

# Secondary Framing

## Design Manual

Metal Building Components, Nationwide

Use of this Specification is entirely voluntary.  
Applying this information to a specific usage should be performed by professionals  
who are knowledgeable about conditions at the final location  
and applicable codes and specifications.



800-728-4010  
[bestbuymetals.com](http://bestbuymetals.com)

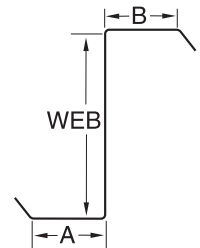
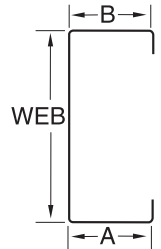
## TABLE OF CONTENTS

Parts List	A-E
	Page Number
General Information	1
Abbreviations	2
Cee	3-4
Section Properties and Allowables	3-4
Simple Span Load Table	5-6
Cee HS	7
Section Properties and Allowables	7
Simple Span Load Table	8
Zee	9-10
Section Properties and Allowables	9-10
Simple Span Load Table	11-12
Zee HS	13
Section Properties and Allowables	13
Simple Span Load Table	14
LGSI Zee	15-16
Section Properties and Allowables	15-16
Simple Span Load Table	17-18
Channel	19
Section Properties and Allowables	19
Simple Span Load Table	20
Eave Strut Single Up	21
Section Properties and Allowables for Slope 1:12	21
Simple Span Load Table	22
Section Properties and Allowables for Slope 4:12	23
Simple Span Load Table	24
Eave Strut Single Down	25
Section Properties and Allowables for Slope 1:12	25
Simple Span Load Table	26
Section Properties and Allowables for Slope 4:12	27
Simple Span Load Table	28
Eave Strut Double Up	29
Section Properties and Allowables for Slope 1:12	29
Simple Span Load Table	30
Section Properties and Allowables for Slope 4:12	31
Simple Span Load Table	32
Eave Strut Double Down	33
Section Properties and Allowables for Slope 1:12	33
Simple Span Load Table	34
Section Properties and Allowables for Slope 4:12	35
Simple Span Load Table	36
Hat	37
Section Properties and Allowables	37
Simple Span Load Table	38
Angle	39
Section Properties and Allowables	39

## SUB-STRUCTURAL STEEL

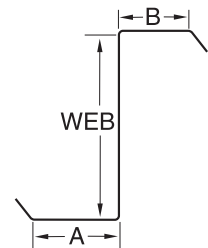
### STANDARD CEES & SYMMETRICAL ZEES - Secondary Framing Members

WEBxAxB	Gauge	Finish	CEE Product Code	ZEE Product Code
4x2x2	16	Red Oxide	C4216R	Z4216R
4x2.5x2.5	16	Red Oxide/Galvanized	C42516R/C42516Z	Z42516R/Z42516Z
4x2.5x2.5	14	Red Oxide	C42514R	Z42514R
4x3.5x3.5	14	Red Oxide	C43514R	Z43514R
4x3.5x3.5	16	Red Oxide	C43516R	Z43516R
6x2.5x2.5	16	Red Oxide	C62516R	Z62516R
6x2.5x2.5	14	Red Oxide	C62514R	Z62514R
8x2.5x2.5	16	Red Oxide/Galvanized	C82516R/C82516Z	Z82516R/Z82516Z
8x2.5x2.5	14	Red Oxide/Galvanized	C82514R/C82514Z	Z82514R/Z82514Z
8x2.5x2.5	12	Red Oxide/Galvanized	C82512R/C82512Z	Z82512R/Z82512Z
8x3.5x3.5	16	Red Oxide	C83516R	Z83516R
8x3.5x3.5	14	Red Oxide/Galvanized	C83514R/C83514Z	Z83514R/Z83514Z
8x3.5x3.5	12	Red Oxide/Galvanized	C83512R/C83512Z	Z83512R/Z83512Z
9x3x3	14	Red Oxide	C9314R	Z9314R
9x3x3	12	Red Oxide/Galvanized	C9312R/C9312Z	Z9312R/Z9312Z
10x2.5x2.5	16	Red Oxide	C102516R	Z102516R
10x2.5x2.5	14	Red Oxide/Galvanized	C102514R/C102514Z	Z102514R/Z102514Z
10x2.5x2.5	12	Red Oxide/Galvanized	C102512R/C102512Z	Z102512R/Z102512Z
10x3.5x3.5	14	Red Oxide	C103514R	Z103514R
10x3.5x3.5	12	Red Oxide	C103512R	Z103512R
12x2.5x2.5	14	Red Oxide	C122514R	Z122514R
12x2.5x2.5	12	Red Oxide	C122512R	Z122512R
12x3.5x3.5	14	Red Oxide/Galvanized	C123514R/C123514Z	Z123514R/Z123514Z
12x3.5x3.5	12	Red Oxide/Galvanized	C123512R/C123512Z	Z123512R/Z123512Z
12x4x4	16	Red Oxide	C12416R	Z12416R



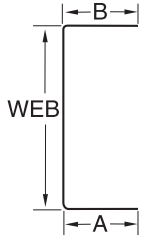
### LGSI ZEES - Secondary Framing Members

WEBxAxB	Gauge	Finish	Product Code
6x2 $\frac{3}{8}$ x2 $\frac{1}{2}$	16	Red Oxide	Z62516R
6x2 $\frac{3}{8}$ x2 $\frac{1}{2}$	14	Red Oxide	Z62514R
8x2 $\frac{3}{8}$ x2 $\frac{1}{2}$	16	Red Oxide/Galvanized	Z82516R/Z82516Z
8x2 $\frac{3}{8}$ x2 $\frac{1}{2}$	14	Red Oxide/Galvanized	Z82514R/Z82514Z
8x2 $\frac{3}{8}$ x2 $\frac{1}{2}$	12	Red Oxide/Galvanized	Z82512R/Z82512Z
8x3 $\frac{3}{8}$ x3 $\frac{1}{2}$	16	Red Oxide	Z83516R
8x3 $\frac{3}{8}$ x3 $\frac{1}{2}$	14	Red Oxide	Z83514R
8x3 $\frac{3}{8}$ x3 $\frac{1}{2}$	12	Red Oxide/Galvanized	Z83512R/Z83512Z
10x2 $\frac{3}{8}$ x2 $\frac{1}{2}$	16	Red Oxide	Z102516R
10x2 $\frac{3}{8}$ x2 $\frac{1}{2}$	14	Red Oxide	Z102514R
10x2 $\frac{3}{8}$ x2 $\frac{1}{2}$	12	Red Oxide/Galvanized	Z102512R/Z102512Z
10x2 $\frac{7}{8}$ x2 $\frac{5}{8}$	14	Red Oxide	Z10314R
10x2 $\frac{7}{8}$ x2 $\frac{5}{8}$	12	Red Oxide	Z10312R
12x2 $\frac{3}{8}$ x2 $\frac{1}{2}$	14	Red Oxide	Z122514R
12x2 $\frac{3}{8}$ x2 $\frac{1}{2}$	12	Red Oxide	Z122512R
12x3 $\frac{3}{8}$ x3 $\frac{1}{2}$	14	Red Oxide	Z123514R
12x3 $\frac{3}{8}$ x3 $\frac{1}{2}$	12	Red Oxide/Galvanized	Z123512R/Z123512Z
12x3 $\frac{3}{8}$ x3 $\frac{1}{2}$	16	Red Oxide	Z12416R



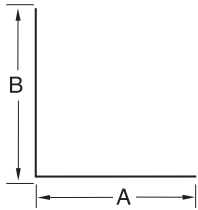
Members can be manufactured to the nearest 1/8" in length from 6'0" to 45'0". For lengths under 6'0" or over 45'0", please call your sales rep.

