 7019 | 7103 | —    | 3527                                                           | 3952 | 4048 | 4376 | 4448 | —    | 7688                                                                | 8613 | 8822 | 9537 | 9694 | —    |
| 600Sxxx-33  | 33  | 434                                                            | 584  | 617  | 733  | 758  | —    | 489                                                                 | 552  | 566  | 614  | 624  | —    | 194                                                            | 229  | 237  | 264  | 270  | —    | 421                                                                 | 495  | 512  | 570  | 583  | —    |
| 600Sxxx-43  | 33  | 679                                                            | 901  | 951  | 1123 | 1161 | 1298 | 809                                                                 | 901  | 922  | 994  | 1010 | 1067 | 359                                                            | 418  | 431  | 476  | 486  | 522  | 777                                                                 | 903  | 932  | 1030 | 1051 | 1129 |
| 600Sxxx-54  | 33  | —                                                              | —    | —    | —    | —    | —    | —                                                                   | —    | —    | —    | —    | —    | —                                                              | —    | —    | —    | —    | —    | —                                                                   | —    | —    | —    | —    | —    |
| 600Sxxx-54  | 50  | 1523                                                           | 1998 | 2105 | 2472 | 2553 | 2846 | 1900                                                                | 2099 | 2144 | 2297 | 2331 | 2453 | 910                                                            | 1046 | 1077 | 1183 | 1206 | 1290 | 1968                                                                | 2263 | 2330 | 2558 | 2608 | 2790 |
| 600Sxxx-68  | 33  | —                                                              | —    | —    | —    | —    | —    | —                                                                   | —    | —    | —    | —    | —    | —                                                              | —    | —    | —    | —    | —    | —                                                                   | —    | —    | —    | —    | —    |
| 600Sxxx-68  | 50  | 2265                                                           | 2937 | 3088 | 3607 | 3721 | 4135 | 2957                                                                | 3239 | 3302 | 3519 | 3567 | 3741 | 1506                                                           | 1713 | 1760 | 1920 | 1955 | 2084 | 3256                                                                | 3705 | 3806 | 4153 | 4229 | 4506 |
| 600Sxxx-97  | 33  | —                                                              | —    | —    | —    | —    | —    | —                                                                   | —    | —    | —    | —    | —    | —                                                              | —    | —    | —    | —    | —    | —                                                                   | —    | —    | —    | —    | —    |
| 600Sxxx-97  | 50  | 4295                                                           | 5464 | 5728 | 6631 | 6830 | 7551 | 6004                                                                | 6496 | 6607 | 6987 | 7071 | 7374 | 3254                                                           | 3646 | 3734 | 4036 | 4103 | 4345 | 7092                                                                | 7946 | 8138 | 8798 | 8943 | 9469 |
| 800Sxxx-43  | 33  | 678                                                            | 900  | 950  | 1121 | 1159 | 1296 | 804                                                                 | 896  | 917  | 988  | 1004 | 1061 | 312                                                            | 362  | 374  | 413  | 422  | 453  | 674                                                                 | 783  | 808  | 893  | 912  | 979  |
| 800Sxxx-54  | 33  | —                                                              | —    | —    | —    | —    | —    | —                                                                   | —    | —    | —    | —    | —    | —                                                              | —    | —    | —    | —    | —    | —                                                                   | —    | —    | —    | —    | —    |
| 800Sxxx-54  | 50  | 1520                                                           | 1995 | 2102 | 2468 | 2549 | 2842 | 1891                                                                | 2088 | 2133 | 2285 | 2319 | 2441 | 811                                                            | 933  | 960  | 1054 | 1075 | 1150 | 1754                                                                | 2017 | 2077 | 2280 | 2325 | 2487 |
| 800Sxxx-68  | 33  | —                                                              | —    | —    | —    | —    | —    | —                                                                   | —    | —    | —    | —    | —    | —                                                              | —    | —    | —    | —    | —    | —                                                                   | —    | —    | —    | —    | —    |
| 800Sxxx-68  | 50  | 2262                                                           | 2932 | 3084 | 3602 | 3716 | 4129 | 2944                                                                | 3224 | 3287 | 3504 | 3551 | 3724 | 1369                                                           | 1558 | 1601 | 1746 | 1778 | 1895 | 2961                                                                | 3369 | 3462 | 3777 | 3846 | 4098 |
| 800Sxxx-97  | 33  | —                                                              | —    | —    | —    | —    | —    | —                                                                   | —    | —    | —    | —    | —    | —                                                              | —    | —    | —    | —    | —    | —                                                                   | —    | —    | —    | —    | —    |
