



**STRONGER
THAN STEEL.™**

INTERIOR AND EXTERIOR FRAMING

ROUGH OPENINGS

ROUGH OPENINGS
MADE EASY.



Rough openings have always been a challenge on the jobsite. At ClarkDietrich, we make them easy. Our collection of rough opening systems offers simplicity, strength, and labor savings. In fact, when it comes to efficiently installed, code-compliant products that address the many challenges of jambs, headers and sills—ClarkDietrich’s offering is unmatched.

As we take perspective of today’s construction environment, our vision is clear. We’re focused on intelligent approaches and products that provide clear advantages over the traditional ways of doing things. The current reality is that contractors are seeking better alternatives to using standard wall framing members for the field-assembly of opening components.

That’s why we have multiple rough opening answers that reduce liability, streamline your processes and even cut on-site labor up to half. This catalog is your guide to these

products and the specific benefits that belong to each. The content includes overview information, product data and properties, framing details and more.

Far beyond what you need to confidently handle any rough opening, ClarkDietrich manufactures a comprehensive array of steel framing products. Not only do our products perform as a system, but we support a range of efforts for smarter installation and design, while also providing the expertise of a versatile engineering services team. And we do it all on a nationwide scale.

By using this resource, you can quickly find what you need and make the best rough opening choices for your projects. But please contact us at any time for additional clarity or support. You’ll discover that the real strength of our products is the company that stands behind them.

Need Product Submittals?
Use **SubmittalPro®** at clarkdietrich.com.

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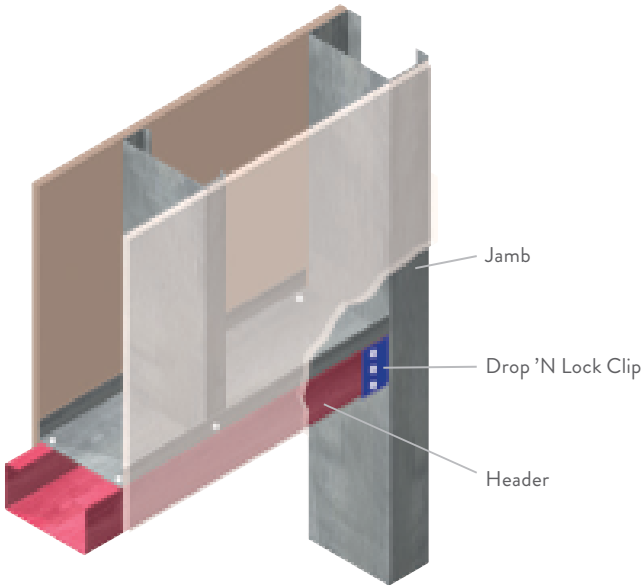
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RedHeader RO™

RedHeader RO™ can cut your labor time in half. It's designed to replace conventional boxed headers and built-up jambs and provide better results in half the time. One-piece headers and jambs eliminate the additional studs, track and screws required to frame conventional rough openings. Headers and jambs are also pre-cut to specified lengths to eliminate field cutting. The adjustable Drop 'N Lock™ Clip makes field adjustments a snap and provides a flat surface for a smooth drywall finish.

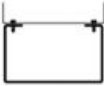
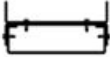
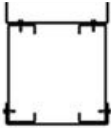
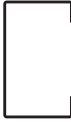
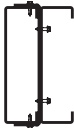
CONSTRUCTION ADVANTAGES:

- Eliminates built-up jambs and boxed or lay-in headers.
- Reduces material pieces and screws by up to 50%.
- The header easily drops into the Drop 'N Lock™ Clip.
- Drop 'N Lock Clip's adjustment slots allow for vertical field adjustments before fully attaching clip to jamb stud.
- Drop 'N Lock Clip width and narrower header reduce material buildup that pushes out the gypsum board, therefore helping eliminate additional corner bead taping costs.
- Eliminates capped members allowing drywall screws to drive through only one thickness of material.
- Header stud allows for easier fit of rigid insulation without additional cutting.
- Opened jamb stud does not require pre-insulating.
- Headers are marked RED to identify easily in the field.
- SAVES LABOR in installation and handling!



ORDERING INFORMATION:

- Pre-cut headers (4' 0" and over) available standard, based on minimum quantity orders.
- Minimum quantity orders of 30 headers required.
- HEADER LENGTHS SHOULD BE ORDERED 1/2" SHORTER THAN OPENING WIDTH TO FIT INSIDE CLIPS (header length = inside of jamb to inside of jamb minus 1/2").

One RedHeader RO	Replaces		One RedHeader RO jamb stud	Replaces
				
(1) RedHeader with: (1) track for cripple attachments w/ (2) screws at 16" o.c.	Typical lay-in header with: (1) 1-5/8" flange stud & (2) tracks w/ (4) screws at 16" o.c.	Typical boxed header with: (2) 1-5/8" flange studs & (2) tracks w/ (4) screws at 16" o.c.	(1) RedHeader jamb stud: No track or screws required to build up sections	Typical jamb with: (2) 1-5/8" flange studs & (1) track w/ (4) screws at 16" o.c.

Drop 'N Lock™ Clip



Drop 'N Lock™ CLIPS

Interior Framing

Product code	Thickness			ksi	Size (in)	Pcs./Box
	Gauge	Mils	Design thickness (in)			
DNLC333	20	33	0.0346	33	3-5/8	24
DNLC334	20	33	0.0346	33	4	24
DNLC336	20	33	0.0346	33	6	24
DNLC338	20	33	0.0346	33	8	16

All material G90.

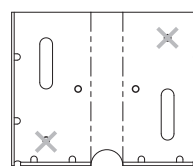


Screw pattern: 2/2

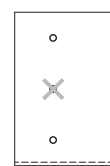
2 in Jamb, 2 in Header

Screw pattern: 4/6

4 in Jamb, 6 in Header

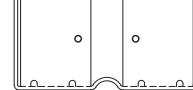


Front view

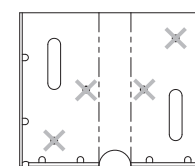


Side view

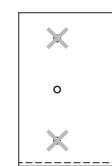
(Screws both sides)



Bottom view

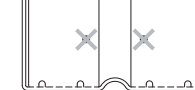


Front view



Side view

(Screws both sides)



Bottom view

Drop 'N Lock™ CLIPS

Exterior Framing

Product code	Thickness			ksi	Size (in)	Pcs./Box
	Gauge	Mils	Design thickness (in)			
DNLC683	14	68	0.0713	50	3-5/8	24
DNLC684	14	68	0.0713	50	4	24
DNLC686	14	68	0.0713	50	6	24
DNLC688	14	68	0.0713	50	8	16

All material G90.

Drop 'N Lock™ CLIPS ALLOWABLE LOADS (LBS)

Interior Framing

Product code	Size (in)	Gauge	Mils	ksi	Screw pattern	Header or Jamb Material (Min. Thickness)			
						20ga (33mil)		18ga (43mil)	
						Horizontal	Vertical	Horizontal	Vertical
DNLC333	3-5/8	20	33	33	2/2	180	250	180	250
					4/6	445	592	445	592
DNLC334	4	20	33	33	2/2	199	273	199	273
					4/6	462	569	462	569
DNLC336	6	20	33	33	2/2	192	285	192	285
					4/6	413	593	413	593
DNLC338	8	20	33	33	2/2	8" members not available in 20ga		213	324
					4/6			601	663

Notes:

1 Interior clip loads are based on using #8 screws.

Drop 'N Lock™ CLIPS ALLOWABLE LOADS (LBS)

Exterior Framing

Product code	Size (in)	Gauge	Mils	ksi	Screw pattern	Header or Jamb Material (Min. Thickness)					
						20ga (33mil) & 18ga (43mil)		16ga (54 mil)		14ga (68mil) & 12ga (97mil)	
						Horizontal	Vertical	Horizontal	Vertical	Horizontal	Vertical
DNLC683	3-5/8	14	68	50	2/2	227	447	486	625	593	717
					4/6	565	1089	1196	1803	1232	1837
DNLC684	4	14	68	50	2/2	296	470	503	565	578	745
					4/6	589	1060	929	1807	1227	1644
DNLC686	6	14	68	50	2/2	193	303	529	501	610	672
					4/6	630	958	1239	1765	1568	1908
DNLC688	8	14	68	50	2/2	275*	321*	533	496	594	688
					4/6	880*	1542*	1211	1785	1315	1875

*8" members not available in 20ga (33mil) thickness.

Notes:

1 For combined directional loads, an interaction equation is recommended: $H_{actual}/H_{allow} + V_{actual}/V_{allow} \leq 1.0$.

2 Screws in slots have no load value.

3 Exterior clip loads are based on using #10 screws.

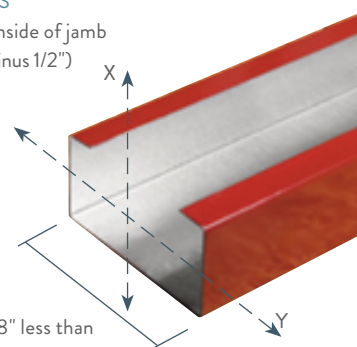
RedHeader RO™ Header Studs

RedHeader RO™ HEADER STUDS

Product code	Thickness			ksi	Depth (in)	Flange (in)	Return (in)	For use with jamb size (in)
	Gauge	Mils	Design thickness (in)					
HEAD	20	33	0.0346	33	3-1/2	3	1	3-5/8
					3-7/8	3	1	4
					5-7/8	3	1	6
HEAD	18	43	0.0451	33	3-1/2	3	1	3-5/8
					3-7/8	3	1	4
					5-7/8	3	1	6
					7-7/8	3	1	8
HEAD	16	54	0.0566	50	3-1/2	3	1	3-5/8
					3-7/8	3	1	4
					5-7/8	3	1	6
					7-7/8	3	1	8
HEAD	14	68	0.0713	50	3-1/2	3	1	3-5/8
					3-7/8	3	1	4
					5-7/8	3	1	6
					7-7/8	3	1	8
HEAD	12	97	0.1017	50	3-1/2	3	1	3-5/8
					3-7/8	3	1	4
					5-7/8	3	1	6
					7-7/8	3	1	8

HEADER LENGTHS SHOULD BE ORDERED 1/2" SHORTER THAN OPENING WIDTH TO FIT INSIDE CLIPS

(header length = inside of jamb to inside of jamb minus 1/2")



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

All header studs are unpunched.

Standard material coating is CP60 per ASTM C955; G90 available.

HEADER STUD SECTION PROPERTIES

Section (ksi)	Design thickness (in)	Gross								Effective								Torsional				
		Area (in ²)	Weight (lb/ft)	I _x (in ⁴)	S _x (in ³)	R _x (in)	I _y (in ⁴)	S _y (in ³)	R _y (in)	I _{xe} (in ⁴)	I _{ye} (in ⁴)	S _{xe} (in ³)	S _{ye} (in ³)	Max (in-k)	May (in-k)	V _{ax} (lb)	V _{ay} (lb)	Jx1000 (in ⁴)	C _w (in ⁴)	X _o (in)	R _o (in)	Beta
350HS300-33(33)	0.0346	0.388	1.32	0.829	0.474	1.463	0.536	0.315	1.176	0.579	0.436	0.331	0.257	4.91	3.81	1024	2047	0.155	2.272	-3.005	3.543	0.276
350HS300-43(33)	0.0451	0.503	1.71	1.071	0.612	1.459	0.687	0.404	1.171	0.898	0.627	0.513	0.369	7.62	5.82	1739	3089	0.341	2.944	-3.025	3.557	0.277
350HS300-54(50)	0.0566	0.627	2.13	1.324	0.756	1.453	0.852	0.358	1.165	1.183	0.791	0.629	0.450	18.82	13.48	3372	5767	0.670	3.612	-3.019	3.547	0.276
350HS300-68(50)	0.0713	0.782	2.66	1.634	0.933	1.445	1.048	0.492	1.157	1.545	1.028	0.849	0.600	25.43	17.95	4202	7068	1.325	4.420	-3.013	3.536	0.274
350HS300-97(50)	0.1017	1.093	3.72	2.232	1.275	1.429	1.421	0.763	1.140	2.230	1.423	1.271	0.836	38.04	25.02	5704	9502	3.767	5.933	-3.001	3.514	0.271
387HS300-33(33)	0.0346	0.401	1.36	1.043	0.539	1.614	0.556	0.318	1.179	0.726	0.452	0.375	0.260	5.56	3.84	1009	2047	0.160	2.683	-2.968	3.578	0.312
387HS300-43(33)	0.0451	0.520	1.77	1.348	0.696	1.610	0.717	0.410	1.174	1.127	0.647	0.581	0.372	8.63	5.89	1739	3089	0.353	3.432	-2.956	3.565	0.312
387HS300-54(50)	0.0566	0.648	2.21	1.668	0.861	1.604	0.885	0.370	1.168	1.494	0.821	0.717	0.457	21.48	13.67	3372	5767	0.692	4.214	-2.949	3.555	0.312
387HS300-68(50)	0.0713	0.809	2.75	2.061	1.064	1.596	1.089	0.509	1.160	1.950	1.069	0.969	0.608	29.01	18.21	4704	7068	1.371	5.160	-2.942	3.543	0.310
387HS300-97(50)	0.1017	1.131	3.85	2.822	1.456	1.580	1.478	0.785	1.143	2.817	1.480	1.450	0.848	43.40	25.40	6419	9502	3.899	6.937	-2.929	3.518	0.307
587HS300-33(33)	0.0346	0.470	1.60	2.683	0.913	2.390	0.648	0.335	1.174	1.786	0.503	0.608	0.261	9.16	3.87	652	2047	0.187	5.487	-2.643	3.752	0.504
587HS300-43(33)	0.0451	0.610	2.08	3.473	1.182	2.385	0.835	0.432	1.170	2.846	0.734	0.969	0.382	17.23	7.35	1447	3089	0.414	7.037	-2.631	3.739	0.505
587HS300-54(50)	0.0566	0.762	2.59	4.309	1.467	2.379	1.031	0.412	1.163	3.887	0.953	1.240	0.482	37.13	14.43	2885	5767	0.813	8.663	-2.623	3.727	0.505
587HS300-68(50)	0.0713	0.952	3.24	5.345	1.819	2.370	1.270	0.571	1.155	5.075	1.245	1.670	0.642	49.99	19.22	5350	7068	1.612	10.643	-2.614	3.713	0.504
587HS300-97(50)	0.1017	1.334	4.54	7.378	2.512	2.352	1.728	0.827	1.138	7.346	1.730	2.490	0.898	74.54	26.87	10233	9502	4.600	14.405	-2.595	3.682	0.503
787HS300-43(33)	0.0451	0.701	2.38	6.819	1.732	3.120	0.922	0.446	1.147	5.248	0.805	1.333	0.391	23.70	7.55	1068	3089	0.475	12.520	-2.377	4.087	0.662
787HS300-54(50)	0.0566	0.875	2.98	8.474	2.152	3.113	1.139	0.437	1.141	7.570	1.050	1.789	0.498	35.36	9.84	2125	5767	0.934	15.439	-2.368	4.074	0.662
787HS300-68(50)	0.0713	1.094	3.72	10.532	2.675	3.103	1.404	0.583	1.133	10.028	1.375	2.470	0.663	73.96	19.85	4290	7068	1.854	19.008	-2.358	4.058	0.662
787HS300-97(50)	0.1017	1.538	5.23	14.602	3.708	3.082	1.912	0.838	1.115	14.520	1.915	3.671	0.928	109.90	27.78	10885	9502	5.301	25.843	-2.337	4.025	0.663

Notes:

- Tables are based on using 2001 AISI NASPEC Code w/2004 supplement (ASD) including cold work of forming per AISI A7.2.
- Design for interior sections (-33mil and -43mil) shall be based on Direct Strength Method, with an additional 10% reduction of the allowable loads generated by DSM.
- 1 I_{ye}, S_{ye}, May are for a positive moment with the return lips in compression (installing the header with the flanges pointing up).
- 2 V_{ay} value is for (1) flange. In most header assemblies, both flanges are engaged.

RedHeader RO™ Jamb Studs

RedHeader RO™ JAMB STUDS

Product code	Thickness		Design thickness (in)	ksi	Depth (in)	Flange (in)	Return (in)
	Gauge	Mils					
JAMB	20	33	0.0346	33	3-5/8	3	7/8
					4		
					6		
JAMB	18	43	0.0451	33	3-5/8	3	7/8
					4		
					6		
JAMB	16	54	0.0566	50	3-5/8	3	7/8
					4		
					6		
JAMB	14	68	0.0713	50	3-5/8	3	7/8
					4		
					6		
JAMB	12	97	0.1017	50	3-5/8	3	7/8
					4		
					6		

Standard material coating is CP60 per ASTM C955; G90 available.