## SUB-STRUCTURAL STEEL



### CHANNELS - Secondary Framing Members

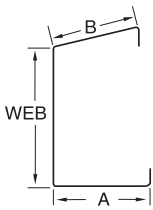
WEBxAxB	Gauge	Finish	Product Code
4.25x2.35x2.35	16	Red Oxide/Galvanized	U4216R
4.25x2.85x2.85	16	Red Oxide/Galvanized	U42516R/ U42516R
4.25x2.85x2.85	14	Red Oxide	U42514R
6.25x2.85x2.85	16	Red Oxide/Galvanized	U62516R/ U62516Z
6.25x2.85x2.85	14	Red Oxide	U62514R
8.25x2.85x2.85	16	Red Oxide/Galvanized	U82516R/U82516Z
8.25x2.85x2.85	14	Red Oxide/Galvanized	U82514R/U82514Z
8.25x2.85x2.85	12	Red Oxide/Galvanized	U82512R/U82512Z



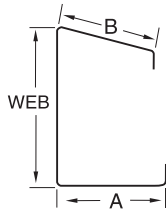
### ANGLE - Secondary Framing Members

AxB	Gauge	Finish	Product Code
2.5x2.5	14	Red Oxide	B2514R
3x3	14	Red Oxide	B314R
3x3	16	Red Oxide	B316R
4x2	16	Red Oxide/Galvanized	B4216R/B4216Z
4x2	14	Red Oxide	B4214R
4x3	16	Red Oxide	B4316R

Single Slope Up



Single Slope Down

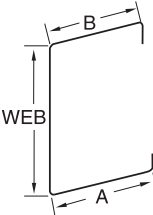


### EAVE STRUTS - Secondary Framing Members

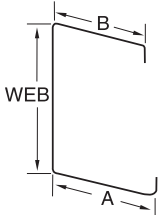
WEBxAxB	Gauge	Finish	Product Code
6x4x3	16	Red Oxide	E64316LR/E64316HR
6x4x3	14	Red Oxide	E64314LR/E64314HR
6x4x3	12	Red Oxide	E64312LR/E64312HR
8x4x3	14	Red Oxide/Galvanized	E84314LR or HR/E84314LZ or HZ
8x4x3	12	Red Oxide/Galvanized	E84312LR or HR/E84312LZ or HZ
8x5x3	12	Red Oxide	E85312LR/E85312HR
8x5x3	14	Red Oxide	E85314LR
8x5x5	14	Red Oxide	E85514LR
10x5x3	14	Red Oxide	E105314LR

Please specify pitch and slope when ordering.

Double Slope Up



Double Slope Down



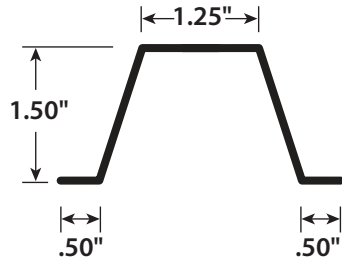
Central States has met the requirements to earn the accreditation for Cold-Formed Steel Structural and non-Structural Components Not Requiring Welding. For more information, go to [www.iasonline.org](http://www.iasonline.org).



Members can be manufactured to the nearest 1/8" in length from 6'0" to 45'0". For lengths under 6'0" or over 45'0", please call your sales rep.

# SUB-STRUCTURAL STEEL

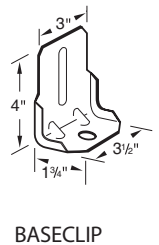
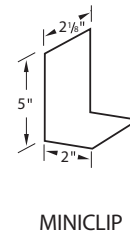
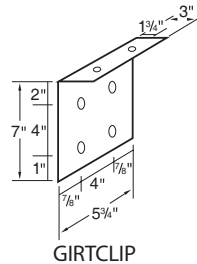
## HAT CHANNEL



PART #	LENGTH	FINISH	GAUGE
HATZ202	20'2"	Galvanized	20
HATZ	Specify	Galvanized	20
HAT16Z	Specify	Galvanized	16

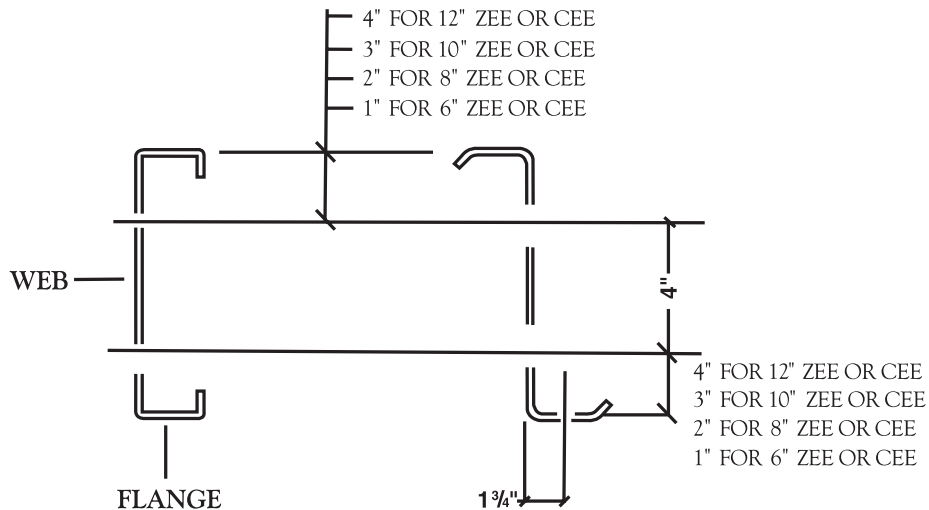
## PURLIN CLIPS

Gauge	Finish	Product Code
10	Red Oxide	GIRTCLIP
16	Red Oxide	MINICLIP
14	Galvanized	BASECLIP



## PUNCH PATTERNS

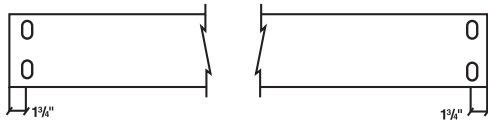
Capabilities vary by location. Call for pricing and availability on special punching. 3" Minimum part length to be punched. CSMI standard hole sizes are 5/8" round and 5/8"x 3/4" slot in Lowell and Cedar Hill. Standard hole size in Jasper is 5/8"x 3/4" slot. Holes are punched to accommodate 1/2" diameter bolts. 5/16" angle punch offered in Lowell and Jasper.