| 800Sxxx-97  | 50  | 4290                                                           | 5457 | 5721 | 6623 | 6821 | 7541 | 5981                                                                | 6471 | 6582 | 6961 | 7044 | 7346 | 3027                                                           | 3391 | 3473 | 3755 | 3817 | 4041 | 6597                                                                | 7391 | 7571 | 8184 | 8319 | 8808 |
| 1000Sxxx-54 | 33  | —                                                              | —    | —    | —    | —    | —    | —                                                                   | —    | —    | —    | —    | —    | —                                                              | —    | —    | —    | —    | —    | —                                                                   | —    | —    | —    | —    | —    |
| 1000Sxxx-54 | 50  | 1518                                                           | 1992 | 2099 | 2465 | 2545 | 2837 | 1882                                                                | 2079 | 2123 | 2275 | 2309 | 2430 | 724                                                            | 833  | 857  | 941  | 960  | 1027 | 1566                                                                | 1801 | 1854 | 2036 | 2076 | 2221 |
| 1000Sxxx-68 | 33  | —                                                              | —    | —    | —    | —    | —    | —                                                                   | —    | —    | —    | —    | —    | —                                                              | —    | —    | —    | —    | —    | —                                                                   | —    | —    | —    | —    | —    |
| 1000Sxxx-68 | 50  | 2259                                                           | 2928 | 3080 | 3597 | 3711 | 4124 | 2932                                                                | 3211 | 3274 | 3490 | 3537 | 3709 | 1250                                                           | 1422 | 1461 | 1594 | 1623 | 1730 | 2703                                                                | 3076 | 3160 | 3448 | 3511 | 3741 |
| 1000Sxxx-97 | 33  | —                                                              | —    | —    | —    | —    | —    | —                                                                   | —    | —    | —    | —    | —    | —                                                              | —    | —    | —    | —    | —    | —                                                                   | —    | —    | —    | —    | —    |
| 1000Sxxx-97 | 50  | 4286                                                           | 5451 | 5715 | 6616 | 6814 | 7533 | 5962                                                                | 6450 | 6560 | 6938 | 7021 | 7322 | 2828                                                           | 3169 | 3246 | 3509 | 3566 | 3776 | 6165                                                                | 6906 | 7074 | 7647 | 7773 | 8231 |
| 1200Sxxx-68 | 33  | —                                                              | —    | —    | —    | —    | —    | —                                                                   | —    | —    | —    | —    | —    | —                                                              | —    | —    | —    | —    | —    | —                                                                   | —    | —    | —    | —    | —    |
| 1200Sxxx-68 | 50  | 2256                                                           | 2925 | 3076 | 3593 | 3707 | 4119 | 2922                                                                | 3200 | 3263 | 3477 | 3525 | 3696 | 1142                                                           | 1300 | 1335 | 1457 | 1484 | 1581 | 2471                                                                | 2811 | 2888 | 3151 | 3209 | 3419 |
| 1200Sxxx-97 | 33  | —                                                              | —    | —    | —    | —    | —    | —                                                                   | —    | —    | —    | —    | —    | —                                                              | —    | —    | —    | —    | —    | —                                                                   | —    | —    | —    | —    | —    |
| 1200Sxxx-97 | 50  | 4281                                                           | 5446 | 5709 | 6609 | 6807 | 7526 | 5944                                                                | 6431 | 6541 | 6917 | 7000 | 7300 | 2650                                                           | 2969 | 3041 | 3287 | 3341 | 3538 | 5776                                                                | 6470 | 6627 | 7164 | 7282 | 7711 |
| 1400Sxxx-68 | 33  | —                                                              | —    | —    | —    | —    | —    | —                                                                   | —    | —    | —    | —    | —    | —                                                              | —    | —    | —    | —    | —    | —                                                                   | —    | —    | —    | —    | —    |
| 1400Sxxx-68 | 50  | 2254                                                           | 2922 | 3073 | 3589 | 3703 | 4115 | 2912                                                                | 3189 | 3252 | 3466 | 3513 | 3684 | 1044                                                           | 1188 | 1220 | 1331 | 1356 | 1445 | 2258                                                                | 2569 | 2639 | 2879 | 2932 | 3124 |
| 1400Sxxx-97 | 33  | —                                                              | —    | —    | —    | —    | —    | —                                                                   | —    | —    | —    | —    | —    | —                                                              | —    | —    | —    | —    | —    | —                                                                   | —    | —    | —    | —    | —    |
| 1400Sxxx-97 | 50  | 4277                                                           | 5441 | 5704 | 6603 | 6801 | 7519 | 5928                                                                | 6413 | 6523 | 6898 | 6980 | 7280 | 2486                                                           | 2785 | 2853 | 3084 | 3135 | 3319 | 5419                                                                | 6071 | 6218 | 6722 | 6832 | 7235 |