JAMB STUD SECTION PROPERTIES

Section (ksi)	Design thickness (in)	Gross								Effective				Torsional				
		Area (in²)	Weight (lb/ft)	I _x (in⁴)	S _x (in³)	R _x (in)	I _y (in⁴)	S _y (in³)	R _y (in)	I _{xe} (in⁴)	S _{xe} (in³)	Max (in-k)	V _{ax} (lb)	J _x 1000 (in⁴)	C _w (in⁴)	X _o (in)	R _o (in)	Beta
362JS300-33 (33)	0.0346	0.383	1.30	0.891	0.492	1.525	0.517	0.295	1.162	0.622	0.343	5.09	1024	0.153	2.050	-2.921	3.493	0.301
362JS300-43 (33)	0.0451	0.498	1.69	1.150	0.635	1.520	0.667	0.378	1.157	0.967	0.534	7.92	1739	0.337	2.620	-2.908	3.480	0.302
362JS300-54 (50)	0.0566	0.620	2.11	1.422	0.785	1.515	0.822	0.354	1.151	1.262	0.640	19.17	3372	0.662	3.214	-2.901	3.469	0.301
362JS300-68 (50)	0.0713	0.773	2.63	1.756	0.969	1.507	1.010	0.476	1.143	1.598	0.822	24.60	4369	1.310	3.929	-2.894	3.457	0.299
362JS300-97 (50)	0.1017	1.080	3.68	2.400	1.324	1.491	1.368	0.715	1.126	2.337	1.264	37.85	5943	3.723	5.266	-2.880	3.433	0.296
400JS300-33 (33)	0.0346	0.396	1.35	1.111	0.556	1.675	0.536	0.298	1.164	0.776	0.388	5.76	976	0.158	2.414	-2.852	3.506	0.338
400JS300-43 (33)	0.0451	0.515	1.75	1.436	0.718	1.670	0.691	0.383	1.159	1.203	0.602	8.93	1739	0.349	3.087	-2.839	3.492	0.339
400JS300-54 (50)	0.0566	0.641	2.18	1.777	0.888	1.664	0.852	0.365	1.153	1.576	0.722	21.61	3372	0.685	3.789	-2.832	3.481	0.338
400JS300-68 (50)	0.0713	0.800	2.72	2.195	1.098	1.657	1.048	0.491	1.145	2.000	0.931	27.87	4871	1.356	4.637	-2.824	3.469	0.337
400JS300-97 (50)	0.1017	1.118	3.81	3.007	1.504	1.640	1.421	0.735	1.127	2.930	1.436	42.98	6658	3.855	6.226	-2.809	3.443	0.334
600JS300-33 (33)	0.0346	0.465	1.58	2.778	0.926	2.443	0.620	0.298	1.154	1.900	0.633	9.37	638	0.186	5.095	-2.537	3.706	0.532
600JS300-43 (33)	0.0451	0.605	2.06	3.597	1.199	2.439	0.799	0.404	1.150	2.957	0.986	17.45	1415	0.410	6.534	-2.525	3.694	0.533
600JS300-54 (50)	0.0566	0.754	2.57	4.462	1.487	2.432	0.986	0.405	1.143	4.048	1.264	37.84	2822	0.806	8.042	-2.516	3.681	0.533
600JS300-68 (50)	0.0713	0.943	3.21	5.534	1.845	2.423	1.214	0.541	1.135	5.086	1.595	47.76	5350	1.597	9.876	-2.506	3.666	0.533
600JS300-97 (50)	0.1017	1.322	4.50	7.639	2.546	2.404	1.649	0.771	1.117	7.448	2.432	72.83	10471	4.556	13.357	-2.487	3.635	0.532
800JS300-43 (33)	0.0451	0.695	2.37	6.967	1.742	3.166	0.879	0.416	1.125	5.339	1.335	23.74	1051	0.471	11.772	-2.280	4.061	0.685
800JS300-54 (50)	0.0566	0.868	2.95	8.657	2.164	3.159	1.085	0.427	1.118	7.763	1.798	35.53	2091	0.927	14.514	-2.271	4.048	0.685
800JS300-68 (50)	0.0713	1.085	3.69	10.758	2.690	3.149	1.336	0.545	1.110	9.942	2.356	70.54	4220	1.839	17.863	-2.261	4.032	0.686
800JS300-97 (50)	0.1017	1.525	5.19	14.913	3.728	3.127	1.817	0.781	1.092	14.543	3.568	106.81	10885	5.257	24.272	-2.239	3.998	0.686

Notes:

- Tables are based on using 2001 AISI NASPEC Code w/2004 supplement (ASD) including cold work of forming per AISI A7.2.
- Design for interior sections (-33mil and -43mil) shall be based on Direct Strength Method, with an additional 10% reduction of the allowable loads generated by DSM.

RedHeader RO™ Tables

ALLOWABLE HEADER SPANS FOR INTERIOR OPENINGS

(Lateral Load = 5psf, Wall Dead Load = 10psf, Sill Height = 0", Deflection Factor = 1.0)

Wall height (ft)	Wall size (in)	Member	Gauge (mils)	L/120						L/240						L/360					
										Opening Height (ft)											
				7	8	9	7	8	9	7	8	9	7	8	9	7	8	9	7	8	9
9	3-5/8	350HS300-33	20ga (33mils)	8' 2"	1	9' 7"	1	—	—	8' 2"	1	9' 7"	1	—	—	8' 2"	1	9' 7"	1	—	—
		350HS300-43	18ga (43mils)	10' 2"	2	11' 11"	1	—	—	10' 2"	2	11' 11"	1	—	—	10' 2"	2	11' 11"	1	—	—
		350HS300-54	16ga (54mils)	12' 8"	2	15' 1"	2	—	—	12' 8"	2	15' 1"	2	—	—	12' 8"	2	13' 2"	2	—	—
		350HS300-68	14ga (68mils)	13' 6"	2	16' 1"	2	—	—	13' 6"	2	16' 1"	2	—	—	13' 6"	2	14' 5"	2	—	—
		350HS300-97	12ga (97mils)	14' 8"	2	17' 5"	2	—	—	14' 8"	2	17' 5"	2	—	—	14' 8"	2	16' 3"	2	—	—
	6	587HS300-33	20ga (33mils)	9' 4"	1	11' 5"	1	—	—	9' 4"	1	11' 5"	1	—	—	9' 4"	1	11' 5"	1	—	—
		587HS300-43	18ga (43mils)	12' 5"	2	14' 9"	2	—	—	12' 5"	2	14' 9"	2	—	—	12' 5"	2	13' 9"	2	—	—
		587HS300-54	16ga (54mils)	13' 3"	2	15' 9"	2	—	—	13' 3"	2	15' 9"	2	—	—	13' 3"	2	15' 9"	2	—	—
		587HS300-68	14ga (68mils)	14' 2"	2	16' 10"	2	—	—	14' 2"	2	16' 10"	2	—	—	14' 2"	2	16' 10"	2	—	—
		587HS300-97	12ga (97mils)	15' 5"	2	18' 4"	2	—	—	15' 5"	2	18' 4"	2	—	—	15' 5"	2	18' 4"	2	—	—
11	3-5/8	350HS300-33	20ga (33mils)	6' 5"	2	7' 0"	1	7' 10"	1	6' 5"	2	7' 0"	1	7' 10"	1	6' 5"	2	7' 0"	1	7' 10"	1
		350HS300-43	18ga (43mils)	7' 11"	2	8' 8"	2	9' 8"	2	7' 11"	2	8' 8"	2	9' 8"	2	7' 11"	2	8' 8"	2	9' 8"	2
		350HS300-54	16ga (54mils)	10' 8"	2	11' 5"	2	12' 8"	2	10' 8"	2	11' 5"	2	12' 8"	2	10' 8"	2	11' 5"	2	12' 4"	2
		350HS300-68	14ga (68mils)	11' 4"	2	12' 2"	2	13' 6"	2	11' 4"	2	12' 2"	2	13' 6"	2	11' 4"	2	12' 2"	2	13' 5"	2
		350HS300-97	12ga (97mils)	12' 3"	2	13' 3"	2	14' 8"	2	12' 3"	2	13' 3"	2	14' 8"	2	12' 3"	2	13' 3"	2	14' 8"	2
	6	587HS300-33	20ga (33mils)	7' 0"	1	7' 10"	1	9' 0"	1	7' 0"	1	7' 10"	1	9' 0"	1	7' 0"	1	7' 10"	1	9' 0"	1
		587HS300-43	18ga (43mils)	9' 8"	2	10' 10"	2	12' 5"	2	9' 8"	2	10' 10"	2	12' 5"	2	9' 8"	2	10' 10"	2	12' 5"	2
		587HS300-54	16ga (54mils)	11' 2"	2	12' 0"	2	13' 3"	2	11' 2"	2	12' 0"	2	13' 3"	2	11' 2"	2	12' 0"	2	13' 3"	2
		587HS300-68	14ga (68mils)	11' 11"	2	12' 10"	2	14' 2"	2	11' 11"	2	12' 10"	2	14' 2"	2	11' 11"	2	12' 10"	2	14' 2"	2
		587HS300-97	12ga (97mils)	12' 11"	2	13' 11"	2	15' 5"	2	12' 11"	2	13' 11"	2	15' 5"	2	12' 11"	2	13' 11"	2	15' 5"	2
13	3-5/8	350HS300-33	20ga (33mils)	5' 5"	2	5' 9"	2	6' 2"	2	5' 5"	2	5' 9"	2	6' 2"	2	5' 5"	2	5' 9"	2	6' 2"	2
		350HS300-43	18ga (43mils)	6' 9"	2	7' 2"	2	7' 8"	2	6' 9"	2	7' 2"	2	7' 8"	2	6' 9"	2	7' 2"	2	7' 8"	2
		350HS300-54	16ga (54mils)	9' 6"	2	10' 1"	2	10' 8"	2	9' 6"	2	10' 1"	2	10' 8"	2	9' 6"	2	10' 1"	2	10' 8"	2
		350HS300-68	14ga (68mils)	10' 3"	2	10' 9"	2	11' 4"	2	10' 3"	2	10' 9"	2	11' 4"	2	10' 3"	2	10' 9"	2	11' 4"	2
		350HS300-97	12ga (97mils)	11' 1"	2	11' 8"	2	12' 4"	2	11' 1"	2	11' 8"	2	12' 4"	2	11' 1"	2	11' 8"	2	12' 4"	2
	6	587HS300-33	20ga (33mils)	5' 10"	2	6' 4"	2	6' 11"	2	5' 10"	2	6' 4"	2	6' 11"	2	5' 10"	2	6' 4"	2	6' 11"	2
		587HS300-43	18ga (43mils)	8' 1"	2	8' 9"	2	9' 6"	2	8' 1"	2	8' 9"	2	9' 6"	2	8' 1"	2	8' 9"	2	9' 6"	2
		587HS300-54	16ga (54mils)	10' 1"	2	10' 6"	2	11' 2"	2	10' 1"	2	10' 6"	2	11' 2"	2	10' 1"	2	10' 6"	2	11' 2"	2
		587HS300-68	14ga (68mils)	10' 9"	2	11' 3"	2	11' 11"	2	10' 9"	2	11' 3"	2	11' 11"	2	10' 9"	2	11' 3"	2	11' 11"	2
		587HS300-97	12ga (97mils)	11' 8"	3	12' 3"	2	12' 11"	2	11' 8"	3	12' 3"	2	12' 11"	2	11' 8"	3	12' 3"	2	12' 11"	2
15	3-5/8	350HS300-33	20ga (33mils)	4' 9"	2	5' 0"	2	5' 4"	2	4' 9"	2	5' 0"	2	5' 4"	2	4' 9"	2	5' 0"	2	5' 4"	2
		350HS300-43	18ga (43mils)	5' 11"	2	6' 3"	2	6' 7"	2	5' 11"	2	6' 3"	2	6' 7"	2	5' 11"	2	6' 3"	2	6' 7"	2
		350HS300-54	16ga (54mils)	8' 7"	2	9' 0"	2	9' 6"	2	8' 7"	2	9' 0"	2	9' 6"	2	8' 7"	2	9' 0"	2	9' 6"	2
		350HS300-68	14ga (68mils)	9' 5"	3	9' 10"	2	10' 3"	2	9' 5"	3	9' 10"	2	10' 3"	2	9' 5"	3	9' 10"	2	10' 3"	2
		350HS300-97	12ga (97mils)	10' 4"	3	10' 8"	3	11' 1"	3	10' 4"	3	10' 8"	3	11' 1"	3	10' 4"	3	10' 8"	3	11' 1"	3
	6	587HS300-33	20ga (33mils)	5' 2"	2	5' 5"	2	5' 9"	2	5' 2"	2	5' 5"	2	5' 9"	2	5' 2"	2	5' 5"	2	5' 9"	2
		587HS300-43	18ga (43mils)	7' 1"	2	7' 6"	2	8' 0"	2	7' 1"	2	7' 6"	2	8' 0"	2	7' 1"	2	7' 6"	2	8' 0"	2
		587HS300-54	16ga (54mils)	9' 2"	4	9' 7"	4	10' 1"	2	9' 2"	4	9' 7"	4	10' 1"	2	9' 2"	4	9' 7"	4	10' 1"	2
		587HS300-68	14ga (68mils)	10' 0"	3	10' 4"	3	10' 9"	3	10' 0"	3	10' 4"	3	10' 9"	3	10' 0"	3	10' 4"	3	10' 9"	3
		587HS300-97	12ga (97mils)	10' 10"	3	11' 3"	3	11' 8"	3	10' 10"	3	11' 3"	3	11' 8"	3	10' 10"	3	11' 3"	3	11' 8"	3

Span notes: (Reference number shown to the right of spans)

- 1 Use 20ga (33mil) Drop 'N Lock™ Clip with a 2/2 screw pattern.
- 2 Use 20ga (33mil) Drop 'N Lock Clip with a 4/6 screw pattern.
- 3 Use 14ga (68mil) Drop 'N Lock Clip with a 2/2 screw pattern.
- 4 Use 14ga (68mil) Drop 'N Lock Clip with a 4/6 screw pattern.
- 5 Special connection detailing required. Contact ClarkDietrich Technical Services at 888.437.3244 or contact a specialty engineer.

Notes:

- 1 All headers require the attachment of the Drop 'N Lock Clip at each end with headers installed leg up.
- 2 Recommended Drop 'N Lock Clip attachments above are based on the jamb stud thickness being equal to or greater than header thickness.
- 3 Header framing was calculated with a sill height of 0" for worst case design.
- 4 Section properties are based upon the AISI 2001 NASPEC w/2004 supplement or Direct Strength Method.
- 5 Increase strength in cold work of forming was used per NASPEC A7.2.
- 6 For deflection calculations, the effective moment of inertia was used. Reference the NASPEC commentary C1.
- 7 On interior framing, lateral deflection calculations are based on using 1.0 times the interior wind load.
- 8 Dead load deflection calculations are limited to L/240 or 0.5" max. deflection.
- 9 HEADER LENGTHS SHOULD BE ORDERED 1/2" SHORTER THAN OPENING WIDTH TO FIT INSIDE CLIPS.
- 10 Additional header spans for 4" and 8" systems are available at www.clarkdietrich.com.

ALLOWABLE HEADER SPANS FOR EXTERIOR OPENINGS

(Lateral Load = 25psf, Wall Dead Load = 12psf, Sill Height = 0", Deflection Factor = 0.7)