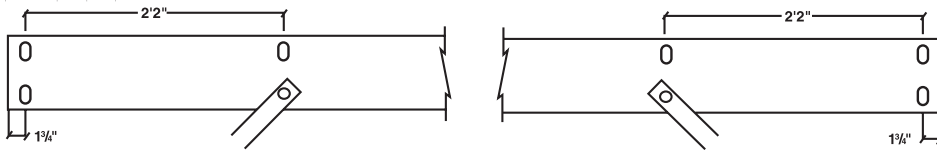
## SUB-STRUCTURAL STEEL

### STANDARD PUNCH PATTERNS CEES & ZEES

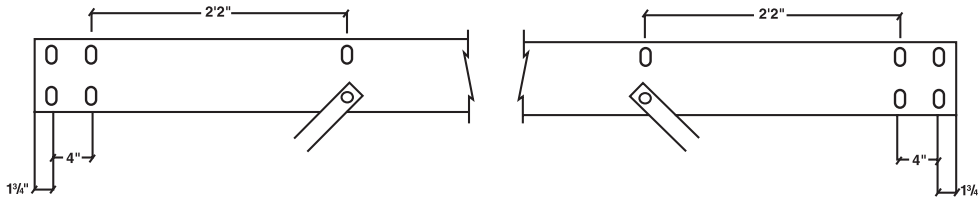
CODE:PPEP  
**END PUNCH**



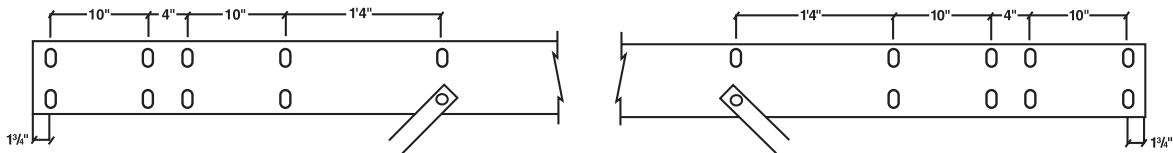
CODE:PPSS  
**SIMPLE SPAN PUNCH** - MINIMUM PART LENGTH 5' TOTAL, 2'6" ONE END



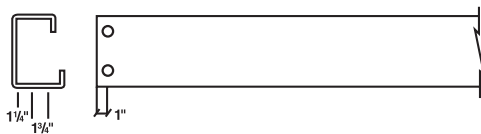
CODE:PPSL  
**SHORT LAP PUNCH** - MINIMUM PART LENGTH 5'6" TOTAL, 2'8" ONE END



CODE:PPLL  
**LONG LAP PUNCH** - MINIMUM PART LENGTH 7' TOTAL, 3'6" ONE END



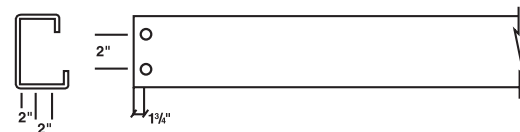
CODE: ES4  
**EAVE STRUT FOR 4" LEG**



CODE: ES5  
**EAVE STRUT FOR 5" LEG**



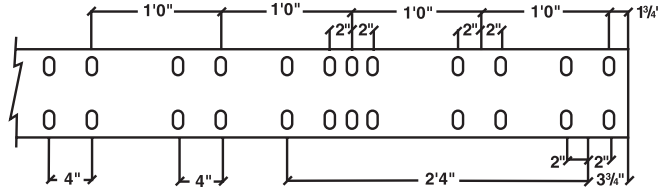
CODE: ES134  
**EAVE STRUT FOR 5" LEG**



## SUB-STRUCTURAL STEEL

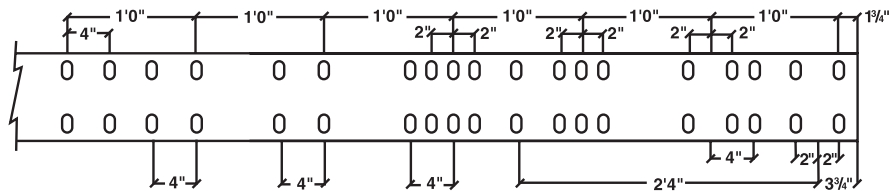
CODE: PPA

**PATTERN A - STANDARD WEB** - 9' MINIMUM LENGTH IF PUNCHED ON BOTH ENDS; 4'6" IF PUNCHED ON ONE END.



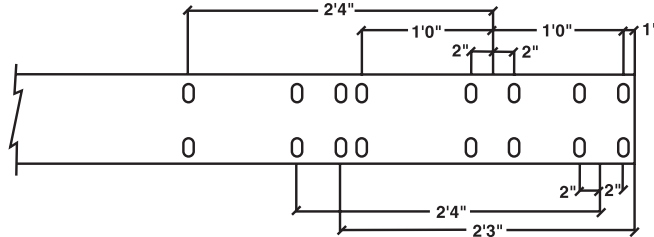
CODE: PPB

**PATTERN B - STANDARD WEB** - 12'5" MINIMUM LENGTH IF PUNCHED ON BOTH ENDS; 6'2.5" IF PUNCHED ON ONE END.



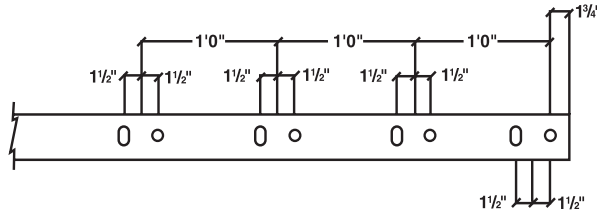
CODE: PPC

**PATTERN C - STANDARD WEB** - 7' MINIMUM LENGTH IF PUNCHED ON BOTH ENDS; 3'6" IF PUNCHED ON ONE END.



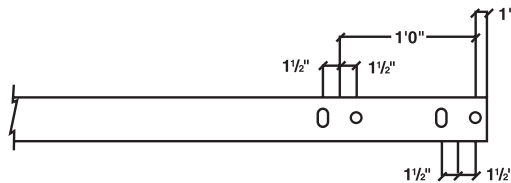
CODE: PPD & PPE

**PATTERN D & E OPTIONAL FLANGE** - PATTERN D FOR USE WITH PATTERN A; PATTERN E FOR USE WITH PATTERN B



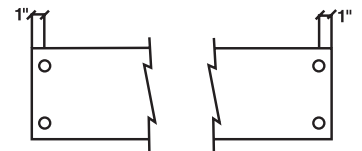
CODE: PPF

**PATTERN F OPTIONAL FLANGE** - PATTERN F FOR USE WITH PATTERN C



CODE: PPH

**PATTERN H STANDARD WEB END**



## GENERAL INFORMATION

1. Section properties and allowables are computed in accordance with North American Specification for the Design of Cold-Formed Steel Structural Members (2007 Edition)
2. The information must be used in accordance with the associated notes and specifications.
3. The allowable uniform loads apply only to sections where the compressions flange is adequately supported laterally.
4. The design thickness used are as follows: 16 ga:- 0.056", 14 ga:- 0.069" and 12 ga:-0.096". Bare minimum steel thickness should not be less than 0.95 of the design thickness.
5. The minimum yield strength for red oxide and galvanized sections are 57 ksi.
6. The design thickness and minimum yield strength for HS sections are 0.051" and 80 ksi, respectively.
7. The inside bend radius for all sections is 0.1875".
7. The loads and deflections shown on the load tables are the total loads that can be supported by the sections and the corresponding deflections for these loads. To determine the allowable load for a specified deflection limit,
  - a. Calculate the deflection limit (DL) for framing member span.
  - b. If the deflection limit (DL) is larger than the deflection (D) shown for this framing member, then the allowable load (L) for this member is as shown on the table.
  - c. If the deflection limit (DL) is smaller than the deflection (D) shown for this framing member, then the allowable load must be reduced and is equal to  $L \times (D/DL)$ .

For C6 x 2.5 x 16 ga. at 10' span:

Allowable total load that can be supported by this section	=	237 plf
Deflection 'D' in due to this load	=	0.51"
For deflection limit 'DL' of $L/180 = (10' \times 12'')/180$	=	0.66" > 0.51"
Maximum load for 10' span	=	237 plf

For C6 x 2.5 x 16 ga. at 20' span:

Allowable total load that can be supported by this section	=	59 plf
Deflection 'D' in due to this load	=	2.04"
For deflection limit 'DL' of $L/180 = (20' \times 12'')/180$	=	1.32" < 2.04"
Maximum load for 20' span = $59 \times 1.32/2.04$	=	38.2 plf



## ABBREVIATIONS

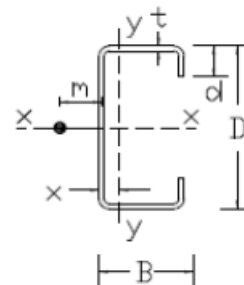
A	Cross sectional area
$A_e$	Effective cross sectional area
E	Modulus of elasticity
$C_w$	Torsional warping constant
$I_{xx}$	Moment of inertia about the X axis
$I_{xe}$	Effective moment of inertia about the X axis
$I_{xy}$	Product of inertia about the X and Y axes
$I_{yy}$	Moment of inertia about the Y axis
$I_{ye}$	Effective moment of inertia about the Y axis
J	St. Venant torsion constant
$r_x$	Radius of gyration about the X axis
$r_y$	Radius of gyration about the Y axis
$r_o$	Polar radius of gyration about the shear center
$M_a$	Allowable moment about the X axis, based on initiation of yielding (fully braced)
$P_a$	Allowable web crippling force for an element, perpendicular to the bearing flange
R	Inside bend radius (0.1875")
$S_x$	Section modulus about the X axis for the extreme top fiber
$S_{xe}$	Effective section modulus about the X axis for the extreme top fiber
t	Design thickness of the material
$V_a$	Allowable shear force in the vertical direction
m	Distance from shear center to mid-plane of web
x	Horizontal distance from the centroid of the section to the extreme left fiber
y	Vertical distance from the centroid of the section to the extreme bottom fiber