For web crippling general notes, see page 100.

Complies with IBC 2006 & AISI-NASPEC, 2001 with 2004 supplement

The technical content of this literature is effective 2/1/12 and supersedes all previous information.



## REFERENCE

## Fastening Options

Connections can be made using a variety of fastening options. It is critical to specify the proper fastener to ensure the proper performance of the connections in light-gauge (cold-formed) steel construction. The most common and widely used connection methods are screw connections and weld connections. Each type of connection method has various advantages and disadvantages. Therefore, we provide data for both types so you can choose your preferred connection method.



**Self-Drilling Screws**—externally threaded fasteners with the ability to drill their own hole and form, or “tap,” their own internal threads without deforming their thread and without breaking during installation. These screws are high-strength, one-piece fasteners and are used if the connection is multiple thicknesses of 33mil steel or thicker. One of the more common self-drilling screws is a #10-16 x 5/8 HWH SD, which indicates a #10 diameter shaft, 16 threads per inch, 5/8 length, hex washer head self-drilling screw.

**Fillet Welds**—used to make lap joints, corner joints and T-joint connections. As the illustration suggests, the fillet weld is roughly triangular in cross-section, although its shape is not always a right triangle or an isosceles triangle. Weld metal is deposited in a corner formed by the fit-up of the two members and penetrates and fuses with the base metal to form the joint.

**Flare Welds**—used to join rounded or curved pieces.

- A Flare Bevel groove weld is commonly used to join a rounded or curved piece to a flat piece.
- A Flare V groove weld is commonly used to join two rounded or curved parts.

### ALLOWABLE SCREW DESIGN VALUES (LBS)

| Gauge (Mils) | Design thickness (in) | Fy (ksi) | Fu (ksi) | #8-18 HWH Screws<br>Dia. = 0.16" |         | #10-16 HWH Screws<br>Dia. = 0.19" |         | #12-14 HWH Screws<br>Dia. = 0.21" |         | 1/4"-14 HWH Screws<br>Dia. = 0.24" |         |
|--------------|-----------------------|----------|----------|----------------------------------|---------|-----------------------------------|---------|-----------------------------------|---------|------------------------------------|---------|
|              |                       |          |          | Shear                            | Tension | Shear                             | Tension | Shear                             | Tension | Shear                              | Tension |
| 20 (33)      | 0.0346                | 33       | 45       | 162                              | 71      | 177                               | 84      | 186                               | 93      | 199                                | 106     |
| 18 (43)      | 0.0451                | 33       | 45       | 241                              | 92      | 263                               | 109     | 277                               | 121     | 296                                | 138     |
| 16 (54)      | 0.0566                | 33       | 45       | 333                              | 115     | 370                               | 137     | 389                               | 152     | 416                                | 173     |
|              |                       | 50       | 65       | 333                              | 167     | 467                               | 198     | 562                               | 219     | 600                                | 250     |
| 14 (68)      | 0.0713                | 33       | 45       | n/a                              | n/a     | 467                               | 173     | 550                               | 191     | 588                                | 218     |
|              |                       | 50       | 65       | n/a                              | n/a     | 467                               | 249     | 667                               | 276     | 849                                | 315     |
| 12 (97)      | 0.1017                | 33       | 45       | n/a                              | n/a     | 467                               | 246     | 667                               | 272     | 867                                | 311     |
|              |                       | 50       | 65       | n/a                              | n/a     | 467                               | 356     | 667                               | 393     | 867                                | 450     |
| 10 (118)     | 0.1242                | 33       | 45       | n/a                              | n/a     | n/a                               | n/a     | 667                               | 333     | 867                                | 380     |
|              |                       | 50       | 65       | n/a                              | n/a     | n/a                               | n/a     | 667                               | 480     | 867                                | 549     |