Wall height (ft)	Wall size (in)	Member	Gauge (mils)	L/240						L/360						L/600					
										Opening Height (ft)											
				7	8	9	7	8	9	7	8	9	7	8	9	7	8	9	7	8	9
9	3-5/8	350HS300-33	20ga (33mils)	4' 9"	2	5' 0"	2	—	—	4' 9"	2	5' 0"	2	—	—	4' 9"	2	5' 0"	2	—	—
		350HS300-43	18ga (43mils)	5' 11"	2	6' 3"	2	—	—	5' 11"	2	6' 3"	2	—	—	5' 11"	2	6' 3"	2	—	—
		350HS300-54	16ga (54mils)	9' 3"	4	9' 10"	4	—	—	9' 3"	4	9' 10"	4	—	—	9' 3"	4	9' 10"	4	—	—
		350HS300-68	14ga (68mils)	10' 9"	4	11' 5"	4	—	—	10' 9"	4	11' 5"	4	—	—	10' 1"	4	10' 1"	4	—	—
		350HS300-97	12ga (97mils)	13' 0"	4	13' 11"	4	—	—	13' 0"	4	13' 7"	4	—	—	11' 5"	4	11' 5"	4	—	—
	6	587HS300-33	20ga (33mils)	6' 0"	2	6' 6"	2	—	—	6' 0"	2	6' 6"	2	—	—	6' 0"	2	6' 6"	2	—	—
		587HS300-43	18ga (43mils)	8' 3"	4	9' 0"	4	—	—	8' 3"	4	9' 0"	4	—	—	8' 3"	4	9' 0"	4	—	—
		587HS300-54	16ga (54mils)	11' 11"	4	13' 1"	4	—	—	11' 11"	4	13' 1"	4	—	—	11' 11"	4	13' 1"	4	—	—
		587HS300-68	14ga (68mils)	13' 6"	4	15' 2"	4	—	—	13' 6"	4	15' 2"	4	—	—	13' 6"	4	15' 1"	4	—	—
		587HS300-97	12ga (97mils)	14' 8"	4	17' 6"	4	—	—	14' 8"	4	17' 6"	4	—	—	14' 8"	4	17' 1"	4	—	—
11	3-5/8	350HS300-33	20ga (33mils)	4' 0"	2	4' 2"	2	4' 4"	2	4' 0"	2	4' 2"	2	4' 4"	2	4' 0"	2	4' 2"	2	4' 4"	2
		350HS300-43	18ga (43mils)	5' 0"	2	5' 2"	2	5' 5"	2	5' 0"	2	5' 2"	2	5' 5"	2	5' 0"	2	5' 2"	2	5' 5"	2
		350HS300-54	16ga (54mils)	7' 9"	4	8' 2"	4	8' 6"	4	7' 9"	4	8' 2"	4	8' 6"	4	7' 9"	4	8' 2"	4	8' 6"	4
		350HS300-68	14ga (68mils)	9' 0"	4	9' 5"	4	9' 11"	4	9' 0"	4	9' 5"	4	9' 11"	4	9' 0"	4	9' 5"	4	9' 11"	4
		350HS300-97	12ga (97mils)	10' 11"	4	11' 5"	4	12' 0"	4	10' 11"	4	11' 5"	4	12' 0"	4	10' 8"	4	10' 8"	4	10' 8"	4
	6	587HS300-33	20ga (33mils)	4' 11"	4	5' 2"	4	5' 7"	4	4' 11"	4	5' 2"	4	5' 7"	4	4' 11"	4	5' 2"	4	5' 7"	4
		587HS300-43	18ga (43mils)	6' 9"	4	7' 2"	4	7' 8"	4	6' 9"	4	7' 2"	4	7' 8"	4	6' 9"	4	7' 2"	4	7' 8"	4
		587HS300-54	16ga (54mils)	9' 8"	4	10' 4"	4	11' 1"	4	9' 8"	4	10' 4"	4	11' 1"	4	9' 8"	4	10' 4"	4	11' 1"	4
		587HS300-68	14ga (68mils)	11' 3"	4	12' 0"	4	12' 10"	4	11' 3"	4	12' 0"	4	12' 10"	4	11' 3"	4	12' 0"	4	12' 10"	4
		587HS300-97	12ga (97mils)	12' 4"	4	13' 3"	4	14' 8"	4	12' 4"	4	13' 3"	4	14' 8"	4	12' 4"	4	13' 3"	4	14' 8"	4
13	3-5/8	350HS300-33	20ga (33mils)	3' 8"	2	3' 11"	2	4' 3"	2	3' 8"	2	3' 11"	2	4' 3"	2	3' 8"	2	3' 11"	2	4' 3"	2
		350HS300-43	18ga (43mils)	4' 7"	4	4' 11"	4	5' 4"	4	4' 7"	4	4' 11"	4	5' 4"	4	4' 7"	4	4' 11"	4	5' 4"	4
		350HS300-54	16ga (54mils)	7' 1"	4	7' 8"	4	8' 4"	4	7' 1"	4	7' 8"	4	8' 4"	4	7' 1"	4	7' 8"	4	8' 2"	4
		350HS300-68	14ga (68mils)	8' 3"	4	8' 10"	4	9' 8"	4	8' 3"	4	8' 10"	4	9' 8"	4	8' 3"	4	8' 10"	4	9' 8"	4
		350HS300-97	12ga (97mils)	9' 11"	4	10' 9"	4	11' 10"	4	9' 11"	4	10' 9"	4	11' 10"	4	9' 11"	4	10' 1"	4	10' 1"	4
	6	587HS300-33	20ga (33mils)	4' 5"	4	4' 11"	4	5' 7"	4	4' 5"	4	4' 11"	4	5' 7"	4	4' 5"	4	4' 11"	4	5' 7"	4
		587HS300-43	18ga (43mils)	6' 1"	4	6' 9"	4	7' 5"	5	6' 1"	4	6' 9"	4	7' 5"	5	6' 1"	4	6' 9"	4	7' 9"	5
		587HS300-54	16ga (54mils)	8' 10"	4	9' 10"	4	11' 3"	4	8' 10"	4	9' 10"	4	11' 3"	4	8' 10"	4	9' 10"	4	11' 3"	4
		587HS300-68	14ga (68mils)	10' 2"	4	11' 4"	4	13' 1"	4	10' 2"	4	11' 4"	4	13' 1"	4	10' 2"	4	11' 4"	4	13' 1"	4
		587HS300-97	12ga (97mils)	11' 8"	4	13' 3"	4	15' 11"	4	11' 8"	4	13' 3"	4	15' 11"	4	11' 8"	4	13' 3"	4	15' 1"	4
15	3-5/8	350HS300-33	20ga (33mils)	3' 3"	2	3' 6"	2	3' 8"	2	3' 3"	2	3' 6"	2	3' 8"	2	3' 3"	2	3' 6"	2	3' 8"	2
		350HS300-43	18ga (43mils)	4' 1"	4	4' 4"	4	4' 1"	2	4' 1"	4	4' 4"	4	4' 7"	4	4' 1"	4	4' 4"	4	4' 7"	4
		350HS300-54	16ga (54mils)	6' 4"	4	6' 9"	4	7' 1"	4	6' 4"	4	6' 9"	4	7' 3"	4	6' 4"	4	6' 9"	4	7' 3"	4
		350HS300-68	14ga (68mils)	7' 5"	4	7' 10"	4	8' 1"	4	7' 5"	4	7' 10"	4	8' 5"	4	7' 5"	4	7' 10"	4	8' 5"	4
		350HS300-97	12ga (97mils)	8' 11"	4	9' 6"	4	10' 1"	4	8' 11"	4	9' 6"	4	10' 2"	4	8' 11"	4	9' 6"	4	9' 8"	4
	6	587HS300-33	20ga (33mils)	3' 11"	4	4' 3"	4	4' 1"	4	3' 11"	4	4' 3"	4	4' 8"	4	3' 11"	4	4' 3"	4	4' 8"	4
		587HS300-43	18ga (43mils)	5' 5"	5	5' 11"	5	6' 1"	5	5' 5"	5	5' 11"	5	6' 6"	5	5' 5"	5	5' 11"	5	6' 6"	5
		587HS300-54	16ga (54mils)	7' 9"	4	8' 6"	4	9' 1"	4	7' 9"	4	8' 6"	4	9' 4"	4	7' 9"	4	8' 6"	4	9' 4"	4
		587HS300-68	14ga (68mils)	9' 0"	4	9' 10"	4	10' 1"	4	9' 0"	4	9' 10"	4	10' 10"	4	9' 0"	4	9' 10"	4	10' 10"	4
		587HS300-97	12ga (97mils)	10' 9"	4	11' 8"	4	13' 1"	4	10' 9"	4	11' 8"	4	13' 1"	4	10' 9"	4	11' 8"	4	13' 1"	4

Span notes: (Reference number shown to the right of spans)

- 1 Use 20ga (33mil) Drop 'N Lock Clip™ with a 2/2 screw pattern.
- 2 Use 20ga (33mil) Drop 'N Lock Clip with a 4/6 screw pattern.
- 3 Use 14ga (68mil) Drop 'N Lock Clip with a 2/2 screw pattern.
- 4 Use 14ga (68mil) Drop 'N Lock Clip with a 4/6 screw pattern.
- 5 Special connection detailing required. Contact ClarkDietrich Technical Services at 888.437.3244 or contact a speciality engineer.

Notes:

- 1 All headers require the attachment of the Drop 'N Lock Clip at each end with headers installed leg up.
- 2 Recommended Drop 'N Lock Clip attachments above are based on the jamb stud thickness being equal to or greater than header thickness.
- 3 Header framing was calculated with a sill height of 0" for worst case design.
- 4 Section properties are based upon the AISI 2001 NASPEC w/2004 supplement or Direct Strength Method.
- 5 Increase strength in cold work of forming was used per NASPEC A7.2.
- 6 For deflection calculations, the effective moment of inertia was used. Reference the NASPEC commentary C1.
- 7 On exterior framing, lateral deflection calculations are based on using 0.7 times the components and cladding wind loads.
- 8 Dead load deflection calculations are limited to L/240 or 0.5" max. deflection.
- 9 HEADER LENGTHS SHOULD BE ORDERED 1/2" SHORTER THAN OPENING WIDTH TO FIT INSIDE CLIPS.
- 10 Additional header spans for 4" and 8" systems or with a deflection factor of 1.0 are available at www.clarkdietrich.com.

RedHeader RO™ Tables

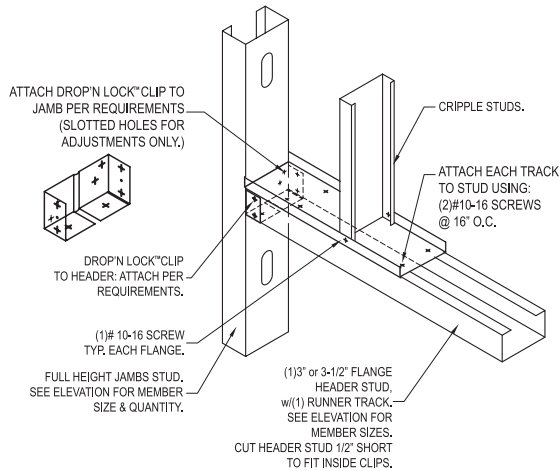
ALLOWABLE OPENING WIDTHS FOR JAMB STUDS

Wall height (ft)	Wall size (in)	Member	Gauge (mils)	Wind Pressure (psf)									
				5psf			25psf			30psf			
				Deflection Limit									
				L/120	L/240	L/360	L/240	L/360	L/600	L/240	L/360	L/600	
9	3-5/8	362JS300-33	20ga (33mils)	16' 0"	16' 0"	14' 11"	—	—	—	—	—	—	—
		362JS300-43	18ga (43mils)	16' 0"	16' 0"	16' 0"	4' 3" *	4' 3" *	—	3' 3" *	3' 3" *	—	—
		362JS300-54	16ga (54mils)	16' 0"	16' 0"	16' 0"	12' 7" *	8' 0"	4' 2"	10' 3" *	6' 5"	3' 3"	—
		362JS300-68	14ga (68mils)	16' 0"	16' 0"	16' 0"	16' 0"	10' 7"	5' 9"	13' 7"	8' 6"	4' 6"	—
		362JS300-97	12ga (97mils)	16' 0"	16' 0"	16' 0"	16' 0"	16' 0"	9' 1"	16' 0"	13' 2"	7' 4"	—
	6	600JS300-33	20ga (33mils)	16' 0"	16' 0"	16' 0"	5' 3" *	5' 3" *	5' 3" *	4' 1" *	4' 1" *	4' 1" *	—
		600JS300-43	18ga (43mils)	16' 0"	16' 0"	16' 0"	11' 3" *	11' 3" *	11' 3" *	9' 1" *	9' 1" *	9' 1" *	—
		600JS300-54	16ga (54mils)	20' 0"	20' 0"	20' 0"	20' 0"	20' 0"	16' 10"	20' 0"	20' 0"	13' 9"	—
		600JS300-68	14ga (68mils)	20' 0"	20' 0"	20' 0"	20' 0"	20' 0"	20' 0"	20' 0"	20' 0"	17' 8"	—
600JS300-97	12ga (97mils)	20' 0"	20' 0"	20' 0"	20' 0"	20' 0"	20' 0"	20' 0"	20' 0"	20' 0"	—	—	
11	3-5/8	362JS300-33	20ga (33mils)	10' 4" *	10' 4" *	7' 5"	—	—	—	—	—	—	—
		362JS300-43	18ga (43mils)	16' 0"	16' 0"	12' 5"	—	—	—	—	—	—	—
		362JS300-54	16ga (54mils)	16' 0"	16' 0"	16' 0"	6' 3"	3' 8"	—	5' 0"	—	—	—
		362JS300-68	14ga (68mils)	16' 0"	16' 0"	16' 0"	8' 4"	5' 1"	—	6' 8"	4' 0"	—	—
		362JS300-97	12ga (97mils)	16' 0"	16' 0"	16' 0"	12' 11"	8' 1"	4' 3"	10' 6"	6' 6"	3' 4"	—
	6	600JS300-33	20ga (33mils)	16' 0"	16' 0"	16' 0"	—	—	—	—	—	—	—
		600JS300-43	18ga (43mils)	16' 0"	16' 0"	16' 0"	6' 8" *	6' 8" *	5' 9"	5' 4" *	5' 4" *	4' 7"	—
		600JS300-54	16ga (54mils)	20' 0"	20' 0"	20' 0"	16' 5" *	15' 1"	8' 6"	13' 5" *	12' 4"	6' 10"	—
		600JS300-68	14ga (68mils)	20' 0"	20' 0"	20' 0"	20' 0"	19' 4"	11' 0"	17' 4" *	15' 11"	8' 11"	—
600JS300-97	12ga (97mils)	20' 0"	20' 0"	20' 0"	20' 0"	20' 0"	16' 10"	20' 0"	20' 0"	13' 9"	—	—	
13	3-5/8	362JS300-33	20ga (33mils)	6' 9" *	6' 8"	3' 11"	—	—	—	—	—	—	—
		362JS300-43	18ga (43mils)	11' 6" *	11' 2"	6' 11"	—	—	—	—	—	—	—
		362JS300-54	16ga (54mils)	16' 0"	15' 0"	9' 6"	3' 3"	—	—	—	—	—	—
		362JS300-68	14ga (68mils)	16' 0"	16' 0"	12' 5"	4' 6"	—	—	3' 6"	—	—	—
		362JS300-97	12ga (97mils)	16' 0"	16' 0"	16' 0"	7' 3"	4' 4"	—	5' 9"	3' 4"	—	—
	6	600JS300-33	20ga (33mils)	13' 8" *	13' 8" *	13' 8" *	—	—	—	—	—	—	—
		600JS300-43	18ga (43mils)	16' 0"	16' 0"	16' 0"	4' 3" *	4' 3" *	—	3' 4" *	3' 4" *	—	—
		600JS300-54	16ga (54mils)	20' 0"	20' 0"	20' 0"	11' 1" *	8' 7"	4' 7"	9' 0" *	6' 11"	3' 7"	—
		600JS300-68	14ga (68mils)	20' 0"	20' 0"	20' 0"	14' 4" *	11' 2"	6' 1"	11' 9" *	9' 1"	4' 10"	—
600JS300-97	12ga (97mils)	20' 0"	20' 0"	20' 0"	20' 0"	17' 1"	9' 8"	18' 8" *	14' 0"	7' 9"	—	—	
15	3-5/8	362JS300-33	20ga (33mils)	4' 7" *	3' 10"	—	—	—	—	—	—	—	—
		362JS300-43	18ga (43mils)	8' 2" *	6' 9"	4' 0"	—	—	—	—	—	—	—
		362JS300-54	16ga (54mils)	16' 0"	9' 4"	5' 8"	—	—	—	—	—	—	—
		362JS300-68	14ga (68mils)	16' 0"	12' 2"	7' 7"	—	—	—	—	—	—	—
		362JS300-97	12ga (97mils)	16' 0"	16' 0"	11' 10"	4' 3"	—	—	3' 3"	—	—	—
	6	600JS300-33	20ga (33mils)	9' 8" *	9' 8" *	9' 4"	—	—	—	—	—	—	—
		600JS300-43	18ga (43mils)	16' 0"	16' 0"	15' 5"	—	—	—	—	—	—	—
		600JS300-54	16ga (54mils)	20' 0"	20' 0"	20' 0"	7' 10" *	5' 1"	—	6' 3" *	4' 0"	—	—
		600JS300-68	14ga (68mils)	20' 0"	20' 0"	20' 0"	10' 3" *	6' 10"	3' 6"	8' 4" *	5' 5"	—	—
600JS300-97	12ga (97mils)	20' 0"	20' 0"	20' 0"	16' 5" *	10' 8"	5' 9"	13' 5" *	8' 7"	4' 7"	—	—	

Notes:

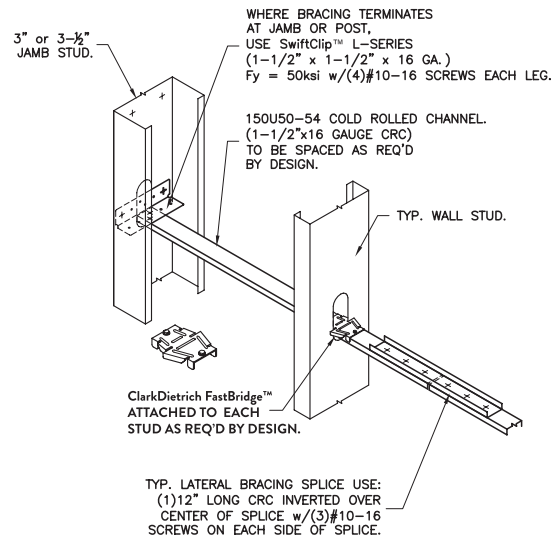
- 1 This table was prepared conservatively with an analysis of the opening being vertically centered in relation to the overall wall height indicated.
- 2 Minimum opening height is 36" at the center of the wall height. For door openings, this table is conservative, and therefore applicable.
- 3 Opening widths are limited to 16' 0" for 3-5/8" and 4" members and 20' 0" for 6" and 8" members (20ga and 18ga members are also limited to 16' 0").
- 4 Physical properties and this table have been calculated in conformance with the AISI 2001 NASPEC w/2004 supplement or by Direct Strength Method.
- 5 Effective properties incorporate the strength increase from the cold work of forming as applicable per NASPEC A7.2.
- 6 On interior framing (5psf), lateral deflection calculations are based on using 1.0 times the components and cladding wind loads, wall dead load = 10psf, deflection factor = 1.0.
- 7 On exterior framing (25psf and 30psf), lateral deflection calculations are based on using 0.7 times the components and cladding wind loads, wall dead load = 12psf, deflection factor = 0.7.
- 8 The tabulated values for flexural stress were based upon a fully braced side jamb.
- 9 Web crippling must be checked separately for end bearing lengths other than 1".
- 10 This table is not applicable for load-bearing walls but is applicable for a curtain wall application.
- 11 The strength analysis included separate bending and shear checks plus the combined interaction of bending and shear effects per section C3.3 of 2001 NASPEC.
- 12 Tables were prepared using a 16" o.c. spacing from the jamb stud to the first adjacent typical wall stud.
- 13 Tabled widths marked with an * (asterisk) require web stiffening at each end of the jamb. Web crippling check uses 1" of bearing length.
- 14 For opening conditions outside the profiles noted above, please visit www.clarkdietrich.com or submit a RedHeader RO™ sizing sheet to ClarkDietrich Technical Services.

