

PRODUCT CATEGORY: STRUCTURAL STUD

PRODUCT NUMBER: 250S162-33

COATING: G60/G90 Available

PHYSICAL PROPERTIES

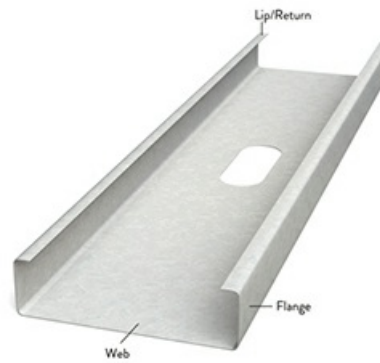
WEB DEPTH: 2.500 IN

FLANGE HEIGHT: 1.625 IN

DESIGN THICKNESS: 0.0346 IN

YIELD: 33 KSI

WEIGHT: 0.76 LB/LFT


GROSS SECTION PROPERTIES

CROSS SECTIONAL AREA (A): 0.223 IN²

MOMENT OF INERTIA (Ix): 0.235 IN⁴

SECTION MODULUS ABOUT X-X AXIS (STRONG AXIS) (Sx): 0.188 IN³

RADIUS OF GYRATION (Rx): 1.027 IN

GROSS MOMENT OF INERTIA (Iy): 0.087 IN⁴

GROSS RADIUS OF GYRATION (Ry): 0.624 IN

EFFECTIVE SECTION PROPERTIES

MOMENT OF INERTIA (Ix): 0.235 IN⁴

SECTION MODULUS (Sx): 0.18 IN³

ALLOWABLE BENDING MOMENT (Ma): 3.55 IN-KIPS

TORSIONAL PROPERTIES

ST VENANT TORSION CONSTANT (J x 1000): 0.089 IN⁴

WARPING CONSTANT (Cw): 0.146 IN⁶

DISTANCE FROM SHEAR CENTER TO NEUTRAL AXIS (Xo): -1.47 IN

RADII OF GYRATION (Ro): 1.898 IN

TORSIONAL FLEXURAL CONSTANT (B): 0.401

SECTION PROPERTIES TABLE NOTES:

- CALCULATED PROPERTIES ARE BASED ON AISI S100-16, NORTH AMERICAN SPECIFICATION FOR DESIGN OF COLD-FORMED STEEL STRUCTURAL MEMBERS.
- THE CENTER LINE BEND RADIUS IS BASED ON INSIDE CORNER RADII SHOWN IN THICKNESS CHART
- EFFECTIVE PROPERTIES INCORPORATE THE STRENGTH INCREASE FROM THE COLD WORK OF FORMING AS APPLICABLE PER AISI A3.3.2.
- TABULATED GROSS PROPERTIES ARE BASED ON FULL-UNREDUCED CROSS SECTION OF THE STUDS, AWAY FROM PUNCHOUTS
- FOR DEFLECTION CALCULATIONS, USE THE EFFECTIVE MOMENT OF INERTIA.
- ALLOWABLE MOMENT INCLUDES COLD-WORK OF FORMING.
- FOR THE STEELS THAT HAVE BOTH 33 AND 50 KSI LISTING, IF THE DESIGN IS BASED ON 50 KSI, THE 50 KSI STEEL NEEDS TO BE SPECIFIED. Example.362S162-54 (50KSI)
- WEB DEPTH FOR TRACK SECTIONS IS EQUAL TO THE NOMINAL HEIGHT PLUS 2 TIMES THE DESIGN THICKNESS PLUS THE BEND RADIUS. HEMS ON NONSTRUCTURAL RACK SECTIONS ARE IGNORED.

LEED:

- COMPLIES WITH ASTM C955
- LEED CREDITS MR 2: CONSTRUCTION WASTE MATERIAL-RAM STEEL FRAMING IS 100% RECYCLEABLE
- LEED CREDITS MR 4: RAM STEEL FRAMING IS FORMED WITH A MINIMUM 25.5% POST CONSUMER AND 14.4% PRE-CONSUMER CONTENT
- LEED CREDITS MR 5: REGIONAL MATERIALS MAY APPLY