#### Screw value notes:

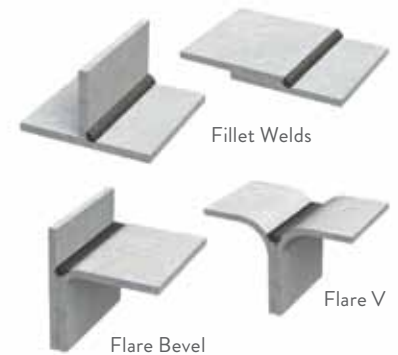
- 1 All values are calculated per the AISI-NASPEC, 2001 with 2004 supplement.
- 2 Values are based on Buildex TEK2 HWH screw capacities. All screws must meet minimum criteria outlined.
- 3 Shear strength for #8, #10, #12, and 1/4" screws must be greater than or equal to 1000 lbs, 1400 lbs, 2000 lbs and 2600 lbs respectively.
- 4 Tension strength for #8, #10, #12, and 1/4" screws must be greater than or equal to 1545 lbs, 1936 lbs, 2778 lbs and 4060 lbs respectively.
- 5 The minimum head diameter for #8 screws is 1/4". The minimum head diameter for #10 and #12 screws are 3/8". The minimum head diameter for 1/4" screw is 1/2".
- 6 Allowable bearing and pullover for screws must be checked if unequal material thicknesses are used.

### ALLOWABLE WELD VALUES (LBS)

| Gauge (Mils) | Design thickness (in) | Fy (ksi) | Fu (ksi) | Weld (1 inch) |              |
|--------------|-----------------------|----------|----------|---------------|--------------|
|              |                       |          |          | Fillet        | Flare Groove |
| 20 (33)      | 0.0346                | 33       | 45       | —             | —            |
| 18 (43)      | 0.0451                | 33       | 45       | 619           | 544          |
| 16 (54)      | 0.0566                | 33       | 45       | 822           | 682          |
|              |                       | 50       | 65       | 1188          | 985          |
| 14 (68)      | 0.0713                | 33       | 45       | 1082          | 859          |
|              |                       | 50       | 65       | 1563          | 1241         |
| 12 (97)      | 0.1017                | 33       | 45       | 1480          | 1226         |
|              |                       | 50       | 65       | 1480          | 1480         |
| 10 (118)     | 0.1242                | 33       | 45       | 1808          | 1497         |
|              |                       | 50       | 65       | 1808          | 1808         |

#### Weld value notes:

- 1 Weld strength is given in lbs/in.
- 2 All values are calculated per the AISI-NASPEC, 2001 with 2004 supplement.
- 3 All values were based off of  $F_{xx} \geq 70\text{ksi}$  and that  $F_{xx} > F_u$ .
- 4 Weld values listed are based on a minimum effective throat of 0.707 times the design thickness.
- 5 Values are based on the weld being loaded along its length (longitudinal).
- 6 Using multiples of lengths shown for longer welds will result in incorrect values.
- 7 Transversely loaded and longer weld values can be found at [clarkdietrich.com](http://clarkdietrich.com)

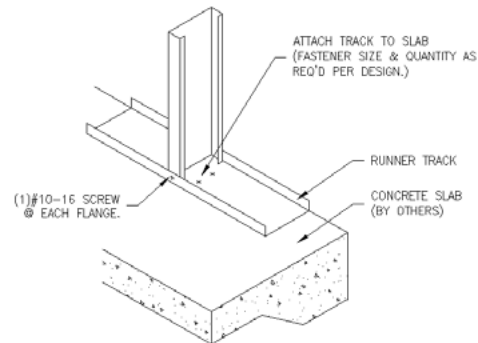


## Typical Construction Details

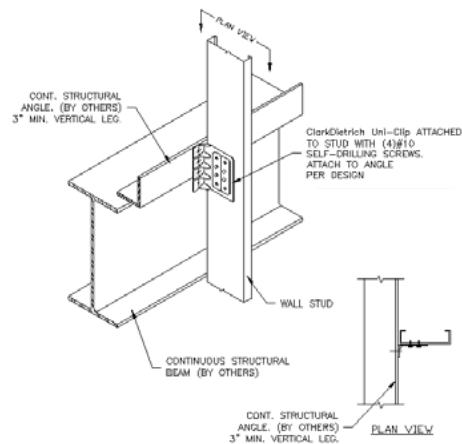
For a downloadable .pdf or .dwg version of all details, go to <http://cad.clarkdietrich.com>.