RedHeader RO™ Framing Details



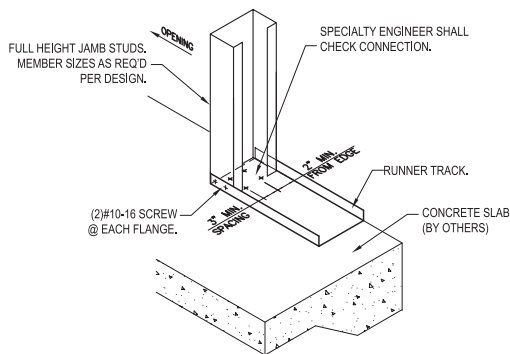
RedHeader RO™ CONNECTION

CURTAIN WALL 3" OR 3-1/2" FLANGE HEADER USING:
(1) HEADER STUD w/(1) TRACK.



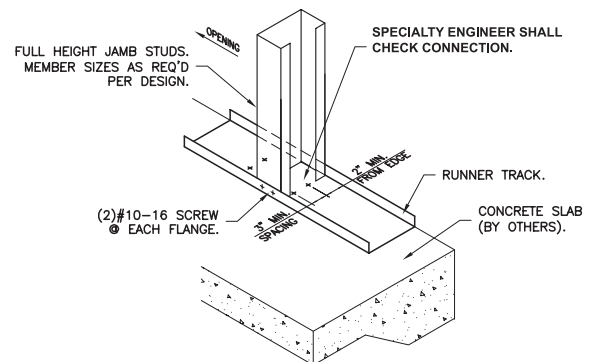
JAMB LATERAL BRACING

CRC LATERAL BRACING w/FastBridge™



DOOR JAMB ANCHORAGE

JAMB ANCHORAGE TO STRUCTURE
w/(4) P.D.F.s



WINDOW JAMB ANCHORAGE

JAMB ANCHORAGE TO STRUCTURE
w/(4) P.D.F.s

REDHEADER RO™ DESIGN ADVANTAGES:

ClarkDietrich's Design and Technical Services are here to support you

- Use our RedHeader RO sizing sheet (on page 15 or www.clarkdietrich.com) for quick preliminary sizing from ClarkDietrich's technical services team allowing you to see the advantages of using the opening system compared to the typical systems.
- Contact ClarkDietrich Technical Services at 888.437.3244.

ClarkDietrich's Engineering Services

- Engineering Services offers a complete shop drawing package using the RedHeader RO framing system to simplify the submittal process.
- For additional information, contact ClarkDietrich Engineering Services at 877.832.3206.

RedHeader RO™ Extra-Duty Header Studs

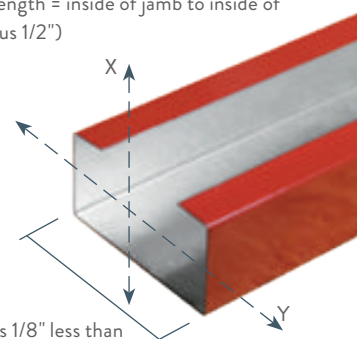
RedHeader RO™ EXTRA-DUTY HEADER STUDS

Product code	Thickness			ksi	Depth (in)	Flange (in)	Return (in)	For use with jamb size (in)
	Gauge	Mils	Design thickness (in)					
HEAD	16	54	0.0566	50	3-1/2	3-1/2	1	3-5/8
					3-7/8	3-1/2	1	4
					5-7/8	3-1/2	1	6
					7-7/8	3-1/2	1	8
HEAD	14	68	0.0713	50	3-1/2	3-1/2	1	3-5/8
					3-7/8	3-1/2	1	4
					5-7/8	3-1/2	1	6
					7-7/8	3-1/2	1	8
HEAD	12	97	0.1017	50	3-1/2	3-1/2	1	3-5/8
					3-7/8	3-1/2	1	4
					5-7/8	3-1/2	1	6
					7-7/8	3-1/2	1	8

All header studs are unpunched.

Standard material coating is CP60 per ASTM C955; G90 available.

HEADER LENGTHS SHOULD BE ORDERED 1/2" SHORTER THAN OPENING WIDTH TO FIT INSIDE CLIPS
(header length = inside of jamb to inside of jamb minus 1/2")



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

HEADER STUD SECTION PROPERTIES

Section (ksi)	Design thickness (in)	Gross										Effective								Torsional				
		Area (in²)	Weight (lb/ft)	I _x (in⁴)	S _x (in³)	R _x (in)	I _y (in⁴)	S _y (in³)	R _y (in)	I _{xe} (in⁴)	I _{ye} (in⁴)	S _{xe} (in³)	S _{ye} (in³)	Max (in-k)	May' (in-k)	V _{ax} (lb)	V _{ay'} (lb)	Jx1000 (in⁴)	C _w (in⁴)	X _o (in)	R _o (in)	Beta		
350HS350-54(50)	0.0566	0.684	2.33	1.491	0.852	1.477	1.224	0.435	1.338	1.280	1.143	0.663	0.564	19.84	16.90	3372	6743	0.730	5.125	-3.515	4.041	0.243		
350HS350-68(50)	0.0713	0.854	2.90	1.843	1.053	1.470	1.509	0.596	1.330	1.666	1.483	0.886	0.749	26.53	22.42	4202	8405	1.446	6.283	-3.509	4.030	0.242		
350HS350-97(50)	0.1017	1.194	4.06	2.525	1.443	1.454	2.057	0.956	1.312	2.411	2.059	1.321	1.047	39.55	31.34	5704	11408	4.118	8.471	-3.497	4.008	0.239		
387HS350-54(50)	0.0566	0.705	2.40	1.874	0.967	1.631	1.271	0.449	1.343	1.613	1.186	0.755	0.573	22.62	17.15	3372	6743	0.753	5.987	-3.441	4.038	0.274		
387HS350-68(50)	0.0713	0.880	3.00	2.319	1.197	1.623	1.568	0.616	1.335	2.097	1.540	1.009	0.760	30.20	22.75	4704	8405	1.492	7.346	-3.434	4.026	0.272		
387HS350-97(50)	0.1017	1.233	4.19	3.184	1.643	1.607	2.138	0.983	1.317	3.032	2.140	1.499	1.063	44.89	31.84	6419	11408	4.249	9.920	-3.421	4.003	0.270		
587HS350-54(50)	0.0566	0.818	2.78	4.788	1.630	2.419	1.480	0.500	1.345	4.167	1.377	1.300	0.607	38.93	18.16	2885	6743	0.874	12.342	-3.091	4.149	0.445		
587HS350-68(50)	0.0713	1.023	3.48	5.945	2.024	2.411	1.827	0.691	1.337	5.405	1.794	1.727	0.805	51.72	24.10	5350	8405	1.733	15.193	-3.082	4.135	0.445		
587HS350-97(50)	0.1017	1.436	4.89	8.225	2.800	2.393	2.499	1.035	1.319	7.780	2.501	2.539	1.128	76.01	33.78	10233	11408	4.951	20.653	-3.063	4.105	0.443		
787HS350-54(50)	0.0566	0.931	3.17	9.339	2.372	3.167	1.638	0.531	1.326	8.008	1.520	1.844	0.628	55.19	18.81	2125	6743	0.995	21.997	-2.812	4.438	0.599		
787HS350-68(50)	0.0713	1.165	3.97	11.617	2.950	3.157	2.023	0.726	1.318	10.614	1.984	2.547	0.834	76.25	24.96	4290	8405	1.975	27.135	-2.802	4.422	0.599		
787HS350-97(50)	0.1017	1.639	5.58	16.138	4.099	3.138	2.769	1.048	1.300	15.246	2.772	3.722	1.170	111.45	35.02	10885	11408	5.652	37.046	-2.781	4.390	0.599		

*3-1/2" flange only available in 54, 68 and 97 mils.

Notes:

- Tables are based on using 2001 AISI NASPEC Code w/2004 supplement (ASD) including cold work of forming per AISI A7.2.
- Design for interior sections (-33mil and -43mil) shall be based on Direct Strength Method, with an additional 10% reduction of the allowable loads generated by DSM.
- 1 I_{ye}, S_{ye}, May are for a positive moment with the return lips in compression (installing the header with the flanges pointing up).
- 2 V_{ay} value is for (I) flange. In most header assemblies, both flanges are engaged.

RedHeader RO™ Extra-Duty Jamb Studs

RedHeader RO™ EXTRA-DUTY JAMB STUDS

Product code	Thickness			ksi	Depth (in)	Flange (in)	Return (in)
	Gauge	Mils	Design thickness (in)				
JAMB	16	54	0.0566	50	3-5/8	3-1/2	7/8
JAMB	14	68	0.0713	50	3-5/8	3-1/2	7/8
JAMB	12	97	0.1017	50	3-5/8	3-1/2	7/8

Standard material coating is CP60 per ASTM C955; G90 available.



JAMB STUD SECTION PROPERTIES

Section (ksi)	Design thickness (in)	Gross									Effective				Torsional			
		Area (in²)	Weight (lb/ft)	I _x (in⁴)	S _x (in³)	R _x (in)	I _y (in⁴)	S _y (in³)	R _y (in)	I _{xe} (in⁴)	S _{xe} (in³)	Max (in-k)	V _{ax} (lb)	Jx1000 (in⁴)	C _w (in⁶)	X _o (in)	R _o (in)	Beta
362JS350-54 (50)	0.0566	0.677	2.30	1.603	0.884	1.539	1.185	0.430	1.324	1.344	0.654	19.57	3372	0.723	4.586	-3.391	3.952	0.264
362JS350-68 (50)	0.0713	0.845	2.87	1.981	1.093	1.532	1.460	0.577	1.315	1.716	0.851	25.47	4369	1.431	5.620	-3.384	3.941	0.262
362JS350-97 (50)	0.1017	1.182	4.02	2.716	1.498	1.516	1.988	0.900	1.297	2.508	1.298	38.87	5943	4.074	7.567	-3.371	3.917	0.260
400JS350-54 (50)	0.0566	0.698	2.38	1.997	0.998	1.691	1.229	0.443	1.327	1.673	0.735	22.02	3372	0.745	5.413	-3.317	3.953	0.296
400JS350-68 (50)	0.0713	0.871	2.97	2.471	1.235	1.684	1.514	0.596	1.318	2.142	0.962	28.80	4871	1.476	6.639	-3.310	3.941	0.295
400JS350-97 (50)	0.1017	1.220	4.15	3.394	1.697	1.668	2.063	0.925	1.301	3.136	1.471	44.05	6658	4.205	8.955	-3.295	3.915	0.292
600JS350-54 (50)	0.0566	0.811	2.76	4.962	1.654	2.474	1.422	0.492	1.324	4.274	1.288	38.55	2822	0.866	11.508	-2.977	4.091	0.470
600JS350-68 (50)	0.0713	1.014	3.45	6.161	2.054	2.465	1.754	0.666	1.315	5.413	1.647	49.30	5350	1.718	14.162	-2.967	4.076	0.470
600JS350-97 (50)	0.1017	1.423	4.84	8.523	2.841	2.447	2.395	0.970	1.297	7.893	2.482	74.30	10471	4.907	19.241	-2.948	4.045	0.469
800JS350-54 (50)	0.0566	0.924	3.15	9.550	2.388	3.215	1.567	0.521	1.302	8.035	1.780	53.28	2091	0.987	20.765	-2.708	4.400	0.621
800JS350-68 (50)	0.0713	1.157	3.94	11.879	2.970	3.205	1.935	0.681	1.293	10.530	2.429	72.73	4220	1.960	25.608	-2.698	4.384	0.621
800JS350-97 (50)	0.1017	1.627	5.54	16.499	4.125	3.185	2.644	0.983	1.275	15.322	3.635	108.82	10885	5.608	34.944	-2.676	4.351	0.622

*3-1/2" flange only available in 54, 68 and 97 mils.

Notes:

- Tables are based on using 2001 AISI NASPEC Code w/2004 supplement (ASD) including cold work of forming per AISI A7.2.
- Design for interior sections (-33mil and -43mil) shall be based on Direct Strength Method, with an additional 10% reduction of the allowable loads generated by DSM.

RedHeader RO™ Extra-Duty Tables

ALLOWABLE HEADER SPANS FOR INTERIOR OPENINGS

(Lateral Load = 5psf, Wall Dead Load = 10psf, Sill Height = 0", Deflection Factor = 1.0)

(Lateral Load = 5psf, Wall Dead Load = 10psf, Sill Height = 0", Deflection Factor = 1.0)																					
Wall height (ft)	Wall size (in)	Member	Gauge (mils)	L/120						L/240						L/360					
				Opening Height (ft)																	
				7		8		9		7		8		9		7		8		9	
9	3-5/8	350HS350-54	16ga (54mils)	13' 10"	2	16' 6"	2	—	—	13' 10"	2	15' 6"	2	—	—	13' 6"	2	13' 6"	2	—	—
		350HS350-68	14ga (68mils)	14' 10"	2	17' 7"	2	—	—	14' 10"	2	16' 11"	2	—	—	14' 9"	2	14' 9"	2	—	—
		350HS350-97	12ga (97mils)	16' 1"	2	19' 2"	2	—	—	16' 1"	2	19' 1"	2	—	—	16' 1"	2	16' 8"	2	—	—
	4	387HS350-54	16ga (54mils)	14' 0"	2	16' 8"	2	—	—	14' 0"	2	16' 8"	2	—	—	14' 0"	2	14' 7"	2	—	—
		387HS350-68	14ga (68mils)	14' 11"	2	17' 9"	2	—	—	14' 11"	2	17' 9"	2	—	—	14' 11"	2	15' 11"	2	—	—
		387HS350-97	12ga (97mils)	16' 3"	2	19' 4"	2	—	—	16' 3"	2	19' 4"	2	—	—	16' 3"	2	18' 0"	2	—	—
	6	587HS350-54	16ga (54mils)	14' 6"	2	17' 3"	2	—	—	14' 6"	2	17' 3"	2	—	—	14' 6"	2	17' 3"	2	—	—
		587HS350-68	14ga (68mils)	15' 6"	2	18' 6"	2	—	—	15' 6"	2	18' 6"	2	—	—	15' 6"	2	18' 6"	2	—	—
		587HS350-97	12ga (97mils)	16' 11"	2	20' 1"	2	—	—	16' 11"	2	20' 1"	2	—	—	16' 11"	2	20' 1"	2	—	—
11	3-5/8	350HS350-54	16ga (54mils)	11' 8"	2	12' 6"	2	13' 10"	2	11' 8"	2	12' 6"	2	13' 10"	2	11' 8"	2	12' 6"	2	12' 8"	2
		350HS350-68	14ga (68mils)	12' 5"	2	13' 5"	2	14' 10"	2	12' 5"	2	13' 5"	2	14' 10"	2	12' 5"	2	13' 5"	2	13' 9"	2
		350HS350-97	12ga (97mils)	13' 6"	2	14' 6"	2	16' 1"	2	13' 6"	2	14' 6"	2	16' 1"	2	13' 6"	2	14' 6"	2	15' 7"	2
	4	387HS350-54	16ga (54mils)	11' 9"	2	12' 8"	2	14' 0"	2	11' 9"	2	12' 8"	2	14' 0"	2	11' 9"	2	12' 8"	2	13' 8"	2
		387HS350-68	14ga (68mils)	12' 7"	2	13' 6"	2	14' 11"	2	12' 7"	2	13' 6"	2	14' 11"	2	12' 7"	2	13' 6"	2	14' 11"	2
		387HS350-97	12ga (97mils)	13' 8"	2	14' 8"	2	16' 3"	2	13' 8"	2	14' 8"	2	16' 3"	2	13' 8"	2	14' 8"	2	16' 3"	2
	6	587HS350-54	16ga (54mils)	12' 3"	2	13' 2"	2	14' 6"	2	12' 3"	2	13' 2"	2	14' 6"	2	12' 3"	2	13' 2"	2	14' 6"	2
		587HS350-68	14ga (68mils)	13' 1"	2	14' 0"	2	15' 6"	2	13' 1"	2	14' 0"	2	15' 6"	2	13' 1"	2	14' 0"	2	15' 6"	2
		587HS350-97	12ga (97mils)	14' 2"	2	15' 3"	2	16' 11"	2	14' 2"	2	15' 3"	2	16' 11"	2	14' 2"	2	15' 3"	2	16' 11"	2
13	3-5/8	350HS350-54	16ga (54mils)	10' 6"	2	11' 0"	2	11' 8"	2	10' 6"	2	11' 0"	2	11' 8"	2	10' 6"	2	11' 0"	2	11' 8"	2
		350HS350-68	14ga (68mils)	11' 3"	2	11' 9"	2	12' 5"	2	11' 3"	2	11' 9"	2	12' 5"	2	11' 3"	2	11' 9"	2	12' 5"	2
		350HS350-97	12ga (97mils)	12' 2"	3	12' 9"	3	13' 6"	2	12' 2"	3	12' 9"	3	13' 6"	2	12' 2"	3	12' 9"	3	13' 6"	2
	4	387HS350-54	16ga (54mils)	10' 8"	2	11' 2"	2	11' 9"	2	10' 8"	2	11' 2"	2	11' 9"	2	10' 8"	2	11' 2"	2	11' 9"	2
		387HS350-68	14ga (68mils)	11' 4"	2	11' 11"	2	12' 7"	2	11' 4"	2	11' 11"	2	12' 7"	2	11' 4"	2	11' 11"	2	12' 7"	2
		387HS350-97	12ga (97mils)	12' 4"	3	12' 11"	3	13' 8"	2	12' 4"	3	12' 11"	3	13' 8"	2	12' 4"	3	12' 11"	3	13' 8"	2
	6	587HS350-54	16ga (54mils)	11' 0"	2	11' 7"	2	12' 3"	2	11' 0"	2	11' 7"	2	12' 3"	2	11' 0"	2	11' 7"	2	12' 3"	2
		587HS350-68	14ga (68mils)	11' 9"	3	12' 4"	3	13' 1"	2	11' 9"	3	12' 4"	3	13' 1"	2	11' 9"	3	12' 4"	3	13' 1"	2
		587HS350-97	12ga (97mils)	12' 10"	3	13' 5"	3	14' 2"	3	12' 10"	3	13' 5"	3	14' 2"	3	12' 10"	3	13' 5"	3	14' 2"	3
15	3-5/8	350HS350-54	16ga (54mils)	9' 9"	4	10' 2"	3	10' 6"	2	9' 9"	4	10' 2"	3	10' 6"	2	9' 9"	4	10' 2"	3	10' 6"	2
		350HS350-68	14ga (68mils)	10' 5"	3	10' 10"	3	11' 3"	3	10' 5"	3	10' 10"	3	11' 3"	3	10' 5"	3	10' 10"	3	11' 3"	3
		350HS350-97	12ga (97mils)	11' 4"	3	11' 9"	3	12' 2"	3	11' 4"	3	11' 9"	3	12' 2"	3	11' 4"	3	11' 9"	3	12' 2"	3
	4	387HS350-54	16ga (54mils)	9' 10"	4	10' 3"	4	10' 8"	2	9' 10"	4	10' 3"	4	10' 8"	2	9' 10"	4	10' 3"	4	10' 8"	2
		387HS350-68	14ga (68mils)	10' 7"	3	10' 11"	3	11' 4"	3	10' 7"	3	10' 11"	3	11' 4"	3	10' 7"	3	10' 11"	3	11' 4"	3
		387HS350-97	12ga (97mils)	11' 6"	3	11' 10"	3	12' 4"	3	11' 6"	3	11' 10"	3	12' 4"	3	11' 6"	3	11' 10"	3	12' 4"	3
	6	587HS350-54	16ga (54mils)	10' 3"	4	10' 7"	4	11' 0"	4	10' 3"	4	10' 7"	4	11' 0"	4	10' 3"	4	10' 7"	4	11' 0"	4
		587HS350-68	14ga (68mils)	11' 0"	3	11' 4"	3	11' 9"	3	11' 0"	3	11' 4"	3	11' 9"	3	11' 0"	3	11' 4"	3	11' 9"	3
		587HS350-97	12ga (97mils)	11' 11"	4	12' 4"	4	12' 10"	3	11' 11"	4	12' 4"	4	12' 10"	3	11' 11"	4	12' 4"	4	12' 10"	3