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LIMITING HEIGHTS												
SPACING INCHES	5 PSF			15 PSF			20 PSF			25 PSF		
	L/120	L/240	L/360	L/240	L/360	L/600	L/240	L/360	L/600	L/240	L/360	L/600
12	18' 4"	14' 7"	12' 9"	11' 4"	9' 11"	8' 5"	10' 4"	9' 0"	7' 7"	9' 7"	8' 5"	7' 1"
16	16' 8"	13' 3"	11' 7"	10' 4"	9' 0"	7' 7"	9' 5"	8' 2"	6' 11"	8' 5"	7' 7"	6' 5"
24	14' 7"	11' 7"	10' 1"	8' 11"	7' 11"	6' 8"	7' 8"	7' 2"	6' 0"	6' 11"	6' 8"	5' 7"
SPACING INCHES	30 PSF			35 PSF			40 PSF			50 PSF		
	L/240	L/360	L/600	L/240	L/360	L/600	L/240	L/360	L/600	L/240	L/360	L/600
12	8' 11"	7' 11"	6' 8"	8' 3"	7' 6"	6' 4"	7' 8"	7' 2"	6' 0"			
16	7' 8"	7' 2"	6' 0"	7' 2"	6' 10"	5' 9"	6' 8" e	6' 6" e	5' 6"			
24	6' 3" e	6' 3" e	5' 3"	5' 10" e	5' 10" e	5' 0" e	5' 5" e	5' 5" e	4' 10" e			

WALL HEIGHT TABLE NOTES:

- LATERAL LOADS HAVE NOT BEEN MODIFIED FOR STRENGTH CHECKS: FULL LOADS ARE APPLIED.
- CALCULATED PROPERTIES ARE BASED ON AISI S100-16, NORTH AMERICAN SPECIFICATION FOR COLD-FORMED STEEL STRUCTURAL MEMBERS.
- THE 5 PSF LIVE LOAD HAS NOT BEEN REDUCED FOR DEFLECTION CHECKS. FOR 15 PSF OR HIGHER WIND PRESSURE, READ THE NOTE BELOW.
 IBC 2012/ASCE 7-10: DUE TO THE CHANGE IN THE MODEL BUILDING CODES, DESIGN WIND PRESSURES DETERMINED USING IBC 2012/ASCE 7-10 ARE STRENGTH LEVEL LOADS (LRFD) IN COMPARISON TO THOSE DETERMINED IN EARLIER IBC CODES WHICH WERE SERVICE LEVEL LOADS (ASD). THE LOAD/SPAN TABLES THAT FOLLOW ARE BASED ON SERVICE LEVEL (ASD) WIND LOADS. THEREFORE, TO PROPERLY USE THE LOAD/SPAN TABLES IN THIS CATALOG, MULTIPLY THE IBC 2012/ASCE 7-10 DESIGN WIND PRESSURES BY 0.6 (REFERENCE SECTION 2.4 ASCE 7-10) PRIOR TO ENTERING THE LOAD/SPAN TABLES.
 - EXAMPLE:
 * ASCE 7-10 CALCULATED DESIGN WIND PRESSURE = 25 PSF (STRENGTH LEVEL LOADS, LRFD)
 * CONVERT TO SERVICE LEVEL LOADS (ASD) = 25 PSF X 0.6 = 15 PSF
 * USE 10 PFS AS THE PRESSURE VALUE USED IN THIS TABLE TO DETERMINE THE MEMBER SPAN
 ANY OTHER BUILDING CODE: THE LOAD/SPAN TABLES THAT FOLLOW ARE BASED ON SERVICE LEVEL (ASD) WIND LOADS. IF THE WIND LOAD BEING USED MEETS THIS CRITERION, IT DOES NOT NEED TO BE MODIFIED PRIOR TO USING THE TABLES.
- 15 PSF AND HIGHER WIND PRESSURES HAVE BEEN MULTIPLIED BY 0.7 FOR DEFLECTION DETERMINATION, IN ACCORDANCE WITH FOOTNOTE F OF IBC TABLE 1604.3.
 THE 5 PSF LIVE LOAD HAS NOT BEEN REDUCED FOR DEFLECTION CHECKS.
- LIMITING HEIGHTS ARE BASED ON CONTINUOUS SUPPORT OF EACH FLANGE OVER THE FULL LENGTH OF THE STUD.
- LIMITING HEIGHTS ARE BASED ON STEEL PROPERTIES ALONE (NON-COMPOSITE).
- WEB CRIPPLING CHECKS ARE BASED ON END-ONE FLANGE LOADING CONDITION USING 1-INCH END BEARING.
- END SHEAR AND WEB CRIPPLING CAPACITY HAVE NOT BEEN REDUCED FOR PUNCHOUTS. PUNCHOUTS ARE ASSUMED TO BE ATLEAST 10-INCHS FROM THE END OF MEMBERS, IN ACCORDANCE WITH ASTM C955, SECTION 4.6.
- WHERE LIMITING HEIGHTS ARE FOLLOWED BY "E", WEB STIFFENERS ARE REQUIRED.