### Rigid Connections

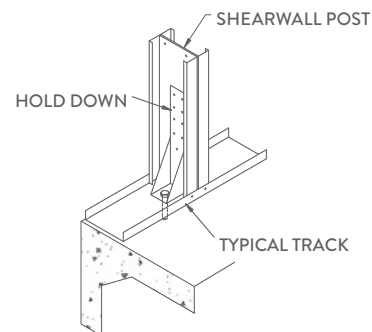
#### Stud to Track Connection



#### Rigid Bypass

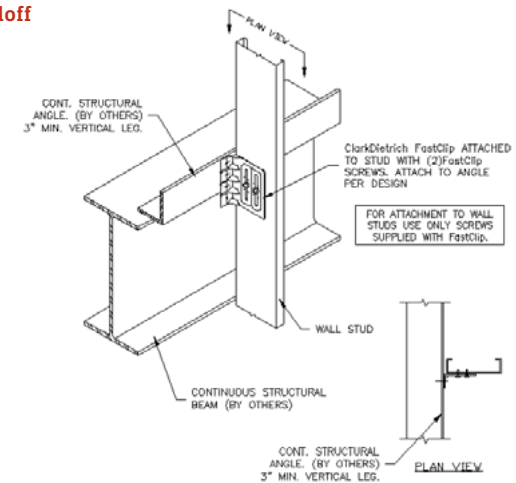


#### Hold Down Detail

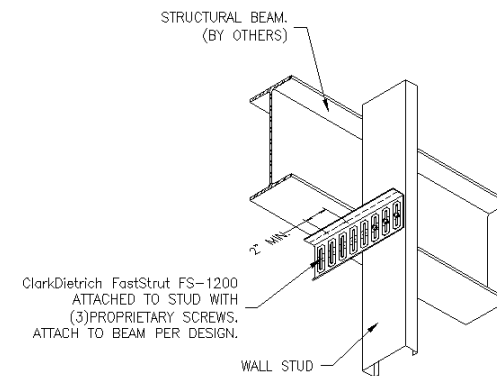


### Bypass Deflection Connections

#### Minimal to Medium Standoff



#### Large Standoff



Details shown in this brochure are for example only. The engineer of record on the project is responsible for the design of the connection to the structure. Additional connection details can be found at [clarkdietrich.com](http://clarkdietrich.com).

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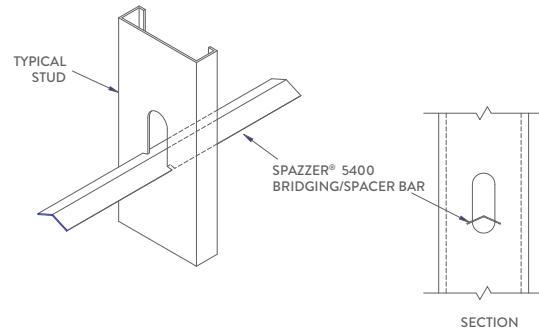
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## Typical Construction Details

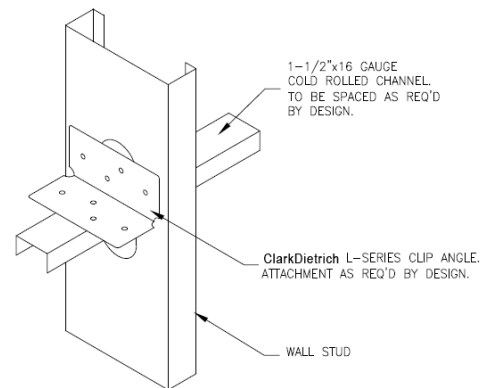
For a downloadable .pdf or .dwg version of all details, go to <http://cad.clarkdietrich.com>.

### Bridging Details

#### Spazzer® 5400 Bridging

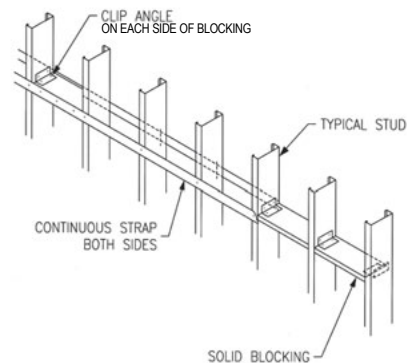


#### U-Channel Bridging Connection



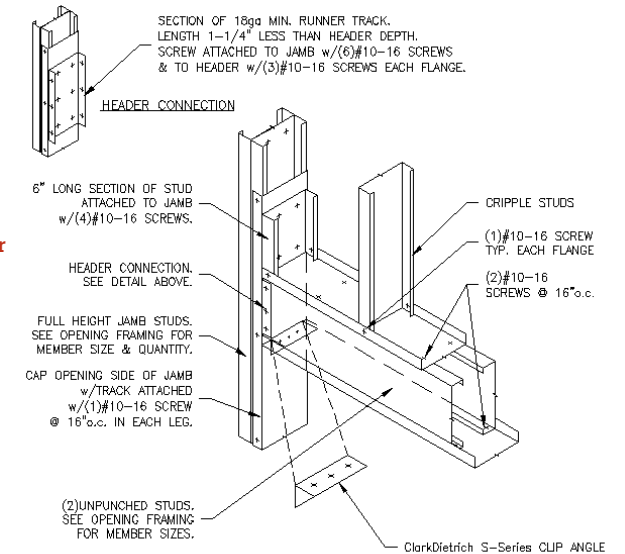
THIS DETAIL IS NOT SUITABLE FOR WALL STUDS DEEPER THAN 6"