Span notes: (Reference number shown to the right of spans)

- 1 Use 20ga (33mil) Drop 'N Lock Clip™ with a 2/2 screw pattern.
- 2 Use 20ga (33mil) Drop 'N Lock Clip with a 4/6 screw pattern.
- 3 Use 14ga (68mil) Drop 'N Lock Clip with a 2/2 screw pattern.
- 4 Use 14ga (68mil) Drop 'N Lock Clip with a 4/6 screw pattern.
- 5 Special connection detailing required. Contact ClarkDietrich Technical Services at 888.437.3244 or contact a specialty engineer.

Notes:

- 1 All headers require the attachment of the Drop 'N Lock Clip at each end with headers installed leg up.
- 2 Recommended Drop 'N Lock Clip attachments above are based on the jamb stud thickness being equal to or greater than header thickness.
- 3 Header framing was calculated with a sill height of 0" for worst case design.
- 4 Section properties are based upon the AISI 2001 NASPEC w/2004 supplement or Direct Strength Method.
- 5 Increase strength in cold work of forming was used per NASPEC A7.2.
- 6 For deflection calculations, the effective moment of inertia was used. Reference the NASPEC commentary C1.
- 7 On interior framing, lateral deflection calculations are based on using 1.0 times the interior wind load.
- 8 Dead load deflection calculations are limited to L/240 or 0.5" max. deflection.
- 9 HEADER LENGTHS SHOULD BE ORDERED 1/2" SHORTER THAN OPENING WIDTH TO FIT INSIDE CLIPS.
- 10 Additional header spans for 8" systems are available at www.clarkdietrich.com.

ALLOWABLE HEADER SPANS FOR EXTERIOR OPENINGS

(Lateral Load = 25psf, Wall Dead Load = 12psf, Sill Height = 0", Deflection Factor = 0.7)

Wall height (ft)	Wall size (in)	Member	Gauge (mils)	L/240						L/360						L/600					
										Opening Height (ft)											
				7	8	9	7	8	9	7	8	9	7	8	9	7	8	9	7	8	9
9	3-5/8	350HS350-54	16ga (54mils)	9' 8"	4	10' 2"	4	—	—	9' 8"	4	10' 2"	4	—	—	9' 6"	4	9' 6"	4	—	—
		350HS350-68	14ga (68mils)	11' 2"	4	11' 9"	4	—	—	11' 2"	4	11' 9"	4	—	—	10' 5"	4	10' 5"	4	—	—
		350HS350-97	12ga (97mils)	13' 7"	4	14' 4"	4	—	—	13' 7"	4	13' 11"	4	—	—	11' 9"	4	11' 9"	4	—	—
	6	587HS350-54	16ga (54mils)	12' 6"	4	13' 8"	4	—	—	12' 6"	4	13' 8"	4	—	—	12' 6"	4	13' 8"	4	—	—
		587HS350-68	14ga (68mils)	14' 5"	4	15' 9"	4	—	—	14' 5"	4	15' 9"	4	—	—	14' 5"	4	15' 5"	4	—	—
		587HS350-97	12ga (97mils)	16' 1"	4	19' 0"	4	—	—	16' 1"	4	19' 0"	4	—	—	16' 1"	4	17' 5"	4	—	—
	8	787HS350-54	16ga (54mils)	14' 2"	4	15' 9"	4	—	—	14' 2"	4	15' 9"	4	—	—	14' 2"	4	15' 9"	4	—	—
		787HS350-68	14ga (68mils)	15' 3"	4	18' 1"	4	—	—	15' 3"	4	18' 1"	4	—	—	15' 3"	4	18' 1"	4	—	—
		787HS350-97	12ga (97mils)	16' 7"	4	19' 8"	4	—	—	16' 7"	4	19' 8"	4	—	—	16' 7"	4	19' 8"	4	—	—
	11	350HS350-54	16ga (54mils)	8' 3"	4	8' 6"	4	8' 11"	4	8' 3"	4	8' 6"	4	8' 11"	4	8' 3"	4	8' 6"	4	8' 11"	4
		350HS350-68	14ga (68mils)	9' 6"	4	9' 10"	4	10' 3"	4	9' 6"	4	9' 10"	4	10' 3"	4	9' 6"	4	9' 8"	4	9' 8"	4
		350HS350-97	12ga (97mils)	11' 6"	4	12' 0"	4	12' 6"	4	11' 6"	4	12' 0"	4	12' 6"	4	11' 0"	4	11' 0"	4	11' 0"	4
		587HS350-54	16ga (54mils)	10' 4"	4	10' 11"	4	11' 8"	4	10' 4"	4	10' 11"	4	11' 8"	4	10' 4"	4	10' 11"	4	11' 8"	4
		587HS350-68	14ga (68mils)	11' 11"	4	12' 8"	4	13' 6"	4	11' 11"	4	12' 8"	4	13' 6"	4	11' 11"	4	12' 8"	4	13' 6"	4
		587HS350-97	12ga (97mils)	13' 7"	4	14' 7"	4	16' 1"	4	13' 7"	4	14' 7"	4	16' 1"	4	13' 7"	4	14' 7"	4	16' 1"	4
		787HS350-54	16ga (54mils)	11' 5"	4	12' 3"	4	13' 3"	4	11' 5"	4	12' 3"	4	13' 3"	4	11' 5"	4	12' 3"	4	13' 3"	4
		787HS350-68	14ga (68mils)	12' 9"	4	13' 9"	4	15' 3"	4	12' 9"	4	13' 9"	4	15' 3"	4	12' 9"	4	13' 9"	4	15' 3"	4
		787HS350-97	12ga (97mils)	13' 11"	4	14' 11"	4	16' 7"	4	13' 11"	4	14' 11"	4	16' 7"	4	13' 11"	4	14' 11"	4	16' 7"	4
13	3-5/8	350HS350-54	16ga (54mils)	7' 6"	4	8' 0"	4	8' 7"	4	7' 6"	4	8' 0"	4	8' 7"	4	7' 6"	4	8' 0"	4	8' 5"	4
		350HS350-68	14ga (68mils)	8' 8"	4	9' 3"	4	10' 0"	4	8' 8"	4	9' 3"	4	10' 0"	4	8' 8"	4	9' 2"	4	9' 2"	4
		350HS350-97	12ga (97mils)	10' 6"	4	11' 3"	4	12' 2"	4	10' 6"	4	11' 3"	4	12' 2"	4	10' 5"	4	10' 5"	4	10' 5"	4
	6	587HS350-54	16ga (54mils)	9' 5"	4	10' 4"	4	11' 8"	4	9' 5"	4	10' 4"	4	11' 8"	4	9' 5"	4	10' 4"	4	11' 8"	4
		587HS350-68	14ga (68mils)	10' 10"	4	11' 11"	4	13' 6"	4	10' 10"	4	11' 11"	4	13' 6"	4	10' 10"	4	11' 11"	4	13' 6"	4
		587HS350-97	12ga (97mils)	12' 10"	4	14' 5"	4	16' 4"	4	12' 10"	4	14' 5"	4	16' 4"	4	12' 10"	4	14' 5"	4	15' 4"	4
	8	787HS350-54	16ga (54mils)	—	—	10' 5"	4	—	—	—	—	10' 5"	4	—	—	—	—	10' 5"	4	—	—
		787HS350-68	14ga (68mils)	—	—	12' 1"	4	—	—	—	—	12' 1"	4	—	—	—	—	12' 1"	4	—	—
		787HS350-97	12ga (97mils)	—	—	13' 2"	5	—	—	—	—	13' 2"	5	—	—	—	—	13' 2"	5	—	—
	15	350HS350-54	16ga (54mils)	6' 9"	4	7' 1"	4	7' 1"	4	6' 9"	4	7' 1"	4	7' 1"	4	6' 9"	4	7' 1"	4	7' 7"	4
		350HS350-68	14ga (68mils)	7' 10"	4	8' 3"	4	8' 1"	4	7' 10"	4	8' 3"	4	8' 9"	4	7' 10"	4	8' 3"	4	8' 9"	4
		350HS350-97	12ga (97mils)	9' 5"	4	10' 0"	4	10' 1"	4	9' 5"	4	10' 0"	4	10' 7"	4	9' 5"	4	9' 11"	4	9' 11"	4
		587HS350-54	16ga (54mils)	8' 4"	4	9' 0"	4	9' 1"	4	8' 4"	4	9' 0"	4	9' 10"	4	8' 4"	4	9' 0"	4	9' 10"	4
		587HS350-68	14ga (68mils)	9' 8"	4	10' 5"	4	11' 1"	4	9' 8"	4	10' 5"	4	11' 4"	4	9' 8"	4	10' 5"	4	11' 4"	4
		587HS350-97	12ga (97mils)	11' 7"	4	12' 6"	4	13' 1"	4	11' 7"	4	12' 6"	4	13' 8"	4	11' 7"	4	12' 6"	4	13' 8"	4
		787HS350-54	16ga (54mils)	—	—	9' 2"	4	—	—	—	—	9' 2"	4	—	—	—	—	9' 2"	4	—	—
		787HS350-68	14ga (68mils)	—	—	10' 8"	4	—	—	—	—	10' 8"	4	—	—	—	—	10' 8"	4	—	—
		787HS350-97	12ga (97mils)	—	—	12' 1"	5	—	—	—	—	12' 1"	5	—	—	—	—	12' 1"	5	—	—

Span notes: (Reference number shown to the right of spans)

- 1 Use 20ga (33mil) Drop 'N Lock Clip™ with a 2/2 screw pattern.
- 2 Use 20ga (33mil) Drop 'N Lock Clip with a 4/6 screw pattern.
- 3 Use 14ga (68mil) Drop 'N Lock Clip with a 2/2 screw pattern.
- 4 Use 14ga (68mil) Drop 'N Lock Clip with a 4/6 screw pattern.
- 5 Special connection detailing required. Contact ClarkDietrich Technical Services at 888.437.3244 or contact a specialty engineer.

Notes:

- 1 All headers require the attachment of the Drop 'N Lock Clip at each end with headers installed leg up.
- 2 Recommended Drop 'N Lock Clip attachments above are based on the jamb stud thickness being equal to or greater than header thickness.
- 3 Header framing was calculated with a sill height of 0" for worst case design.
- 4 Section properties are based upon the AISI 2001 NASPEC w/2004 supplement or Direct Strength Method.
- 5 Increase strength in cold work of forming was used per NASPEC A7.2.
- 6 For deflection calculations, the effective moment of inertia was used. Reference the NASPEC commentary C1.
- 7 On exterior framing, lateral deflection calculations are based on using 0.7 times the components and cladding wind loads.
- 8 Dead load deflection calculations are limited to L/240 or 0.5" max. deflection.
- 9 HEADER LENGTHS SHOULD BE ORDERED 1/2" SHORTER THAN OPENING WIDTH TO FIT INSIDE CLIPS.
- 10 Additional header spans for 4" systems or with a deflection factor of 1.0 are available at www.clarkdietrich.com.

RedHeader RO™ Extra-Duty Tables

ALLOWABLE OPENING WIDTHS FOR JAMB STUDS

Wall height (ft)	Wall size (in)	Member	Gauge (mils)	Wind Pressure (psf)								
				5psf			25psf			30psf		
				Deflection Limit								
				L/120	L/240	L/360	L/240	L/360	L/600	L/240	L/360	L/600
9	3-5/8	362JS350-54	16ga (54mils)	16' 0"	16' 0"	16' 0"	12' 11" *	8' 7"	4' 7"	10' 6" *	6' 11"	3' 7"
		362JS350-68	14ga (68mils)	16' 0"	16' 0"	16' 0"	16' 0"	11' 5"	6' 3"	14' 1" *	9' 3"	5' 0"
		362JS350-97	12ga (97mils)	16' 0"	16' 0"	16' 0"	16' 0"	16' 0"	9' 10"	16' 0"	14' 3"	7' 11"
	6	600JS350-54	16ga (54mils)	20' 0"	20' 0"	20' 0"	20' 0"	20' 0"	17' 10"	20' 0"	20' 0"	14' 7"
		600JS350-68	14ga (68mils)	20' 0"	20' 0"	20' 0"	20' 0"	20' 0"	20' 0"	20' 0"	20' 0"	18' 11"
		600JS350-97	12ga (97mils)	20' 0"	20' 0"	20' 0"	20' 0"	20' 0"	20' 0"	20' 0"	20' 0"	20' 0"
	8	800JS350-54	16ga (54mils)	20' 0"	20' 0"	20' 0"	20' 0"	20' 0"	20' 0"	20' 0"	20' 0"	20' 0"
		800JS350-68	14ga (68mils)	20' 0"	20' 0"	20' 0"	20' 0"	20' 0"	20' 0"	20' 0"	20' 0"	20' 0"
		800JS350-97	12ga (97mils)	20' 0"	20' 0"	20' 0"	20' 0"	20' 0"	20' 0"	20' 0"	20' 0"	20' 0"
11	3-5/8	362JS350-54	16ga (54mils)	16' 0"	16' 0"	16' 0"	6' 9"	4' 0"	—	5' 5"	3' 1"	—
		362JS350-68	14ga (68mils)	16' 0"	16' 0"	16' 0"	9' 1"	5' 6"	—	7' 4"	4' 4"	—
		362JS350-97	12ga (97mils)	16' 0"	16' 0"	16' 0"	13' 11"	8' 9"	4' 8"	11' 4"	7' 1"	3' 8"
	6	600JS350-54	16ga (54mils)	20' 0"	20' 0"	20' 0"	16' 9" *	16' 0"	9' 0"	13' 9" *	13' 1"	7' 3"
		600JS350-68	14ga (68mils)	20' 0"	20' 0"	20' 0"	20' 0"	20' 0"	11' 10"	18' 0" *	17' 0"	9' 7"
		600JS350-97	12ga (97mils)	20' 0"	20' 0"	20' 0"	20' 0"	20' 0"	17' 11"	20' 0"	20' 0"	14' 8"
	8	800JS350-54	16ga (54mils)	20' 0"	20' 0"	20' 0"	20' 0"	20' 0"	18' 3"	19' 6" *	19' 6" *	15' 0"
		800JS350-68	14ga (68mils)	20' 0"	20' 0"	20' 0"	20' 0"	20' 0"	20' 0"	20' 0"	20' 0"	20' 0"
		800JS350-97	12ga (97mils)	20' 0"	20' 0"	20' 0"	20' 0"	20' 0"	20' 0"	20' 0"	20' 0"	20' 0"
13	3-5/8	362JS350-54	16ga (54mils)	16' 0"	16' 0"	10' 3"	3' 6"	—	—	—	—	—
		362JS350-68	14ga (68mils)	16' 0"	16' 0"	13' 6"	4' 11"	—	—	3' 10"	—	—
		362JS350-97	12ga (97mils)	16' 0"	16' 0"	16' 0"	7' 11"	4' 9"	—	6' 4"	3' 8"	—
	6	600JS350-54	16ga (54mils)	20' 0"	20' 0"	20' 0"	11' 4" *	9' 2"	4' 11"	9' 2" *	7' 5"	3' 10"
		600JS350-68	14ga (68mils)	20' 0"	20' 0"	20' 0"	14' 11" *	12' 0"	6' 7"	12' 2" *	9' 9"	5' 3"
		600JS350-97	12ga (97mils)	20' 0"	20' 0"	20' 0"	20' 0"	18' 2"	10' 4"	19' 1" *	14' 11"	8' 4"
	8	800JS350-54	16ga (54mils)	20' 0"	20' 0"	13' 6"	16' 2" *	16' 2"	10' 6"	13' 3" *	13' 3"	8' 6"
		800JS350-68	14ga (68mils)	20' 0"	20' 0"	18' 2"	20' 0"	20' 0"	14' 3"	18' 8" *	18' 8"	11' 7"
		800JS350-97	12ga (97mils)	20' 0"	20' 0"	20' 0"	20' 0"	20' 0"	20' 0"	20' 0"	20' 0"	17' 7"
15	3-5/8	362JS350-54	16ga (54mils)	16' 0"	10' 0"	6' 2"	—	—	—	—	—	—
		362JS350-68	14ga (68mils)	16' 0"	13' 2"	8' 4"	—	—	—	—	—	—
		362JS350-97	12ga (97mils)	16' 0"	16' 0"	12' 10"	4' 8"	—	—	3' 7"	—	—
	6	600JS350-54	16ga (54mils)	20' 0"	20' 0"	20' 0"	8' 0" *	5' 6"	—	6' 5" *	4' 4"	—
		600JS350-68	14ga (68mils)	20' 0"	20' 0"	20' 0"	10' 8" *	7' 4"	3' 9"	8' 8" *	5' 10"	—
		600JS350-97	12ga (97mils)	20' 0"	20' 0"	20' 0"	16' 10" *	11' 5"	6' 3"	13' 9" *	9' 3"	4' 11"
	8	800JS350-54	16ga (54mils)	14' 10" *	14' 10"	8' 4"	11' 7" *	11' 7"	6' 4"	9' 5" *	9' 5"	5' 1"
		800JS350-68	14ga (68mils)	20' 0"	20' 0"	11' 5"	16' 5" *	15' 8"	8' 10"	13' 5" *	12' 10"	7' 1"
		800JS350-97	12ga (97mils)	20' 0"	20' 0"	17' 3"	20' 0"	20' 0"	13' 6"	20' 0"	19' 4"	11' 0"