## Physical/Structural Properties Cee

Dimensions					Gross Properties								
D (in)	B (in)	d (in)	Gauge	t <sup>(3)</sup> (in)	Area (in <sup>2</sup> )	Wt/ft (lb/ft)	I <sub>xx</sub> (in <sup>4</sup> )	x (in)	I <sub>yy</sub> (in <sup>4</sup> )	m (in)	J (in <sup>4</sup> )	C <sub>w</sub> (in <sup>6</sup> )	R <sub>o</sub> (in)
4	2	0.75	16	0.056	0.499	1.697	1.263	0.727	0.295	1.045	0.00052	1.27	2.481
4	2.5	0.75	16	0.056	0.555	1.887	1.481	0.941	0.502	1.301	0.00058	2.12	2.909
		0.75	14	0.069	0.679	2.309	1.800	0.942	0.606	1.293	0.00108	2.55	2.892
4	3.5	0.75	16	0.056	0.667	2.268	1.916	1.388	1.125	1.809	0.00070	4.65	3.819
		0.75	14	0.069	0.817	2.778	2.333	1.389	1.366	1.801	0.00130	5.60	3.801
6	2.5	0.75	16	0.056	0.667	2.268	3.765	0.788	0.579	1.180	0.00070	4.69	3.203
		0.75	14	0.069	0.817	2.778	4.590	0.789	0.701	1.172	0.00130	5.65	3.187
8	2.5	0.75	16	0.056	0.779	2.649	7.384	0.679	0.634	1.084	0.00081	8.63	3.643
		0.75	14	0.069	0.955	3.247	9.016	0.680	0.768	1.076	0.00152	10.42	3.628
		0.75	12	0.096	1.316	4.474	12.299	0.681	1.026	1.059	0.00404	13.86	3.598
8	3.5	0.75	16	0.056	0.891	3.029	9.151	1.046	1.436	1.563	0.00093	18.93	4.302
		0.75	14	0.069	1.093	3.716	11.186	1.047	1.744	1.555	0.00174	22.94	4.285
		0.75	12	0.096	1.508	5.127	15.297	1.046	2.356	1.538	0.00463	30.79	4.252
9	3	0.75	14	0.069	1.093	3.716	13.304	0.807	1.240	1.268	0.00174	20.63	4.174
		0.75	12	0.096	1.508	5.127	18.194	0.807	1.668	1.251	0.00463	27.63	4.143
10	2.5	0.75	16	0.056	0.891	3.029	12.560	0.597	0.676	1.003	0.00093	14.07	4.159
		0.75	14	0.069	1.093	3.716	15.353	0.599	0.817	0.996	0.00174	17.00	4.145
		0.75	12	0.096	1.508	5.127	20.991	0.600	1.094	0.979	0.00463	22.69	4.116
10	3.5	0.75	14	0.069	1.231	4.185	18.756	0.934	1.869	1.460	0.00195	37.47	4.717
		0.75	12	0.096	1.700	5.780	25.699	0.934	2.523	1.442	0.00522	50.42	4.686
12	2.5	0.75	14	0.069	1.231	4.185	23.878	0.535	0.857	0.928	0.00195	25.54	4.699
		0.75	12	0.096	1.700	5.780	32.701	0.538	1.145	0.912	0.00522	34.13	4.672
12	3.5	0.75	14	0.069	1.369	4.655	28.789	0.843	1.970	1.376	0.00217	56.37	5.212
		0.75	12	0.096	1.892	6.433	39.503	0.844	2.659	1.360	0.00581	75.96	5.183
12	4	0.75	16	0.056	1.171	3.981	25.511	1.009	2.257	1.614	0.00122	63.76	5.513

### Notes:

1. Section properties and allowables are calculated in accordance with North American Specification for the Design of Cold-Formed Steel Structural Members (2007 Edition)
2. Properties based on yield stress,  $F_y = 55$  ksi.
3. Thickness indicated represents the design thickness. Minimum deliverable bare steel thickness equals  $0.95 \times$  design thickness in accordance with Section A2.4 of the AISI Specification.
4.  $D$  = depth,  $B$  = flange width,  $d$  = lip length



**Physical/Structural Properties**  
**Cee**

Dimensions				Effective Properties					Allowable Web Crippling Loads, P <sub>a</sub> (lb/web)					
									Exterior			Interior		
D (in)	B (in)	Gauge	t <sup>(3)</sup> (in)	I <sub>xe</sub> <sup>(4)</sup> (in <sup>4</sup> )	S <sub>xe</sub> (in <sup>3</sup> )	A <sub>e</sub> (in <sup>2</sup> )	M <sub>a</sub> (ft-lb)	V <sub>a</sub> (lb)	Bearing Length			Bearing Length		
									2"	3"	4"	2"	3"	4"
4	2	16	0.056	1.233	0.605	0.395	1661	3462	763	879	977	1331	1467	1582
4	2.5	16	0.056	1.345	0.629	0.392	1726	3462	763	879	977	1331	1467	1582
		14	0.069	1.679	0.798	0.524	2189	4962	1139	1306	1447	2087	2288	2458
4	3.5	16	0.056	1.554	0.678	0.405	1862	3462	763	879	977	1331	1467	1582
		14	0.069	1.958	0.871	0.547	2389	4962	1139	1306	1447	2087	2288	2458
6	2.5	16	0.056	3.435	1.081	0.400	2966	2835	727	837	930	1302	1435	1548
		14	0.069	4.281	1.363	0.538	3741	5255	1091	1251	1386	2046	2244	2410
8	2.5	16	0.056	6.625	1.545	0.404	4240	2080	697	803	892	1278	1409	1519
		14	0.069	8.432	2.024	0.545	5556	3904	1051	1206	1336	2012	2207	2371
		12	0.096	12.079	2.983	0.918	8187	10173	1995	2270	2503	4051	4406	4705
8	3.5	16	0.056	7.297	1.583	0.416	4345	2080	697	803	892	1278	1409	1519
		14	0.069	9.593	2.190	0.569	6012	3904	1051	1206	1336	2012	2207	2371
		12	0.096	13.753	3.220	0.944	8836	10173	1995	2270	2503	4051	4406	4705
9	3	14	0.069	11.835	2.452	0.561	6730	3444	1033	1185	1313	1997	2190	2353
		12	0.096	17.187	3.688	0.944	10120	9336	1967	2239	2468	4025	4378	4675
10	2.5	16	0.056	10.686	1.912	0.406	5247	1643	670	772	858	1257	1386	1494
		14	0.069	14.048	2.654	0.549	7284	3081	1017	1166	1292	1983	2175	2336
		12	0.096	20.615	4.077	0.929	11190	8346	1941	2209	2435	4001	4352	4648
10	3.5	14	0.069	15.476	2.746	0.573	7536	3081	1017	1166	1292	1983	2175	2336
		12	0.096	23.237	4.382	0.955	12026	8346	1941	2209	2435	4001	4352	4648
12	2.5	14	0.069	20.143	2.941	0.552	8071	2545	985	1130	1252	1957	2146	2305
		12	0.096	30.542	4.781	0.936	13120	6886	1892	2154	2374	3957	4304	4596
12	3.5	14	0.069	22.816	3.276	0.575	8992	2545	985	1130	1252	1957	2146	2305
		12	0.096	35.915	5.676	0.962	15577	6886	1892	2154	2374	3957	4304	4596
12	4	16**	0.056	17.774	2.369	0.419	6502	1357	647	745	828	1238	1365	1472

**Notes:**

1. Section properties and allowables are calculated in accordance with North American Specification for the Design of Cold-Formed Steel Structural Members (2007 Edition)
2. Properties based on yield stress, F<sub>y</sub> = 55 ksi.
3. Thickness indicated represents the design thickness. Minimum deliverable bare steel thickness equals 0.95 x design thickness in accordance with Section A2.4 of the AISI Specification.
4. Effective moment of inertia, I<sub>xx</sub>, represents the moment of inertia for deflection, based on Procedure 1 of the AISI Specification.
5. M<sub>a</sub> is allowable bending moment about X-X axis based on fully braced flanges.
6. Allowable web crippling loads are based on section fastened to support.