#### Block and Strap Bridging

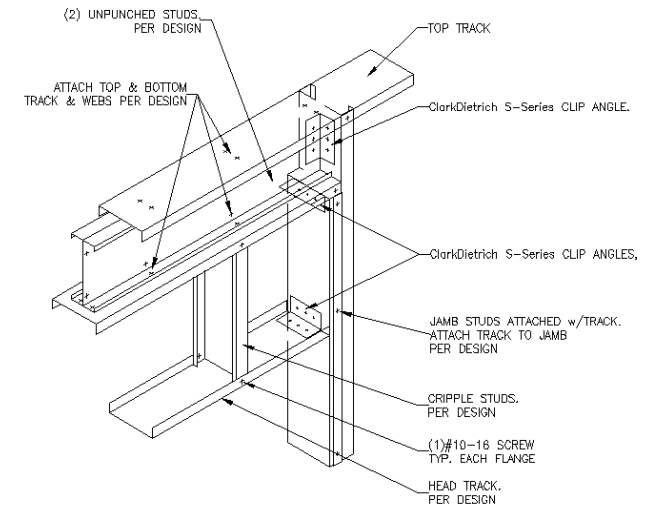


### Header Details

#### Load-Bearing Boxed Header



#### Load-Bearing Back-to-Back Header



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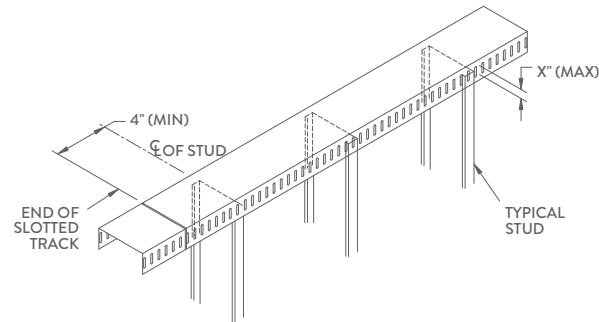


## Typical Construction Details

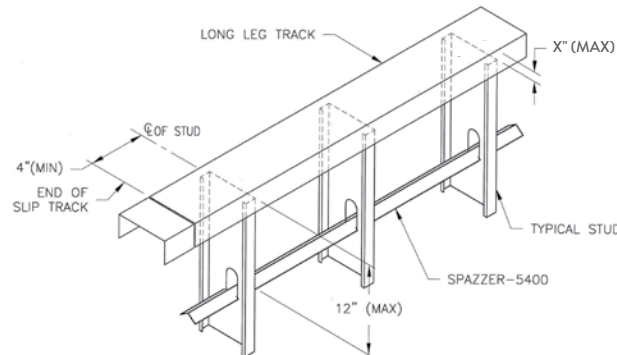
For a downloadable .pdf or .dwg version of all details, go to <http://cad.clarkdietrich.com>.