Notes:

- 1 This table was prepared conservatively with an analysis of the opening being vertically centered in relation to the overall wall height indicated.
- 2 Minimum opening height is 36" at the center of the wall height. For door openings, this table is conservative, and therefore applicable.
- 3 Opening widths are limited to 16' 0" for 3-5/8" and 4" members and 20' 0" for 6" and 8" members (20ga and 18ga members are also limited to 16' 0").
- 4 Physical properties and this table have been calculated in conformance with the AISI 2001 NASPEC w/2004 supplement or by Direct Strength Method.
- 5 Effective properties incorporate the strength increase from the cold work of forming as applicable per NASPEC A7.2.
- 6 On interior framing (5psf), lateral deflection calculations are based on using 1.0 times the components and cladding wind loads, wall dead load = 10psf, deflection factor = 1.0.
- 7 On exterior framing (25psf and 30psf), lateral deflection calculations are based on using 0.7 times the components and cladding wind loads, wall dead load = 12psf, deflection factor = 0.7.
- 8 The tabulated values for flexural stress were based upon a fully braced side jamb.
- 9 Web crippling must be checked separately for end bearing lengths other than 1".
- 10 This table is not applicable for load-bearing walls but is applicable for a curtain wall application.
- 11 The strength analysis included separate bending and shear checks plus the combined interaction of bending and shear effects per section C3.3 of 2001 NASPEC.
- 12 Tables were prepared using a 16" o.c. spacing from the jamb stud to the first adjacent typical wall stud.
- 13 Tabled widths marked with an * (asterisk) require web stiffening at each end of the jamb. Web crippling check uses 1" of bearing length.
- 14 For opening conditions outside the profiles noted above, please submit a RedHeader RO™ sizing sheet to ClarkDietrich Technical Services.

RedHeader RO™ 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

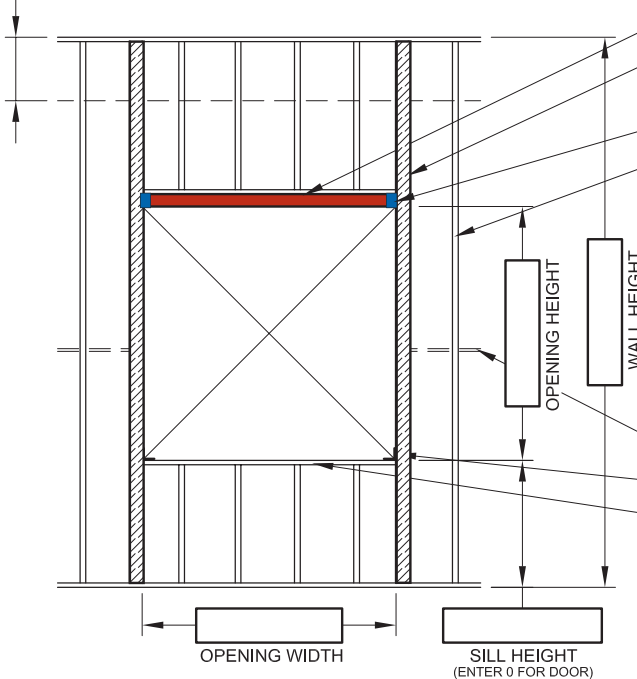
Exterior
Framing

- 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

RedHeader RO™

Header Stud Size: Jamb Stud Size: Drop'N Lock™ Clip: Wall Stud Size: (ksi) @ "o.c.Lateral Bracing: ☐ None ☐ Mid-Pt. ☐ 1/3 Pt. ☐ "o.c.SwiftClip™: Sill Track Size:

Other Notes: _____

ClarkDietrich
ENGINEERING SERVICESRedHeader RO™
SIZING SHEET

FAX TO:

(877) 832-3208

TECHNICAL SERVICES:

(888) 437-3244

PDF of this sizing sheet is also available at www.clarkdietrich.com

HDS® Framing System

The 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 Framing System 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 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-person job into a one-person job. This unique, prepunched clip also eliminates surface head fastener buildup that can create finishing challenges. Let the light-gauge framing experts at ClarkDietrich help you incorporate this cutting-edge, framing assembly into your next project.

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.
- Improves drywall finishing around doors and windows. No screw head buildup.
- Superior axial strength.



HDS U.S. Patent No. 7,739,850 B2. Issued June 22, 2010.

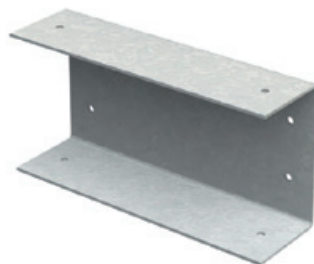
HDSC Header Bracket



HDSC HEADER BRACKET

Product code	Thickness			ksi	Size (in)	Fits HDS system size (in)
	Gauge	Mils	Design thickness (in)			
HDSC	14	68	0.0713	50	3-1/2 x 3-1/16 x 2	3-5/8
HDSC	14	68	0.0713	50	3-7/8 x 3-1/16 x 2	4
HDSC	14	68	0.0713	50	5-7/8 x 3-1/16 x 2	6
HDSC	14	68	0.0713	50	7-7/8 x 3-1/16 x 2	8

All material G90. Sold in pairs.



HDSC HEADER BRACKETS ALLOWABLE LOADS (LBS)

Product code	Size (in)	Jamb/Head Gauge			F1 (lbs)		F2 (lbs)	
		Gauge	Mils	Fy	Jamb	Head	Jamb	Head
HDSC	3-1/2	20	33	33	560	453	560	449
		18	43	33	832	673	832	713
		16	54	33	1172	948	890	890
				50	1680	1359	890	890
		14	68	33	1656	1339	890	890
				50	1680	1359	890	890
		12	97	33	1680	1359	890	890
				50	1680	1359	890	890
HDSC	3-7/8	20	33	33	560	453	560	449
		18	43	33	832	673	832	713
		16	54	33	1172	948	890	890
				50	1680	1359	890	890
		14	68	33	1656	1339	890	890
				50	1680	1359	890	890
		12	97	33	1680	1359	890	890
				50	1680	1359	890	890
HDSC	5-7/8	20	33	33	560	501	560	449
		18	43	33	832	744	832	713
		16	54	33	1172	1048	1172	1064
				50	1680	1503	1493	1493
		14	68	33	1656	1481	1493	1493
				50	1680	1503	1493	1493
		12	97	33	1680	1503	1493	1493
				50	1680	1503	1493	1493
HDSC	7-7/8	20*	33	33	560	501	560	449
		18	43	33	832	744	832	713
		16	54	33	1172	1048	1172	1064
				50	1680	1503	1493	1493
		14	68	33	1656	1481	1493	1493
				50	1680	1503	1493	1493
		12	97	33	1680	1503	1493	1493
				50	1680	1503	1493	1493

*Indicates that h/t exceeds 200. Web stiffeners are required at bearing points. No holes in the web are permitted.

Notes:

- 1 Screws shall be #10-16 Buildex® or equivalent, with an ultimate shear capacity per screw of 1400 lbs.
- 2 Table to be used by qualified engineers only.
- 3 To determine the capacity of any given connection, compare the jamb and head values, and use the minimum. For example, if a 16 gauge, 50ksi jamb is used with a 3.625" HDS 18 gauge, 33ksi head, the design value for F1 is the minimum F1 value of 1680 lbs for the jamb and 673 lbs for the head. Therefore, the design value is 682 lbs.
- 4 For F1 and F2 occurring at the same time, use the squared interaction equation: $(F1/F1)^2 + (F2/F2)^2 \leq 1.0$.
- 5 Buildex® is a registered trademark of Illinois Tool Works, Inc.

HDS® Framing System

HDS® FRAMING SYSTEM

Product code	Thickness			ksi	Depth (in)	Flange (in)	Return (in)	Double return (in)
	Gauge	Mils	Design thickness (in)					
HDS3	20	33	0.0346	33	3-5/8	3	1-1/16	3/4
					4	3	1-1/16	3/4
					6	3	2-1/4	3/4
					8	3	2-1/4	3/4
HDS3	18	43	0.0451	33	3-5/8	3	1-1/16	3/4
					4	3	1-1/16	3/4
					6	3	2-1/4	3/4
					8	3	2-1/4	3/4
HDS5	16	54	0.0566	50	3-5/8	3	1-1/16	3/4
					4	3	1-1/16	3/4
					6	3	2-1/4	3/4
					8	3	2-1/4	3/4
HDS5	14	68	0.0713	50	3-5/8	3	1-1/16	3/4
					4	3	1-1/16	3/4
					6	3	2-1/4	3/4
					8	3	2-1/4	3/4
HDS5	12	97	0.1017	50	3-5/8	3	1-1/16	3/4
					4	3	1-1/16	3/4
					6	3	2-1/4	3/4
					8	3	2-1/4	3/4

Standard material coating is CP60 per ASTM C955; G90 available.



HDS® SECTION PROPERTIES

Web size (in)	Gauge	Mils	Fy (ksi)	Min. delivered thickness (in)	Unperforated Section Properties										Torsional Properties				
					Area (in ²)	Wt. (lb/ft)	I _x (in ⁴)	S _x (in ³)	r _x (in)	I _y (in ⁴)	xbar (in)	S _y (in ³)	r _y (in)	Jx1000 (in ⁴)	C _w (in ⁴)	X _o (in)	R _o (in)	Beta	
3-5/8	20	33	33	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	0.0428	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	0.0538	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	0.0677	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	0.0966	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	0.0329	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	0.0428	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	0.0538	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	0.0677	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	
6	12	97	50	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	
	20	33	33	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	0.0428	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	0.0538	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	0.0677	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	
8	12	97	50	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	
	20*	33	33	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	0.0428	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	0.0538	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	0.0677	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	0.0966	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	

*Indicates that h/t exceeds 200. Web stiffeners are required at bearing points. No holes in the web are permitted.

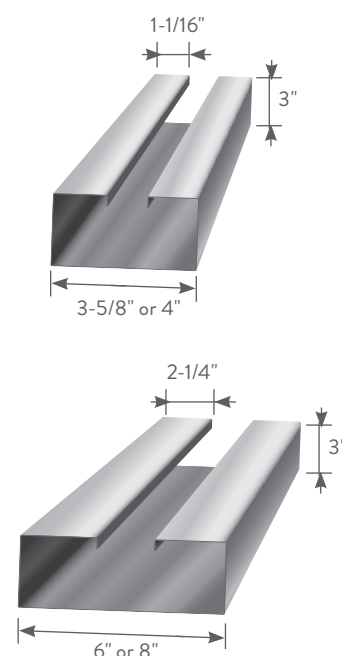
Notes:

- 1 SI: 1" = 25.4 mm
- 2 I_x = Gross Moment Of Inertia about x-axis.
- 3 S_x = Gross Section Modulus about x-axis.
- 4 r_x = Gross Radius of Gyration about x-axis.
- 5 I_y = Gross Moment Of Inertia about y-axis.
- 6 xbar = The distance from the web centerline to the center of gravity.
- 7 S_y = Gross Section Modulus about y-axis.
- 8 r_y = Gross Radius of Gyration about y-axis.
- 9 J = St. Venant Torsion Constant.
- 10 C_w = Warping Torsion Constant.
- 11 x_o = Distance from shear center to the centroid along the principal x-axis.
- 12 r_o = Polar Radius of Gyration about the centroidal principal axis.
- 13 Beta = 1-(X_o/r_o)²
- 14 Stiffening Lip = 0.75" for all web sizes.

Patent pending.

HDS® EFFECTIVE PROPERTIES AND CAPACITIES

Web size (in)	Gauge	Mils	Fy (ksi)	Min. delivered thickness (in)	Other Properties					
					Lu (in)	Unperf'd Vx (kips)	Perf'd Vx (kips)	Vy (kips)	Px (kips)	Py (kips)
3-5/8	20	33	33	0.0329	103	1.03	0.54	2.05	0.29	0.38
	18	43	33	0.0428	102	1.74	0.68	3.09	0.46	0.61
	16	54	50	0.0538	82	3.38	1.02	5.77	1.02	1.38
	14	68	50	0.0677	82	4.37	1.00	7.06	1.51	2.08
	12	97	50	0.0966	81	6.05	0.92	9.71	1.97	4.00
4	20	33	33	0.0329	100	0.97	0.60	2.05	0.29	0.38
	18	43	33	0.0428	99	1.74	0.81	3.09	0.45	0.61
	16	54	50	0.0538	80	3.38	1.22	5.77	1.01	1.38
	14	68	50	0.0677	79	4.87	1.36	7.06	1.50	2.08
	12	97	50	0.0966	79	6.76	1.26	9.71	1.96	4.00
6	20	33	33	0.0329	125	0.63	0.63	2.05	0.27	0.38
	18	43	33	0.0428	124	1.41	1.24	3.09	0.43	0.61
	16	54	50	0.0538	100	2.83	1.95	5.77	0.97	1.38
	14	68	50	0.0677	100	5.34	2.88	7.06	1.44	2.08
	12	97	50	0.0966	98	10.58	3.90	9.71	1.89	4.00
8	20*	33	33	0.0329	113	0.47	—	2.05	0.00	0.38
	18	43	33	0.0428	112	1.05	1.05	3.09	0.27	0.61
	16	54	50	0.0538	90	2.09	2.09	5.77	0.62	1.38
	14	68	50	0.0677	90	4.21	3.36	7.06	0.94	2.08
	12	97	50	0.0966	89	10.88	5.99	9.71	1.84	4.00



HDS EFFECTIVE PROPERTIES AND CAPACITIES

Web size (in)	Gauge	Mils	Fy (ksi)	Min. delivered thickness (in)	Unperforated Bending Properties						Perforated Bending Properties						Eff. Moment of Inertia		
					Sxe (in ²)	Mxa (in-lb)	Web in Ten.		Web in Comp.		Sxe (in ²)	Mxa (in-lb)	Web in Ten.		Web in Comp.		Ixe (in ⁴)	Web in ten. Iye (in ⁴)	Web in comp. Iye (in ⁴)
							Sye (in ²)	Mya (in-lb)	Sye (in ²)	Mya (in-lb)			Sye (in ²)	Mya (in-lb)	Sye (in ²)	Mya (in-lb)			
3-5/8	20	33	33	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
	18	43	33	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
	16	54	50	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
	14	68	50	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
	12	97	50	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
4	20	33	33	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
	18	43	33	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
	16	54	50	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
	14	68	50	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
	12	97	50	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
6	20	33	33	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
	18	43	33	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
	16	54	50	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
	14	68	50	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
	12	97	50	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
8	20*	33	33	0.0329	1.084	21420	0.548	10829	0.333	6570	—	—	—	—	—	—	5.805	1.076	0.703
	18	43	33	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
	16	54	50	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
	14	68	50	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
	12	97	50	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

*Indicates that the h/t exceeds 200. Web stiffeners are required at bending points. No holes in the web are permitted.