\*\* h/t exceeds 200.

## Allowable Loads for Simple Span Condition Cee

Dimensions			Criteria	Allowable Loads (plf)																
D (in)	B (in)	Ga.		Span (ft)																
				10	12	14	16	18	20	22	24	26	28	30	32	34	36	38	40	
4	2	16	L	132	92	67	51	41	33	27	23	-	-	-	-	-	-	-	-	
			D	0.82	1.17	1.60	2.09	2.64	3.26	3.95	4.70	-	-	-	-	-	-	-	-	-
4	2.5	16	L	138	95	70	53	42	34	28	23	20	-	-	-	-	-	-	-	
			D	0.76	1.09	1.49	1.94	2.46	3.03	3.67	4.36	5.12	-	-	-	-	-	-	-	-
		14	L	175	121	89	68	54	43	36	30	25	22	-	-	-	-	-	-	-
			D	0.78	1.12	1.52	1.99	2.52	3.11	3.76	4.47	5.25	6.09	-	-	-	-	-	-	-
4	3.5	16	L	148	103	76	58	45	37	30	25	22	-	-	-	-	-	-	-	
			D	0.68	0.98	1.33	1.74	2.20	2.71	3.28	3.91	4.59	-	-	-	-	-	-	-	-
		14	L	191	132	97	74	58	47	39	33	28	24	21	-	-	-	-	-	-
			D	0.70	1.01	1.37	1.79	2.27	2.80	3.39	4.03	4.73	5.49	6.30	-	-	-	-	-	-
6	2.5	16	L	237	164	121	92	73	59	49	41	35	30	26	23	20	-	-	-	
			D	0.51	0.74	1.00	1.31	1.65	2.04	2.47	2.94	3.45	4.00	4.59	5.23	5.90	-	-	-	-
		14	L	299	207	152	116	92	74	61	51	44	38	33	29	25	23	20	-	-
			D	0.52	0.75	1.02	1.33	1.69	2.08	2.52	3.00	3.52	4.08	4.69	5.33	6.02	6.75	7.52	-	-
8	2.5	16	L	339	235	173	132	104	84	70	58	50	43	37	33	29	26	23	21	
			D	0.38	0.54	0.74	0.96	1.22	1.50	1.82	2.17	2.54	2.95	3.38	3.85	4.35	4.87	5.43	6.02	-
		14	L	444	308	226	173	137	111	91	77	65	56	49	43	38	34	30	27	-
			D	0.39	0.57	0.77	1.01	1.27	1.57	1.90	2.26	2.66	3.08	3.54	4.02	4.54	5.09	5.67	6.29	-
		12	L	654	454	334	255	202	163	135	113	96	83	72	63	56	50	45	40	-
			D	0.41	0.59	0.81	1.05	1.33	1.64	1.99	2.37	2.78	3.22	3.70	4.21	4.75	5.33	5.94	6.58	-
8	2.5	16	L	347	241	177	135	107	86	71	60	51	44	38	33	30	26	24	21	
			D	0.33	0.48	0.66	0.86	1.09	1.34	1.62	1.93	2.26	2.63	3.01	3.43	3.87	4.34	4.84	5.36	-
		14	L	480	333	245	187	148	120	99	83	71	61	53	46	41	37	33	30	-
			D	0.36	0.52	0.71	0.93	1.17	1.45	1.75	2.09	2.45	2.84	3.26	3.71	4.19	4.70	5.23	5.80	-
		12	L	706	490	360	276	218	176	146	122	104	90	78	69	61	54	48	44	-
			D	0.38	0.54	0.74	0.97	1.22	1.51	1.83	2.18	2.55	2.96	3.40	3.87	4.37	4.90	5.46	6.05	-

**Notes:**

1. L = Allowable total load (plf) that can be supported by the section. The weight of the section has not been subtracted from these values.
2. D = Deflections (in) shown above occur when the full allowable loads are applied. For applications with special deflection requirements, it may be necessary to modify the allowable loads. Refer to sample calculations in General Information.
3. Section properties and allowables are calculated in accordance with North American Specification for the Design of Cold-Formed Steel Structural Members (2007 Edition)
4. These values are valid only if the compressions flange is adequately supported laterally. For special conditions such as members with laterally unsupported sections and non-uniform spans, contact Central State Mfg. to obtain allowable loads.
5. Loads based on flexural strength due to distortional buckling strength must be checked for unbraced flanges.
6. Allowable loads assume the use of plates or clips at supports which will effectively transfer support loads directly to the web of the member. If sections are to bear directly on the supports, the sections must be checked for web crippling strength.

## Allowable Loads for Simple Span Condition Cee

Dimensions			Criteria	Allowable Loads (plf)																
D (in)	B (in)	Ga.		Span (ft)																
				10	12	14	16	18	20	22	24	26	28	30	32	34	36	38	40	
9	3	14	L	538	373	274	210	166	134	111	93	79	68	59	52	46	41	37	33	
			D	0.33	0.48	0.65	0.85	1.08	1.33	1.61	1.92	2.25	2.61	3.00	3.41	3.85	4.32	4.81	5.33	
		12	L	809	562	413	316	249	202	167	140	119	103	89	79	70	62	56	50	
			D	0.35	0.51	0.69	0.90	1.14	1.41	1.71	2.03	2.38	2.76	3.17	3.61	4.07	4.57	5.09	5.64	
10	2.5	16	L	419	291	214	163	129	104	86	72	62	53	46	40	36	32	29	26	
			D	0.28	0.41	0.55	0.72	0.92	1.13	1.37	1.63	1.91	2.22	2.55	2.90	3.27	3.67	4.09	4.53	
		14	L	582	404	297	227	179	145	120	101	86	74	64	56	50	44	40	36	
			D	0.31	0.44	0.60	0.79	0.99	1.23	1.49	1.77	2.07	2.41	2.76	3.14	3.55	3.98	4.43	4.91	
		12	L	895	621	456	349	276	223	184	155	132	114	99	87	77	69	61	55	
			D	0.33	0.47	0.65	0.84	1.07	1.32	1.59	1.90	2.23	2.58	2.96	3.37	3.81	4.27	4.75	5.27	
10	3.5	14	L	602	418	307	235	186	150	124	104	89	76	66	58	52	46	41	37	
			D	0.28	0.40	0.54	0.71	0.90	1.11	1.34	1.60	1.88	2.18	2.50	2.84	3.21	3.60	4.01	4.44	
		12	L	962	668	490	375	296	240	198	167	142	122	106	93	83	74	66	60	
			D	0.31	0.44	0.60	0.78	0.99	1.22	1.48	1.76	2.06	2.39	2.75	3.12	3.53	3.95	4.40	4.88	
12	2.5	14	L	645	448	329	252	199	161	133	112	95	82	71	63	55	49	44	40	
			D	0.23	0.33	0.45	0.59	0.75	0.92	1.11	1.33	1.56	1.81	2.07	2.36	2.66	2.98	3.32	3.68	
		12	L	1049	728	535	410	323	262	216	182	155	133	116	102	90	80	72	65	
			D	0.26	0.37	0.50	0.66	0.83	1.02	1.24	1.48	1.73	2.01	2.30	2.62	2.96	3.32	3.70	4.10	
12	3.5	14	L	719	499	367	280	222	179	148	124	106	91	79	70	62	55	49	44	
			D	0.22	0.32	0.43	0.57	0.72	0.88	1.07	1.27	1.50	1.73	1.99	2.26	2.56	2.87	3.19	3.54	
		12	L	1246	865	635	486	384	311	257	216	184	158	138	121	107	96	86	77	
			D	0.26	0.37	0.50	0.66	0.83	1.02	1.24	1.48	1.73	2.01	2.31	2.62	2.96	3.32	3.70	4.10	
12	4	16	L	520	361	265	203	160	130	107	90	76	66	57	50	44	40	36	32	
			D	0.19	0.28	0.38	0.50	0.63	0.78	0.94	1.12	1.32	1.53	1.75	2.00	2.25	2.53	2.81	3.12	

**Notes:**

1. L = Allowable total load (plf) that can be supported by the section. The weight of the section has not been subtracted from these values.
2. D = Deflections (in) shown above occur when the full allowable loads are applied. For applications with special deflection requirements, it may be necessary to modify the allowable loads. Refer to sample calculations in General Information.
3. Section properties and allowables are calculated in accordance with North American Specification for the Design of Cold-Formed Steel Structural Members (2007 Edition)
4. These values are valid only if the compressions flange is adequately supported laterally. For special conditions such as members with laterally unsupported sections and non-uniform spans, contact Central State Mfg. to obtain allowable loads.
5. Loads based on flexural strength due to distortional buckling strength must be checked for unbraced flanges.
6. Allowable loads assume the use of plates or clips at supports which will effectively transfer support loads directly to the web of the member. If sections are to bear directly on the supports, the sections must be checked for web crippling strength.