### Head-of-Wall Deflection Typical Details

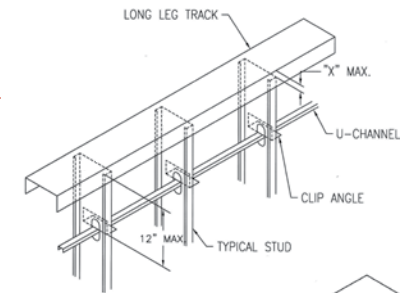
#### MaxTRAK® or SLP-TRK® Slotted Track



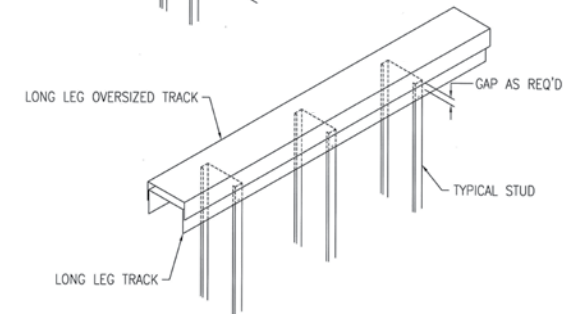
#### Long Leg Track with Spazzer® 5400



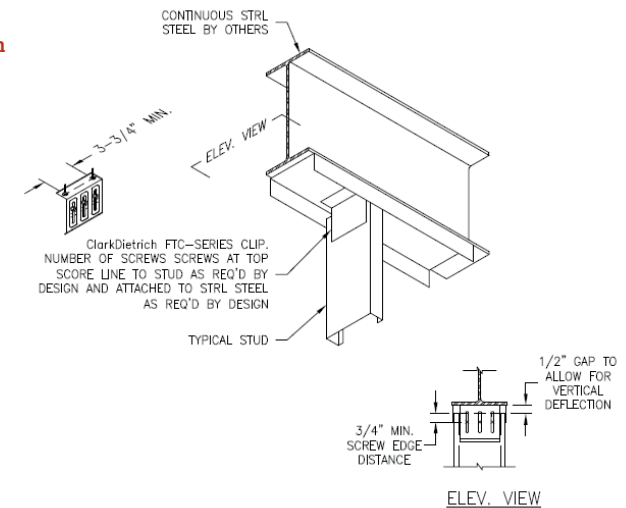
#### Long Leg Track with U-Channel



#### Double Track™



#### Long Leg Track with FastTop™ Clip



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## ClarkDietrich LEED® Information and Requirements

ClarkDietrich  
LEED Request Form  
online at [clarkdietrich.com](http://clarkdietrich.com)

### LEED Credit MR 2 (Construction Waste Management)

ClarkDietrich products are manufactured from cold-formed steel. Steel is 100% recyclable. This attribute can help when diverting construction debris from the waste stream. Recycling construction waste contributes to LEED Credits MR 2.1 and 2.2. The specific contribution will vary by project and must be determined by the contractor. (Up to 2 pts.)

### LEED Credit MR 4 (Recycled Content)

ClarkDietrich's steel products have a minimum of 25.5% for post-consumer recycled content, and 6.8% pre-consumer. Recycled content of materials contributes to LEED Credits MR 4.1 and 4.2, and possibly an Innovation in Design Credit if the project's overall recycled content exceeds 30%. While ClarkDietrich, nationwide, has an average recycled content of 48%, we recommend using the default number of 25.5% post-consumer and 6.8% pre-consumer for your project calculations. If a higher content is desired, ClarkDietrich can provide this information if mill certifications are requested at time of order. (Up to 3 pts.)

### LEED Credit MR 5 (Regional Materials)

LEED Credit MR 5 requires the jobsite to be within a 500-mile radius of the manufacturing plant and from the point of extraction of raw materials. With nationwide manufacturing locations, ClarkDietrich plants, as well as our steel sources, often fall within the required 500-mile radius. Each product must be tracked from the mill to the project location and then these values must be weighted by recycled content percentages. If you wish to report MR 5 Credits, please submit a LEED request through [clarkdietrich.com](http://clarkdietrich.com) or contact ClarkDietrich Tech Services at 888-437-3244 for procedures. (Up to 2 pts.)

### ClarkDietrich Building Systems

ClarkDietrich Building Systems, Inc. is an active member of the U.S. Green Building Council with LEED® Accredited Professionals on staff. ClarkDietrich is committed to supplying quality products and continually looking for new ways to develop greener building products and sustainable business practices. In total, ClarkDietrich products can help your project qualify for up to 7 LEED Credits under LEED for New Construction and Major Renovations (LEED-NC Ver. 2.2 and 3.0).



#### ClarkDietrich plant locations:

Riverside, CA  
Sacramento, CA  
Bristol, CT

Dade City, FL  
McDonough, GA  
Kapolei, HI

Rochelle, IL  
Lenexa, KS  
Baltimore, MD

Warren, OH  
Baytown, TX  
Dallas, TX

Complies with IBC 2006 & AISI-NASPEC, 2001 with 2004 supplement

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## ClarkDietrich Material Certification—Code approvals and performance

### Structural framing standards

AISI "North American Specification for the Design of Cold-Formed Steel Structural Members, 2001 with 2004 supplement"

ASTM C955 Load-bearing steel framing  
ASTM C1007 Installation  
ASTM A1003 Material specification for steel sheet

### Protective coating standards

ASTM A924 Metallic-coated hot-dip process  
ASTM A653 Zinc-coated hot-dip process  
ASTM A792 55% aluminum-zinc alloy-coated hot-dip process  
ASTM A875 Zinc-5% aluminum alloy-coated hot-dip process

### Additional code approvals

SFIA (Steel Framing Industry Association)  
ICC ESR-1166P & ESR-2457  
LA RR 25889