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 = For members having a web depth of less than 8" and also having a thickness less than 97mil, allowable web crippling per AISI Standard for CFS Wall Stud Design 2004. This value assumes the web resists web crippling and the HDS is nested in track having the same thickness. For other members, allowable end one flange web crippling per AISI NASPEC, 2001 w/2004 supplement. Both calculation procedures use a bearing length of 1-1/4".
- 11 Py = Allowable end one flange web crippling per AISI NASPEC, 2001 w/2004 supplement. This value assumes 2 flanges resist web crippling for a bearing length of 1-1/4".

- 12 Unless otherwise noted, properties are computed according to the AISI NASPEC, 2001 w/2004 supplement.

- 13 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.

- 14 Stiffening Lip = 3/4" for all web sizes.

HDS® Framing System Tables

INTERIOR SPAN CHART

ALLOWABLE HDS® HEADER SPANS FOR WINDOW AND DOOR OPENINGS

Dead Load = 10psf & Wind Load = 5psf (Dead Load Deflection limited to L/240 or a maximum of 0.5 in.)

Wall height (ft)	Member size (in)	Gauge	Mils	Fy (ksi)	Deflection											
					240				360				600			
					Opening Height (ft)											
					8	10	12	14	8	10	12	14	8	10	12	14
9	3-5/8	20	33	33	11' 0"	—	—	—	10' 4"	—	—	—	9' 6"	—	—	—
		18	43	33	11' 6"	—	—	—	10' 10"	—	—	—	10' 0"	—	—	—
		16	54	50	11' 11"	—	—	—	11' 3"	—	—	—	10' 4"	—	—	—
		14	68	50	12' 3"	—	—	—	11' 7"	—	—	—	10' 9"	—	—	—
	6	12	97	50	12' 10"	—	—	—	12' 2"	—	—	—	11' 3"	—	—	—
		20	33	33	12' 12"	—	—	—	12' 4"	—	—	—	11' 6"	—	—	—
		18	43	33	13' 5"	—	—	—	12' 10"	—	—	—	11' 12"	—	—	—
		16	54	50	13' 9"	—	—	—	13' 2"	—	—	—	12' 4"	—	—	—
11	3-5/8	14	68	50	14' 1"	—	—	—	13' 6"	—	—	—	12' 9"	—	—	—
		12	97	50	14' 5"	—	—	—	13' 11"	—	—	—	13' 3"	—	—	—
		20	33	33	9' 2"	11' 12"	—	—	9' 2"	11' 3"	—	—	9' 2"	10' 5"	—	—
		18	43	33	10' 6"	12' 7"	—	—	10' 6"	11' 9"	—	—	9' 11"	10' 11"	—	—
	6	16	54	50	11' 11"	13' 0"	—	—	11' 2"	12' 2"	—	—	10' 4"	11' 3"	—	—
		14	68	50	12' 3"	13' 6"	—	—	11' 7"	12' 8"	—	—	10' 9"	11' 8"	—	—
		12	97	50	12' 10" *	14' 2"	—	—	12' 2"	13' 4"	—	—	11' 3"	12' 3"	—	—
		20	33	33	12' 0"	14' 5"	—	—	12' 0"	13' 7"	—	—	11' 6"	12' 6"	—	—
13	3-5/8	18	43	33	12' 11" *	15' 0"	—	—	12' 10" *	14' 2"	—	—	11' 12"	13' 1"	—	—
		16	54	50	13' 7" *	15' 6"	—	—	13' 2" *	14' 8"	—	—	12' 4"	13' 7"	—	—
		14	68	50	14' 1" *	15' 11"	—	—	13' 6" *	15' 2"	—	—	12' 9" *	14' 1"	—	—
		12	97	50	14' 5" *	16' 7"	—	—	13' 11" *	15' 10"	—	—	13' 3" *	14' 9"	—	—
	6	20	33	33	7' 7"	9' 2"	11' 11"	—	7' 7"	9' 2"	11' 11"	—	7' 7"	9' 2"	10' 6"	—
		18	43	33	8' 8" *	10' 5"	13' 6"	—	8' 8" *	10' 5"	12' 8"	—	8' 8" *	10' 5"	11' 4"	—
		16	54	50	10' 8" *	12' 2"	13' 11"	—	10' 8" *	12' 2"	13' 1"	—	10' 3" *	11' 1"	12' 2"	—
		14	68	50	11' 3" *	12' 9" *	14' 5"	—	11' 3" *	12' 7" *	13' 7"	—	10' 8" *	11' 7"	12' 7"	—
15	3-5/8	12	97	50	12' 1" *	13' 9" *	15' 2"	—	12' 1" *	13' 3" *	14' 3"	—	11' 3" *	12' 3"	13' 2"	—
		20	33	33	9' 11" *	11' 10"	15' 6"	—	9' 11" *	11' 10"	14' 6"	—	9' 11" *	11' 10"	13' 5"	—
		18	43	33	11' 4" *	12' 11" *	16' 2"	—	11' 4" *	12' 11" *	15' 2"	—	11' 4" *	12' 11" *	14' 0"	—
		16	54	50	11' 12" *	13' 7" *	16' 9"	—	11' 12" *	13' 7" *	15' 9"	—	11' 12" *	13' 7" *	14' 6"	—
	6	14	68	50	12' 8" *	14' 4" *	17' 4"	—	12' 8" *	14' 4" *	16' 4"	—	12' 8" *	14' 1" *	15' 1"	—
		12	97	50	13' 8" *	15' 6" *	18' 2"	—	13' 8" *	15' 6" *	17' 2"	—	13' 3" *	14' 9" *	15' 11"	—
		20	33	33	6' 7" *	7' 7"	9' 2"	11' 11"	6' 7" *	7' 7"	9' 2"	11' 11"	6' 7" *	7' 7"	9' 2"	10' 6"
		18	43	33	7' 7" *	8' 8" *	10' 5"	13' 7"	7' 7" *	8' 8" *	10' 5"	12' 12"	7' 7" *	8' 8" *	10' 5"	11' 4"
17	3-5/8	16	54	50	9' 9" *	10' 8" *	12' 2"	14' 10"	9' 9" *	10' 8" *	12' 2"	13' 9"	9' 9" *	10' 8" *	11' 5"	12' 0"
		14	68	50	10' 4" *	11' 3" *	12' 9" *	15' 4"	10' 4" *	11' 3" *	12' 9" *	14' 6"	10' 4" *	11' 3" *	12' 3" *	12' 9"
		12	97	50	11' 2" *	12' 1" *	13' 9" *	16' 1"	11' 2" *	12' 1" *	13' 9" *	15' 2"	11' 2" *	12' 1" *	12' 12" *	13' 11"
		20	33	33	8' 7" *	9' 10" *	11' 10"	15' 4"	8' 7" *	9' 10" *	11' 10"	15' 4"	8' 7" *	9' 10" *	11' 10"	14' 4"
	6	18	43	33	10' 1" *	11' 4" *	12' 11" *	16' 12"	10' 1" *	11' 4" *	12' 11" *	16' 1"	10' 1" *	11' 4" *	12' 11" *	14' 11"
		16	54	50	11' 0" *	11' 12" *	13' 7" *	17' 9" *	11' 0" *	11' 12" *	13' 7" *	16' 8"	11' 0" *	11' 12" *	13' 7" *	15' 5"
		14	68	50	11' 7" *	12' 8" *	14' 4" *	18' 5" *	11' 7" *	12' 8" *	14' 4" *	17' 4"	11' 7" *	12' 8" *	14' 4" *	15' 12"
		12	97	50	12' 7" *	13' 8" *	15' 6" *	19' 5" *	12' 7" *	13' 8" *	15' 6" *	18' 3" *	12' 7" *	13' 8" *	15' 6" *	16' 10"

Notes:

- 1 Tabulated values are for a single HDS header installed with standard HDS clips. Each head-to-jamb connection requires (4) #10-16 screws to the header, and (4) #10-16 screws to the jamb. Tabulated values marked with an asterisk will require special engineering of the header-to-jamb connections.
- 2 Tabulated values include a connection check assuming 25 gauge jamb studs.
- 3 HDS header to be installed with open side facing up.
- 4 HDS properties computed in accordance with AISI NASPEC 2001.

EXTERIOR SPAN CHART

ALLOWABLE HDS® HEADER SPANS FOR WINDOW AND DOOR OPENINGS																		
Dead Load = 12psf & Wind Load = 25psf (Dead Load Deflection limited to L/240 or a maximum of 0.5 in.)																		
Wall height (ft)	Member size (in)	Gauge	Mils	Fy (ksi)	Deflection													
					240				360				600					
					Opening Height (ft)													
					8	10	12	14	8	10	12	14	8	10	12	14		
9	3-5/8	20	33	33	7' 5"	—	—	—	7' 5"	—	—	—	7' 5"	—	—	—	—	
		18	43	33	8' 6"	—	—	—	8' 6"	—	—	—	8' 3"	—	—	—	—	
		16	54	50	9' 10"	—	—	—	9' 3"	—	—	—	8' 6"	—	—	—	—	
		14	68	50	10' 2"	—	—	—	9' 7"	—	—	—	8' 10"	—	—	—	—	
	6	12	97	50	10' 9"	—	—	—	10' 1"	—	—	—	9' 3"	—	—	—	—	
		20	33	33	9' 7"	—	—	—	9' 7"	—	—	—	9' 5"	—	—	—	—	
		18	43	33	11' 5"	—	—	—	10' 9"	—	—	—	9' 11"	—	—	—	—	
		16	54	50	11' 9"	—	—	—	11' 1"	—	—	—	10' 3"	—	—	—	—	
11	3-5/8	14	68	50	12' 2"	—	—	—	11' 6"	—	—	—	10' 8"	—	—	—	—	
		12	97	50	12' 9"	—	—	—	12' 1"	—	—	—	11' 2"	—	—	—	—	
		20	33	33	6' 1"	7' 5"	—	—	6' 1"	7' 5"	—	—	6' 1"	7' 5"	—	—	—	
		18	43	33	7' 0"	8' 6"	—	—	7' 0"	8' 6"	—	—	7' 0"	8' 3"	—	—	—	
	6	16	54	50	9' 2"	10' 9"	—	—	9' 1"	9' 11"	—	—	8' 3"	8' 8"	—	—	—	
		14	68	50	10' 2"	11' 1"	—	—	9' 6"	10' 5"	—	—	8' 7"	9' 3"	—	—	—	
		12	97	50	10' 8"	11' 8"	—	—	10' 0"	10' 11"	—	—	9' 2"	10' 2"	—	—	—	
		20	33	33	7' 11"	9' 6"	—	—	7' 11"	9' 6"	—	—	7' 11"	9' 6"	—	—	—	
13	3-5/8	18	43	33	9' 4"	11' 1"	—	—	9' 4"	11' 1"	—	—	9' 4"	10' 9"	—	—	—	
		16	54	50	11' 9"	12' 11"	—	—	11' 1"	12' 1"	—	—	10' 3"	11' 2"	—	—	—	
		14	68	50	12' 2"	13' 4"	—	—	11' 6"	12' 7"	—	—	10' 7"	11' 7"	—	—	—	
		12	97	50	12' 9"	14' 1"	—	—	12' 1"	13' 3"	—	—	11' 2"	12' 2"	—	—	—	
	6	20	33	33	5' 3"	6' 1"	7' 5"	—	5' 3"	6' 1"	7' 5"	—	5' 3"	6' 1"	7' 5"	—	—	
		18	43	33	6' 1"	7' 0"	8' 6"	—	6' 1"	7' 0"	8' 6"	—	6' 1"	7' 0"	8' 3"	—	—	
		16	54	50	8' 0"	9' 2"	10' 9"	—	8' 0"	9' 2"	9' 11"	—	7' 7"	8' 1"	8' 8"	—	—	
		14	68	50	9' 0"	10' 3"	11' 9"	—	9' 0"	9' 11"	10' 7"	—	8' 4"	8' 8"	9' 3"	—	—	
15	3-5/8	12	97	50	10' 7"	11' 6"	12' 7"	—	9' 11"	10' 9"	11' 6"	—	8' 12"	9' 5"	10' 1"	—	—	
		20	33	33	6' 11"	7' 11"	9' 6"	—	6' 11"	7' 11"	9' 6"	—	6' 11"	7' 11"	9' 6"	—	—	
		18	43	33	8' 1"	9' 4"	11' 0"	—	8' 1"	9' 4"	11' 0"	—	8' 1"	9' 4"	11' 0"	—	—	
		16	54	50	10' 10"	12' 2"	13' 10"	—	10' 10"	11' 12"	12' 12"	—	10' 2"	10' 12"	11' 10"	—	—	
	6	14	68	50	12' 1"	13' 4"	14' 4"	—	11' 6"	12' 6"	13' 5"	—	10' 7"	11' 5"	12' 6"	—	—	
		12	97	50	12' 9"	14' 0"	15' 1"	—	12' 1"	13' 2"	14' 2"	—	11' 2"	12' 1"	13' 1"	—	—	
		20	33	33	4' 8"	5' 3"	6' 1"	7' 5"	4' 8"	5' 3"	6' 1"	7' 5"	4' 8"	5' 3"	6' 1"	7' 5"	—	—
		18	43	33	5' 5"	6' 1"	7' 0"	8' 6"	5' 5"	6' 1"	7' 0"	8' 6"	5' 5"	6' 1"	7' 0"	8' 3"	—	—
15	3-5/8	16	54	50	7' 2"	8' 0"	9' 2"	10' 9"	7' 2"	8' 0"	9' 2"	9' 11"	7' 2"	7' 7"	8' 1"	8' 8"	—	—
		14	68	50	8' 1"	9' 0"	10' 3"	11' 9"	8' 1"	9' 0"	9' 11"	10' 7"	7' 9"	8' 2"	8' 8"	9' 3"	—	—
		12	97	50	9' 6"	10' 6"	11' 10"	12' 9"	9' 6"	10' 5"	10' 10"	11' 6"	8' 9"	8' 11"	9' 5"	10' 1"	—	—
		20	33	33	6' 2"	6' 11"	7' 11"	9' 6"	6' 2"	6' 11"	7' 11"	9' 6"	6' 2"	6' 11"	7' 11"	9' 6"	—	—
	6	18	43	33	7' 3"	8' 1"	9' 4"	11' 0"	7' 3"	8' 1"	9' 4"	11' 0"	7' 3"	8' 1"	9' 4"	11' 0"	—	—
		16	54	50	9' 8"	10' 8"	12' 1"	13' 11"	9' 8"	10' 8"	12' 1"	13' 6"	9' 8"	10' 8"	11' 2"	11' 10"	—	—
		14	68	50	10' 11"	12' 0"	13' 5"	15' 3"	10' 11"	12' 0"	13' 3"	14' 5"	10' 7"	11' 4"	11' 11"	12' 7"	—	—
		12	97	50	12' 0"	13' 1"	14' 10"	15' 12"	12' 0"	13' 1"	14' 0"	15' 1"	11' 2"	12' 0"	12' 10"	13' 8"	—	—

Notes:

- 1 Tabulated values are for a single HDS header installed with standard HDSC clips. Each head-to-jamb connection requires (4) #10-16 screws to the header, and (4) #10-16 screws to the jamb. Tabulated values marked with an asterisk will require special engineering of the header-to-jamb connections.
- 2 Deflections are computed using 0.7 times the components and cladding wind load per Section B1 of the AISI Standard for Cold-Formed Steel Framing—Wall Design. Note that the 0.7 factor is not used for the interior 5psf loading condition.
- 3 Unless connections are engineered separately, jambs must be the same gauge and strength as the header.
- 4 HDS header to be installed with open side facing up.
- 5 HDS properties computed in accordance with AISI NASPEC 2001.