## Physical/Structural Properties Cee (HS)

Dimensions					Gross Properties								
D (in)	B (in)	d (in)	Gauge	t <sup>(3)</sup> (in)	Area (in <sup>2</sup> )	Wt/ft (lb/ft)	I <sub>xx</sub> (in <sup>4</sup> )	x (in)	I <sub>yy</sub> (in <sup>4</sup> )	m (in)	J (in <sup>4</sup> )	C <sub>w</sub> (in <sup>6</sup> )	R <sub>o</sub> (in)
4	2	0.75	16*	0.051	0.455	1.547	1.157	0.728	0.272	1.049	0.00039	1.17	2.488
4	2.5	0.75	16*	0.051	0.506	1.720	1.355	0.943	0.460	1.305	0.00044	1.95	2.916
6	2.5	0.75	16*	0.051	0.608	2.067	3.443	0.789	0.531	1.184	0.00053	4.31	3.209
8	2.5	0.75	16*	0.051	0.710	2.414	6.749	0.680	0.581	1.087	0.00062	7.92	3.649

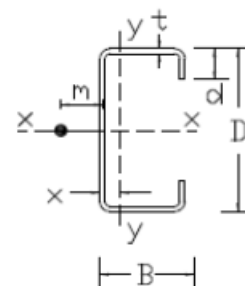
### Notes:

1. Section properties and allowables are calculated in accordance with North American Specification for the Design of Cold-Formed Steel Structural Members (2007 Edition)
2. Properties based on yield stress,  $F_y = 80$  ksi (A1011 HSLAS-F Grade 80).
3. Thickness indicated represents the design thickness. Minimum deliverable bare steel thickness equals  $0.95 \times$  design thickness in accordance with Section A2.4 of the AISI Specification.
4. D = depth, B = flange width, d = lip length

Dimensions				Effective Properties					Allowable Web Crippling Loads, P <sub>a</sub> (lb/web)					
									Exterior			Interior		
D (in)	B (in)	Gauge	t <sup>(3)</sup> (in)	I <sub>xe</sub> <sup>(4)</sup> (in <sup>4</sup> )	S <sub>xe</sub> (in <sup>3</sup> )	A <sub>e</sub> (in <sup>2</sup> )	M <sub>a</sub> (ft-lb)	V <sub>a</sub> (lb)	Bearing Length			Bearing Length		
									2"	3"	4"	2"	3"	4"
4	2	16*	0.051	1.055	0.496	0.295	1982	3351	926	1069	1189	1577	1743	1882
4	2.5	16*	0.051	1.159	0.524	0.302	2093	3351	926	1069	1189	1577	1743	1882
6	2.5	16*	0.051	2.895	0.864	0.306	3450	2137	879	1015	1130	1541	1703	1839
8	2.5	16*	0.051	5.365	1.152	0.308	4598	1569	841	971	1080	1511	1670	1803

### Notes:

1. Section properties and allowables are calculated in accordance with North American Specification for the Design of Cold-Formed Steel Structural Members (2007 Edition)
2. Properties based on yield stress,  $F_y = 80$  ksi (A1011 HSLAS-F Grade 80).
3. Thickness indicated represents the design thickness. Minimum deliverable bare steel thickness equals  $0.95 \times$  design thickness in accordance with Section A2.4 of the AISI Specification.
4. Effective moment of inertia,  $I_{xx}$ , represents the moment of inertia for deflection, based on Procedure 1 of the AISI Specification.
5.  $M_a$  is allowable bending moment about X-X axis based on fully braced flanges.
6. Allowable web crippling loads are based on section fastened to support.



**Allowable Loads for Simple Span Condition  
Cee (HS)**

Dimensions			Criteria	Allowable Loads (plf)																
D (in)	B (in)	Ga.		Span (ft)																
				10	12	14	16	18	20	22	24	26	28	30	32	34	36	38	40	
4	2	16*	L	158	110	80	61	48	39	32	27	23	20	-	-	-	-	-	-	
			D	1.11	1.60	2.18	2.84	3.60	4.44	5.37	6.40	7.51	8.71	-	-	-	-	-	-	
4	2.5	16*	L	167	116	85	65	51	41	34	29	24	21	-	-	-	-	-	-	
			D	1.04	1.50	2.04	2.67	3.38	4.17	5.05	6.01	7.05	8.18	-	-	-	-	-	-	
6	2.5	16*	L	275	191	140	107	85	68	57	47	40	35	30	26	23	21	-	-	
			D	0.68	0.98	1.34	1.75	2.22	2.74	3.31	3.94	4.62	5.36	6.16	7.00	7.91	8.86	-	-	
8	2.5	16*	L	367	255	187	143	113	91	75	63	54	46	40	35	31	28	25	22	
			D	0.48	0.69	0.94	1.23	1.56	1.93	2.33	2.77	3.25	3.77	4.33	4.93	5.57	6.24	6.95	7.70	

**Notes:**

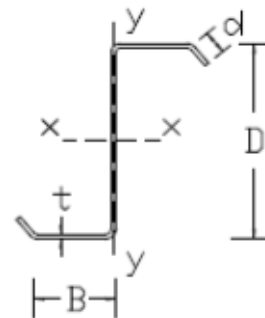
1. L = Allowable total load (plf) that can be supported by the section. The weight of the section has not been subtracted from these values.
2. D = Deflections (in) shown above occur when the full allowable loads are applied. For applications with special deflection requirements, it may be necessary to modify the allowable loads. Refer to sample calculations in General Information.
3. Section properties and allowables are calculated in accordance with North American Specification for the Design of Cold-Formed Steel Structural Members (2007 Edition)
4. These values are valid only if the compressions flange is adequately supported laterally. For special conditions such as members with laterally unsupported sections and non-uniform spans, contact Central State Mfg. to obtain allowable loads.
5. Loads based on flexural strength due to distortional buckling strength must be checked for unbraced flanges.
6. Allowable loads assume the use of plates or clips at supports which will effectively transfer support loads directly to the web of the member. If sections are to bear directly on the supports, the sections must be checked for web crippling strength.