### ProSTUD® drywall framing standards

AISI "North American Specification for the Design of Cold-Formed Steel Structural Members, 2007"

### ASTM American Society for Testing and Materials

A653 Zinc-coated hot-dip process  
A1003 Material specification for steel sheet  
C645 Standard specification for nonstructural steel framing  
C754 Standard specification for installation of steel framing  
C1002 Standard specification for steel self piercing tapping screw  
E119 Standard test methods for fire tests  
E72 Standard test methods of conducting strength tests  
E90 Standard test method for sound transmission loss

### UL® Underwriters Laboratories testing standard

UL 263 Fire Tests of Building Construction and Materials"

### Multiple UL® design listings for ProSTUD

Over 50 UL Designs; UL file number R26512

### Additional code approvals

IAPMO #0189—Non-composite (updates pending)  
IAPMO #0171—Composite (updates pending)

UL® and UL® Design are trademarks of Underwriters Laboratories, Inc.

### Metal lath & accessories

ASTM C847 Metal lath  
ASTM C841 Installation of interior lathing & furring  
ASTM C1063 Installation of lathing & furring  
ASTM A653 Zinc-coated hot-dip process  
ASTM C1047 Accessories standards—control joints  
ASTM A924 Metallic-coated hot-dip process  
UUB790A APB type 1, grade D, style 2  
CE 240.01 Furring (metal) lathing and plastering  
EMLA 920 Guide specs for metal lathing & furring

### Additional code approvals

ICC ESR-2698 & ESR-2161



ClarkDietrich Building Systems has prepared this literature with the utmost diligence and care for accuracy and conformance to standards.

ClarkDietrich Building Systems reserves the right to modify or change any information contained in this literature without notification.

ClarkDietrich Building Systems intends this information to be accurate, informative, and helpful as a selection guide for choosing ClarkDietrich Building System products. However, this information is only to be used for guidance and is not intended to replace the design, drawings, specifications, and decisions of a professional architect or engineer.

ClarkDietrich Building Systems or its affiliates shall not be responsible for incidental or consequential damages, directly or indirectly sustained, nor for loss caused by application of our products for other than their intended uses. Our liability is limited to replacement of defective products. Claims shall be deemed waived unless they are made to us in writing within thirty (30) days of the date a problem was or reasonably should have been discovered.

## LOCATIONS

### ClarkDietrich Building Systems Manufacturing and Sales Locations:

|                                               |                                                |                                              |                                            |
|-----------------------------------------------|------------------------------------------------|----------------------------------------------|--------------------------------------------|
| <b>CALIFORNIA</b> Riverside<br>P 951.360.3500 | <b>CALIFORNIA</b> Sacramento<br>P 951.360.3500 | <b>CONNECTICUT</b> Bristol<br>P 866.921.0023 | <b>FLORIDA</b> Dade City<br>P 352.518.4400 |
| <b>GEORGIA</b> McDonough<br>P 678.304.5500    | <b>HAWAII</b> Kapolei<br>P 951.360.3500        | <b>ILLINOIS</b> Rochelle<br>P 800.659.0745   | <b>KANSAS</b> Lenexa<br>P 800.659.0745     |
| <b>MARYLAND</b> Baltimore<br>P 410.477.4000   | <b>OHIO</b> Warren-East<br>P 330.372.5564      | <b>OHIO</b> Warren-West<br>P 330.372.4014    | <b>TEXAS</b> Baytown<br>P 281.383.1617     |
|                                               |                                                |                                              | <b>TEXAS</b> Dallas<br>P 214.350.1716      |

### ClarkDietrich Engineering Services A full spectrum of solutions.

Toll-Free Phone: 877.832.3206  
Technical Services: 888.437.3244

|                                                  |                                                |                                                  |
|--------------------------------------------------|------------------------------------------------|--------------------------------------------------|
| <b>CENTRAL</b> Crown Point, IN<br>P 219.853.9473 | <b>NORTHEAST</b> Bristol, CT<br>P 207.885.6000 | <b>SOUTHEAST</b> McDonough, GA<br>P 678.304.5525 |
| <b>SOUTHEAST</b> Roswell, GA<br>P 678.990.3540   | <b>WEST</b> Carlsbad, CA<br>P 760.931.0465     |                                                  |

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Turn to ClarkDietrich for a complete lineup of steel construction products and services nationwide:

Interior Framing • Exterior Framing • Interior Finishing • Clips/Connections • Metal Lath/Accessories • Engineering



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West Chester, OH 45069

P 513.870.1100  
F 513.870.1300

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