HDS® Framing System Tables

ALLOWABLE OPENING WIDTHS FOR SINGLE HDS® FRAMING USED AS JAMB STUDS

Wall Height (ft)	Member Size (in)	Gauge	Mils (in)	F _y (ksi)	5psf						25psf						35psf					
					Deflection						Deflection						Deflection					
					240		360		600		240		360		600		240		360		600	
					Sill Height						Sill Height						Sill Height					
					2	3	2	3	2	3	2	3	2	3	2	3	2	3	2	3		
9	3-5/8	20	33	33	16' 0"	16' 0"	16' 0"	16' 0"	12' 10"	11' 2"	3' 3"	3' 0"	3' 3"	3' 0"	—	—	—	—	—	—	—	
		18	43	33	16' 0"	16' 0"	16' 0"	16' 0"	16' 0"	16' 0"	6' 4"	5' 4"	6' 4"	5' 4"	3' 4"	3' 1"	3' 7"	3' 4"	3' 7"	3' 4"	—	—
		16	54	50	16' 0"	16' 0"	16' 0"	16' 0"	16' 0"	16' 0"	13' 6"	11' 6"	9' 10"	8' 8"	4' 11"	4' 3"	9' 3"	7' 9"	6' 2"	5' 6"	2' 9"	—
		14	68	50	16' 0"	16' 0"	16' 0"	16' 0"	16' 0"	16' 0"	16' 0"	14' 11"	13' 2"	11' 6"	6' 9"	5' 12"	11' 2"	10' 3"	8' 7"	7' 7"	3' 12"	3' 10"
		12	97	50	16' 0"	16' 0"	16' 0"	16' 0"	16' 0"	16' 0"	16' 0"	16' 0"	16' 0"	16' 0"	10' 5"	9' 1"	12' 1"	12' 5"	12' 1"	11' 3"	6' 7"	5' 10"
		20	33	33	20' 0"	20' 0"	20' 0"	20' 0"	20' 0"	20' 0"	8' 9"	7' 7"	8' 9"	7' 7"	8' 9"	7' 7"	4' 0"	4' 11"	4' 0"	4' 11"	4' 0"	4' 11"
	6	18	43	33	20' 0"	20' 0"	20' 0"	20' 0"	20' 0"	20' 0"	15' 8"	13' 2"	15' 8"	13' 2"	15' 8"	13' 2"	10' 9"	8' 10"	10' 9"	8' 10"	10' 9"	8' 10"
		16	54	50	20' 0"	20' 0"	20' 0"	20' 0"	20' 0"	20' 0"	20' 0"	20' 0"	20' 0"	20' 0"	20' 0"	19' 3"	20' 0"	17' 9"	20' 0"	17' 9"	15' 0"	13' 1"
		14	68	50	20' 0"	20' 0"	20' 0"	20' 0"	20' 0"	20' 0"	20' 0"	20' 0"	20' 0"	20' 0"	20' 0"	20' 0"	20' 0"	20' 0"	20' 0"	20' 0"	19' 10"	17' 2"
		12	97	50	20' 0"	20' 0"	20' 0"	20' 0"	20' 0"	20' 0"	20' 0"	20' 0"	20' 0"	20' 0"	20' 0"	20' 0"	20' 0"	20' 0"	20' 0"	20' 0"	20' 0"	20' 0"
		20	33	33	16' 0"	16' 0"	12' 1"	10' 6"	5' 8"	5' 7"	—	—	—	—	—	—	—	—	—	—	—	—
		18	43	33	16' 0"	16' 0"	16' 0"	15' 3"	9' 2"	8' 2"	3' 3"	2' 12"	2' 11"	2' 8"	—	—	—	—	—	—	—	—
11	3-5/8	16	54	50	16' 0"	16' 0"	16' 0"	16' 0"	12' 5"	10' 9"	6' 0"	6' 12"	4' 2"	3' 10"	—	—	4' 7"	4' 4"	—	—	—	—
		14	68	50	16' 0"	16' 0"	16' 0"	16' 0"	16' 0"	14' 3"	10' 10"	9' 6"	5' 11"	5' 9"	2' 8"	—	6' 10"	6' 1"	3' 6"	3' 3"	—	—
		12	97	50	16' 0"	16' 0"	16' 0"	16' 0"	16' 0"	16' 0"	13' 2"	13' 1"	9' 7"	8' 6"	4' 5"	4' 1"	9' 1"	8' 11"	5' 9"	5' 7"	2' 7"	—
		20	33	33	20' 0"	20' 0"	20' 0"	20' 0"	20' 0"	20' 0"	5' 6"	5' 5"	5' 6"	5' 5"	5' 3"	5' 1"	3' 3"	2' 11"	3' 3"	2' 11"	3' 2"	2' 10"
		18	43	33	20' 0"	20' 0"	20' 0"	20' 0"	20' 0"	20' 0"	10' 12"	9' 5"	10' 12"	9' 5"	8' 3"	7' 5"	6' 6"	4' 0"	6' 6"	4' 0"	4' 12"	4' 9"
		16	54	50	20' 0"	20' 0"	20' 0"	20' 0"	20' 0"	20' 0"	20' 0"	18' 10"	20' 0"	18' 3"	11' 5"	9' 11"	15' 4"	12' 12"	14' 5"	12' 4"	7' 4"	6' 5"
	6	14	68	50	20' 0"	20' 0"	20' 0"	20' 0"	20' 0"	20' 0"	20' 0"	20' 0"	20' 0"	20' 0"	15' 7"	13' 3"	20' 0"	18' 4"	19' 5"	16' 3"	9' 11"	8' 9"
		12	97	50	20' 0"	20' 0"	20' 0"	20' 0"	20' 0"	20' 0"	20' 0"	20' 0"	20' 0"	20' 0"	20' 0"	19' 6"	20' 0"	20' 0"	20' 0"	20' 0"	15' 6"	13' 2"
		20	33	33	10' 8"	9' 8"	5' 9"	5' 6"	2' 8"	—	—	—	—	—	—	—	—	—	—	—	—	—
		18	43	33	16' 0"	14' 4"	9' 10"	8' 6"	4' 3"	4' 1"	—	—	—	—	—	—	—	—	—	—	—	—
		16	54	50	16' 0"	16' 0"	12' 11"	11' 4"	5' 11"	5' 8"	3' 7"	3' 5"	—	—	—	—	—	—	—	—	—	—
		14	68	50	16' 0"	16' 0"	16' 0"	15' 2"	8' 8"	6' 0"	5' 1"	4' 10"	2' 9"	2' 7"	—	—	3' 1"	2' 11"	—	—	—	—
13	3-5/8	12	97	50	16' 0"	16' 0"	16' 0"	16' 0"	13' 9"	11' 12"	8' 4"	6' 0"	4' 6"	4' 3"	—	—	4' 12"	4' 9"	2' 8"	2' 6"	—	—
		20	33	33	20' 0"	20' 0"	20' 0"	20' 0"	16' 2"	13' 10"	3' 3"	3' 1"	3' 3"	3' 1"	—	—	—	—	—	—	—	—
		18	43	33	20' 0"	20' 0"	20' 0"	20' 0"	20' 0"	19' 8"	6' 2"	5' 11"	6' 2"	5' 11"	3' 10"	3' 8"	3' 9"	3' 6"	3' 9"	3' 6"	—	—
		16	54	50	20' 0"	20' 0"	20' 0"	20' 0"	20' 0"	20' 0"	17' 9"	14' 9"	11' 9"	10' 5"	5' 5"	5' 2"	10' 4"	9' 5"	6' 12"	6' 9"	3' 3"	3' 1"
		14	68	50	20' 0"	20' 0"	20' 0"	20' 0"	20' 0"	20' 0"	20' 0"	20' 0"	16' 6"	14' 1"	7' 8"	7' 6"	16' 6"	14' 0"	10' 1"	9' 2"	4' 8"	4' 5"
		12	97	50	20' 0"	20' 0"	20' 0"	20' 0"	20' 0"	20' 0"	20' 0"	20' 0"	20' 0"	20' 0"	12' 9"	11' 3"	20' 0"	20' 0"	16' 4"	13' 12"	7' 7"	7' 5"
	6	20	33	33	5' 6"	5' 4"	3' 1"	2' 11"	—	—	—	—	—	—	—	—	—	—	—	—	—	—
		18	43	33	8' 8"	8' 4"	4' 10"	4' 8"	—	—	—	—	—	—	—	—	—	—	—	—	—	—
		16	54	50	12' 3"	11' 3"	6' 7"	6' 4"	3' 2"	3' 0"	—	—	—	—	—	—	—	—	—	—	—	—
		14	68	50	16' 0"	15' 4"	9' 4"	9' 2"	4' 5"	4' 3"	2' 8"	2' 7"	—	—	—	—	—	—	—	—	—	—
		12	97	50	16' 0"	16' 0"	15' 7"	13' 8"	7' 0"	6' 9"	4' 4"	4' 2"	—	—	—	—	2' 7"	—	—	—	—	—
		20	33	33	20' 0"	20' 0"	18' 6"	15' 10"	8' 3"	7' 11"	—	—	—	—	—	—	—	—	—	—	—	—
15	3-5/8	18	43	33	20' 0"	20' 0"	20' 0"	20' 0"	13' 3"	11' 12"	4' 0"	3' 11"	4' 0"	3' 11"	—	—	—	—	—	—	—	—
		16	54	50	20' 0"	20' 0"	20' 0"	20' 0"	18' 9"	16' 1"	11' 3"	10' 2"	5' 12"	5' 10"	2' 10"	2' 9"	6' 3"	6' 1"	3' 9"	3' 7"	—	—
		14	68	50	20' 0"	20' 0"	20' 0"	20' 0"	20' 0"	20' 0"	16' 2"	14' 2"	8' 6"	8' 2"	4' 1"	3' 11"	9' 5"	9' 3"	5' 3"	5' 1"	—	—
		12	97	50	20' 0"	20' 0"	20' 0"	20' 0"	20' 0"	20' 0"	20' 0"	20' 0"	14' 5"	12' 10"	6' 6"	6' 3"	16' 0"	14' 0"	8' 5"	8' 0"	4' 0"	3' 10"
		20	33	33	5' 6"	5' 4"	3' 1"	2' 11"	—	—	—	—	—	—	—	—	—	—	—	—	—	—
		18	43	33	8' 8"	8' 4"	4' 10"	4' 8"	—	—	—	—	—	—	—	—	—	—	—	—	—	—

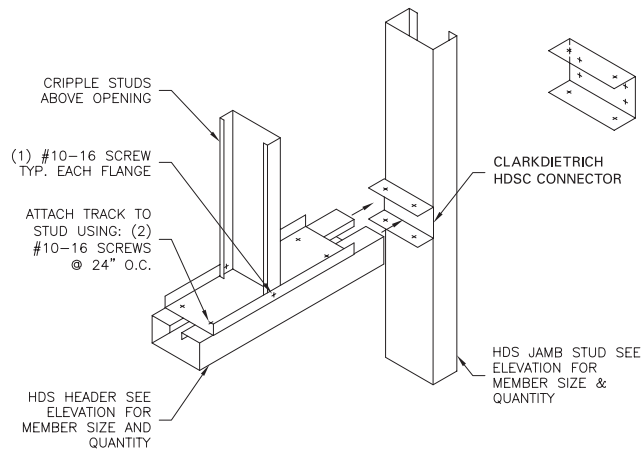
*Depending on the actual window width versus the tabulated window width, cells marked with an * (asterisk) may require an end connection that will prevent web crippling. Web crippling is computed in accordance with the AISI Standard for CFS Wall Stud Design 2004. End track must have a minimum thickness equal to the jamb stud.

Notes:

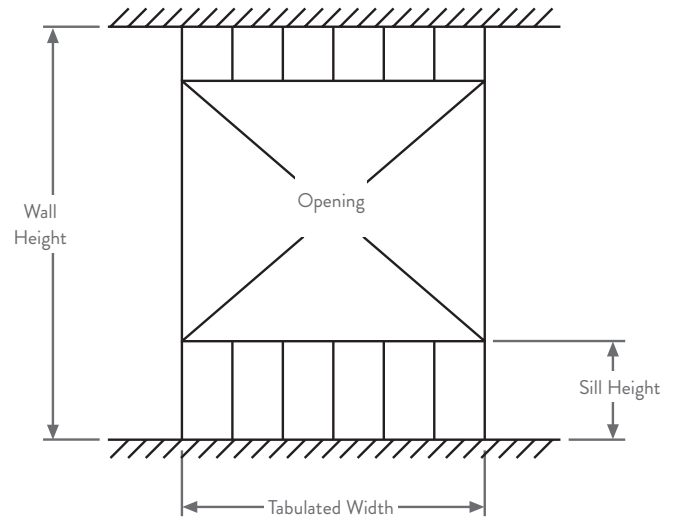
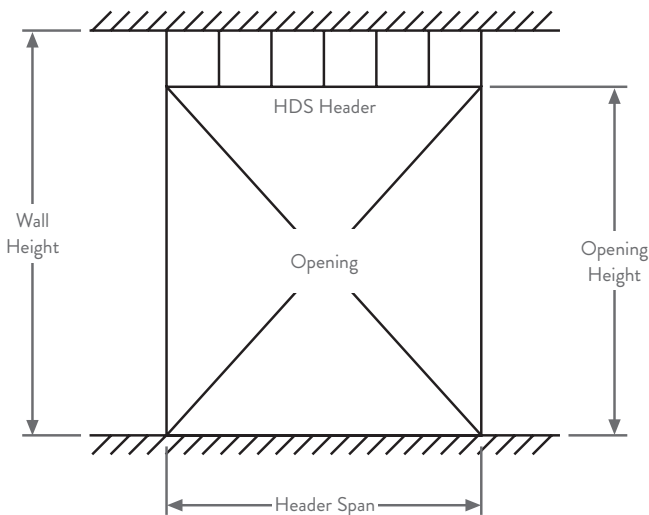
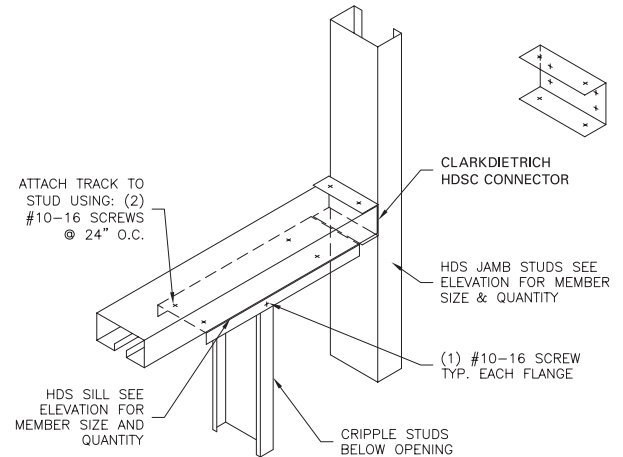
- 1 The opening is centered vertically about the wall height.
- 2 The assumed stud spacing adjacent to the opening is 16" o.c. or less.
- 3 The tabulated values assume a single HDS member is used at each jamb stud.
- 4 The tabulated values are limited to 16' for 3-5/8" walls and 20' for 6" walls. For wider openings or other conditions, contact ClarkDietrich at 888.437.3244.
- 5 The tabulated values are based on an unbraced length for bending of 6'.
- 6 Deflections are computed using 0.7 times the components and cladding wind load per Section B1 of the AISI Standard for Cold-Formed Steel Framing—Wall Design. Note that the 0.7 factor is not used for the interior 5psf loading condition.
- 7 HDS properties computed in accordance with the 2001 AISI NASPEC.
- 8 Table not valid for openings in load-bearing walls.

HDS® Framing Details

HDS® HEADER CONNECTIONS



HDS SILL CONNECTIONS

**For use with the HDS® Framing System.**

The ClarkDietrich HDS Framing System provides outstanding bending strength in two directions and superior axial strength. Plus, it reduces material, labor costs and installation time by up to 50%. The superior strength and carrying capacity of the HDS means higher performance with fewer members, like eliminating box beam headers, nesting track and stud for posts and jambs. It also means improved finish quality by eliminating excessive material and screw head buildup around doors and windows. The HDSC header bracket is a unique, prepunched clip that turns curtain wall header installation from a two-man job into a one-man job.

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Smarter engineering and technical expertise. It's support that extends beyond the structure itself.

From the initial design phase to jobsite installation, we are focused on providing inventive, yet practical and hands-on know-how to help you think outside the box—or to help you just get it done.

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- Reference plan on large projects.
- Detailed wall sections, full elevation opening design and C-stud truss design.

Our technical services team provides immediate response to questions ranging from general installation to detailed specification requirements and can deliver one-day turnaround on technical sizing. We are experts on industry standards such as AISI, ASTM and SFIA. Our team also supports our online product submittal system, SubmittalPro®, and our design/engineering software is available as a free download from www.clarkdietrich.com.

- Product support and typical member sizing.
- Framing detail recommendations.
- Compliance and industry standards, such as AISI, ASTM and SFIA.
- Engineering software and product submittal support.
- LEED requirements support.

TRADEMARKS AND WARRANTY

PATENTS

U.S. Patent No. 7,739,850 B2 is owned by ClarkDietrich Building Systems

TRADEMARKS

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NOTICE: Our liability is expressly limited to replacement of defective products. We shall not be liable for incidental and consequential damages, nor for any loss caused by misuse or misapplication of our products. Any claim shall be deemed waived unless made in writing to us within thirty (30) days from the date it was or reasonably should have been discovered.

CODE APPROVALS AND PERFORMANCE STANDARDS

ClarkDietrich products meet or exceed these applicable performance standards.

AISI "North American specification for the design of cold-formed steel structural members, 2001 w/2004 supplement"

ASTM American Society for Testing and Materials

Product specifications

ASTM C645 Non-structural steel framing members
ASTM C955 Load-bearing steel framing

Material specifications

ASTM A1003 (NS33, ST33H, ST50H)
ASTM A653 Zinc-coated hot-dip process

Protective coating standards

ASTM C645 Non-structural steel framing members
ASTM C955 Load-bearing steel framing
ASTM A1003 Standard specification for steel sheet, carbon, metallic- and nonmetallic-coated for cold-formed framing members
ASTM A653 Zinc-coated hot-dip process

UL® Underwriters Laboratories testing standard

UL 263 "Fire Tests of Building Construction and Materials"

ClarkDietrich Building Systems is a proud member of the Steel Framing Industry Association (SFIA). Check the updated list of Certified Production Facilities at Architectural Testing's website at www.architest.com.



Scan for the most up-to-date ClarkDietrich literature.

LEED® Credit MR 2

Construction Waste Management (Up to 2 points)

ClarkDietrich products are manufactured from cold-formed steel. Steel is 100% recyclable, which helps divert debris from the waste stream. The contribution to LEED must be calculated by the contractor based on weight or volume.

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ClarkDietrich Building Systems produces products with a minimum recycled content of 34.9%, of which 24.3% is post-consumer and 9.4% is pre-consumer. These minimum values are based on resources from Steel Recycling Institute. If a higher content is desired, ClarkDietrich can provide this information if mill certifications are requested at time of order. ClarkDietrich recycles nearly 100% of its post-industrial scrap.

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