## Physical/Structural Properties Zee

Dimensions					Gross Properties								
D (in)	B (in)	d (in)	Gauge	t <sup>(3)</sup> (in)	Area (in <sup>2</sup> )	Wt/ft (lb/ft)	I <sub>xx</sub> (in <sup>4</sup> )	r <sub>x</sub> (in)	I <sub>yy</sub> (in <sup>4</sup> )	r <sub>y</sub> (in)	J (in <sup>4</sup> )	C <sub>w</sub> (in <sup>6</sup> )	R <sub>o</sub> (in)
4	2	0.75	16	0.056	0.511	1.737	1.330	1.613	0.674	1.148	0.00053	1.78	1.981
4	2.5	0.75	16	0.056	0.567	1.928	1.547	1.652	1.147	1.422	0.00059	2.84	2.180
		0.75	14	0.069	0.696	2.366	1.885	1.646	1.397	1.417	0.00110	3.43	2.172
4	3.5	0.75	16	0.056	0.679	2.309	1.983	1.709	2.656	1.978	0.00071	5.89	2.614
		0.75	14	0.069	0.834	2.836	2.418	1.703	3.243	1.972	0.00132	7.14	2.606
6	2.5	0.75	16	0.056	0.679	2.309	3.905	2.398	1.147	1.300	0.00071	6.90	2.728
		0.75	14	0.069	0.834	2.836	4.770	2.392	1.397	1.294	0.00132	8.37	2.720
8	2.5	0.75	16	0.056	0.791	2.689	7.621	3.104	1.147	1.204	0.00083	13.05	3.329
		0.75	14	0.069	0.972	3.305	9.323	3.097	1.397	1.199	0.00154	15.84	3.322
		0.75	12	0.096	1.343	4.566	12.777	3.084	1.897	1.188	0.00413	21.40	3.305
8	3.5	0.75	16	0.056	0.903	3.070	9.388	3.224	2.656	1.715	0.00094	27.62	3.652
		0.75	14	0.069	1.110	3.774	11.494	3.218	3.243	1.709	0.00176	33.62	3.644
		0.75	12	0.096	1.535	5.219	15.775	3.206	4.429	1.699	0.00472	45.65	3.628
9	3	0.75	14	0.069	1.110	3.774	13.688	3.512	2.193	1.406	0.00176	30.87	3.783
		0.75	12	0.096	1.535	5.219	18.793	3.499	2.988	1.395	0.00472	41.86	3.767
10	2.5	0.75	16	0.056	0.903	3.070	12.920	3.783	1.147	1.127	0.00094	21.36	3.947
		0.75	14	0.069	1.110	3.774	15.820	3.775	1.397	1.122	0.00176	25.94	3.939
		0.75	12	0.096	1.535	5.219	21.723	3.762	1.897	1.112	0.00472	35.10	3.922
10	3.5	0.75	14	0.069	1.248	4.243	19.223	3.925	3.243	1.612	0.00198	55.51	4.243
		0.75	12	0.096	1.727	5.872	26.431	3.912	4.429	1.601	0.00531	75.50	4.227
12	2.5	0.75	14	0.069	1.248	4.243	24.538	4.434	1.397	1.058	0.00198	38.74	4.559
		0.75	12	0.096	1.727	5.872	33.741	4.420	1.897	1.048	0.00531	52.46	4.542
12	3.5	0.75	14	0.069	1.386	4.712	29.449	4.609	3.243	1.530	0.00220	83.47	4.857
		0.75	12	0.096	1.919	6.525	40.543	4.596	4.429	1.519	0.00590	113.64	4.841
12	4	0.75	16	0.056	1.183	4.022	26.017	4.690	3.748	1.780	0.00124	93.49	5.016

**Notes:**

1. Section properties and allowables are calculated in accordance with North American Specification for the Design of Cold-Formed Steel Structural Members (2007 Edition)
2. Properties based on yield stress, F<sub>y</sub> = 55 ksi.
3. Thickness indicated represents the design thickness. Minimum deliverable bare steel thickness equals 0.95 x design thickness in accordance with Section A2.4 of the AISI Specification.
4. D = depth, B = flange width, d = lip length





**Physical/Structural Properties**  
**Zee**

Dimensions				Effective Properties					Allowable Web Crippling Loads, P <sub>a</sub> (lb/web)					
									Exterior			Interior		
D (in)	B (in)	Gauge	t <sup>(3)</sup> (in)	I <sub>xe</sub> <sup>(4)</sup> (in <sup>4</sup> )	S <sub>xe</sub> (in <sup>3</sup> )	A <sub>e</sub> (in <sup>2</sup> )	M <sub>a</sub> (ft-lb)	V <sub>a</sub> (lb)	Bearing Length			Bearing Length		
									2"	3"	4"	2"	3"	4"
4	2	16	0.056	1.260	0.606	0.380	1662	3462	763	879	977	1331	1467	1582
4	2.5	16	0.056	1.379	0.637	0.389	1749	3462	763	879	977	1331	1467	1582
		14	0.069	1.714	0.801	0.519	2199	4962	1139	1306	1447	2087	2288	2458
4	3.5	16	0.056	1.569	0.676	0.397	1854	3462	763	879	977	1331	1467	1582
		14	0.069	1.980	0.868	0.540	2381	4962	1139	1306	1447	2087	2288	2458
6	2.5	16	0.056	3.500	1.090	0.397	2990	2835	727	837	930	1302	1435	1548
		14	0.069	4.351	1.367	0.534	3752	5255	1091	1251	1386	2046	2244	2410
8	2.5	16	0.056	6.693	1.540	0.400	4228	2080	697	803	892	1278	1409	1519
		14	0.069	8.547	2.029	0.540	5569	3904	1051	1206	1336	2012	2207	2371
		12	0.096	12.415	3.046	0.925	8359	10173	1995	2270	2503	4051	4406	4705
8	3.5	16	0.056	7.292	1.559	0.408	4278	2080	697	803	892	1278	1409	1519
		14	0.069	9.664	2.183	0.561	5991	3904	1051	1206	1336	2012	2207	2371
		12	0.096	13.917	3.223	0.937	8846	10173	1995	2270	2503	4051	4406	4705
9	3	14	0.069	11.905	2.433	0.556	6678	3444	1033	1185	1313	1997	2190	2353
		12	0.096	17.395	3.689	0.935	10125	9336	1967	2239	2468	4025	4378	4675
10	2.5	16	0.056	10.776	1.906	0.402	5232	1643	670	772	858	1257	1386	1494
		14	0.069	14.129	2.631	0.544	7220	3081	1017	1166	1292	1983	2175	2336
		12	0.096	21.121	4.153	0.936	11397	8346	1941	2209	2435	4001	4352	4648
10	3.5	14	0.069	15.488	2.711	0.565	7441	3081	1017	1166	1292	1983	2175	2336
		12	0.096	23.487	4.387	0.948	12039	8346	1941	2209	2435	4001	4352	4648
12	2.5	14	0.069	20.276	2.929	0.547	8040	2545	985	1130	1252	1957	2146	2305
		12	0.096	31.198	4.855	0.943	13326	6886	1892	2154	2374	3957	4304	4596
12	3.5	14	0.069	22.816	3.237	0.568	8884	2545	985	1130	1252	1957	2146	2305
		12	0.096	36.207	5.665	0.955	15548	6886	1892	2154	2374	3957	4304	4596
12	4	16**	0.056	17.669	2.327	0.410	6387	1357	647	745	828	1238	1365	1472

**Notes:**

1. Section properties and allowables are calculated in accordance with North American Specification for the Design of Cold-Formed Steel Structural Members (2007 Edition)
2. Properties based on yield stress, F<sub>y</sub> = 55 ksi.
3. Thickness indicated represents the design thickness. Minimum deliverable bare steel thickness equals 0.95 x design thickness in accordance with Section A2.4 of the AISI Specification.
4. Effective moment of inertia, I<sub>xx</sub>, represents the moment of inertia for deflection, based on Procedure 1 of the AISI Specification.
5. M<sub>a</sub> is allowable bending moment about X-X axis based on fully braced flanges.
6. Allowable web crippling loads are based on section fastened to support.

\*\* h/t exceeds 200.

## Allowable Loads for Simple Span Condition Zee

Dimensions			Criteria	Allowable Loads (plf)																
D (in)	B (in)	Ga.		Span (ft)																
				10	12	14	16	18	20	22	24	26	28	30	32	34	36	38	40	
4	2	16	L	132	92	67	51	41	33	27	23	-	-	-	-	-	-	-	-	
			D	0.79	1.14	1.55	2.02	2.56	3.16	3.83	4.55	-	-	-	-	-	-	-	-	-
4	2.5	16	L	139	97	71	54	43	34	28	24	20	-	-	-	-	-	-	-	
			D	0.74	1.07	1.46	1.90	2.41	2.97	3.60	4.28	5.03	-	-	-	-	-	-	-	-
		14	L	175	122	89	68	54	43	36	30	26	22	-	-	-	-	-	-	-
			D	0.76	1.09	1.48	1.94	2.45	3.03	3.67	4.36	5.12	5.94	-	-	-	-	-	-	-
4	3.5	16	L	148	103	75	57	45	37	30	25	21	-	-	-	-	-	-	-	
			D	0.66	0.95	1.30	1.70	2.15	2.65	3.21	3.82	4.48	-	-	-	-	-	-	-	-
		14	L	190	132	97	74	58	47	39	33	28	24	21	-	-	-	-	-	-
			D	0.68	0.98	1.34	1.75	2.21	2.73	3.31	3.94	4.62	5.36	6.15	-	-	-	-	-	-
6	2.5	16	L	239	166	122	93	73	59	49	41	35	30	26	23	20	-	-	-	
			D	0.50	0.72	0.98	1.29	1.63	2.01	2.43	2.89	3.39	3.94	4.52	5.14	5.80	-	-	-	-
		14	L	300	208	153	117	92	75	62	52	44	38	33	29	25	23	20	-	-
			D	0.51	0.73	1.00	1.31	1.65	2.04	2.47	2.94	3.45	4.00	4.59	5.22	5.89	6.61	7.36	-	-
8	2.5	16	L	338	234	172	132	104	84	69	58	50	43	37	33	29	26	23	21	
			D	0.37	0.53	0.72	0.94	1.19	1.47	1.78	2.12	2.49	2.89	3.32	3.77	4.26	4.77	5.32	5.89	-
		14	L	445	309	227	174	137	111	92	77	65	56	49	43	38	34	30	27	-
			D	0.39	0.56	0.76	0.99	1.25	1.54	1.87	2.22	2.61	3.03	3.47	3.95	4.46	5.00	5.57	6.17	-
		12	L	668	464	341	261	206	167	138	116	98	85	74	65	57	51	46	41	-
			D	0.41	0.59	0.80	1.04	1.32	1.63	1.97	2.34	2.75	3.19	3.66	4.17	4.70	5.27	5.88	6.51	-
8	3.5	16	L	342	237	174	133	105	85	70	59	50	43	38	33	29	26	23	21	
			D	0.33	0.47	0.64	0.84	1.06	1.31	1.58	1.88	2.21	2.56	2.94	3.35	3.78	4.23	4.72	5.23	-
		14	L	479	332	244	187	147	119	99	83	70	61	53	46	41	36	33	29	-
			D	0.36	0.51	0.70	0.91	1.15	1.42	1.72	2.05	2.41	2.79	3.20	3.64	4.11	4.61	5.14	5.69	-
		12	L	707	491	361	276	218	176	146	122	104	90	78	69	61	54	49	44	-
			D	0.37	0.53	0.73	0.95	1.20	1.49	1.80	2.14	2.51	2.91	3.34	3.80	4.29	4.81	5.36	5.94	-

**Notes:**

1. L = Allowable total load (plf) that can be supported by the section. The weight of the section has not been subtracted from these values.
2. D = Deflections (in) shown above occur when the full allowable loads are applied. For applications with special deflection requirements, it may be necessary to modify the allowable loads. Refer to sample calculations in General Information.
3. Section properties and allowables are calculated in accordance with North American Specification for the Design of Cold-Formed Steel Structural Members (2007 Edition)
4. These values are valid only if the compressions flange is adequately supported laterally. For special conditions such as members with laterally unsupported sections and non-uniform spans, contact Central State Mfg. to obtain allowable loads.
5. Loads based on flexural strength due to distortional buckling strength must be checked for unbraced flanges.
6. Allowable loads assume the use of plates or clips at supports which will effectively transfer support loads directly to the web of the member. If sections are to bear directly on the supports, the sections must be checked for web crippling strength.

## Allowable Loads for Simple Span Condition Zee

Dimensions			Criteria	Allowable Loads (plf)																
D (in)	B (in)	Ga.		Span (ft)																
				10	12	14	16	18	20	22	24	26	28	30	32	34	36	38	40	
9	3	14	L	534	370	272	208	164	133	110	92	79	68	59	52	46	41	36	33	
			D	0.33	0.47	0.64	0.83	1.06	1.30	1.58	1.88	2.20	2.56	2.93	3.34	3.77	4.22	4.71	5.22	
		12	L	810	562	413	316	250	202	167	140	119	103	90	79	70	62	56	50	
			D	0.35	0.50	0.68	0.89	1.12	1.38	1.67	1.99	2.34	2.71	3.11	3.54	4.00	4.48	4.99	5.53	
10	2.5	16	L	418	290	213	163	129	104	86	72	61	53	46	40	36	32	28	26	
			D	0.28	0.40	0.54	0.71	0.90	1.11	1.34	1.60	1.88	2.18	2.50	2.85	3.21	3.60	4.01	4.45	
		14	L	577	401	294	225	178	144	119	100	85	73	64	56	49	44	40	36	
			D	0.30	0.43	0.59	0.77	0.97	1.20	1.45	1.73	2.03	2.35	2.70	3.07	3.47	3.89	4.33	4.80	
		12	L	911	633	465	356	281	227	188	158	134	116	101	89	78	70	63	56	
			D	0.33	0.47	0.64	0.83	1.06	1.30	1.58	1.88	2.20	2.56	2.94	3.34	3.77	4.23	4.71	5.22	
10	3.5	14	L	595	413	303	232	183	148	122	103	88	75	66	58	51	45	41	37	
			D	0.27	0.39	0.53	0.69	0.88	1.09	1.31	1.56	1.83	2.13	2.44	2.78	3.14	3.52	3.92	4.34	
		12	L	963	668	491	376	297	240	198	167	142	122	107	94	83	74	66	60	
			D	0.30	0.43	0.59	0.77	0.97	1.20	1.45	1.73	2.03	2.35	2.70	3.07	3.47	3.89	4.34	4.80	
12	2.5	14	L	643	446	328	251	198	160	132	111	95	82	71	62	55	49	44	40	
			D	0.23	0.33	0.44	0.58	0.73	0.90	1.09	1.30	1.53	1.77	2.03	2.32	2.61	2.93	3.26	3.62	
		12	L	1066	740	543	416	329	266	220	185	157	135	118	104	92	82	73	66	
			D	0.25	0.37	0.50	0.65	0.82	1.01	1.23	1.46	1.72	1.99	2.28	2.60	2.93	3.29	3.66	4.06	
12	3.5	14	L	710	493	362	277	219	177	146	123	105	90	78	69	61	54	49	44	
			D	0.22	0.31	0.42	0.55	0.70	0.87	1.05	1.25	1.46	1.70	1.95	2.22	2.50	2.81	3.13	3.47	
		12	L	1243	863	634	485	383	310	256	215	184	158	138	121	107	95	86	77	
			D	0.25	0.36	0.49	0.65	0.82	1.01	1.22	1.45	1.70	1.98	2.27	2.58	2.91	3.27	3.64	4.03	
12	4	16	L	510	354	260	199	157	127	105	88	75	65	56	49	44	39	35	31	
			D	0.19	0.27	0.37	0.49	0.62	0.76	0.92	1.10	1.29	1.49	1.72	1.95	2.20	2.47	2.75	3.05	

### Notes:

1. L = Allowable total load (plf) that can be supported by the section. The weight of the section has not been subtracted from these values.
2. D = Deflections (in) shown above occur when the full allowable loads are applied. For applications with special deflection requirements, it may be necessary to modify the allowable loads. Refer to sample calculations in General Information.
3. Section properties and allowables are calculated in accordance with North American Specification for the Design of Cold-Formed Steel Structural Members (2007 Edition)
4. These values are valid only if the compressions flange is adequately supported laterally. For special conditions such as members with laterally unsupported sections and non-uniform spans, contact Central State Mfg. to obtain allowable loads.
5. Loads based on flexural strength due to distortional buckling strength must be checked for unbraced flanges.
6. Allowable loads assume the use of plates or clips at supports which will effectively transfer support loads directly to the web of the member. If sections are to bear directly on the supports, the sections must be checked for web crippling strength.

## Physical/Structural Properties Zee (HS)

Dimensions					Gross Properties								
D (in)	B (in)	d (in)	Gauge	t <sup>(3)</sup> (in)	Area (in <sup>2</sup> )	Wt/ft (lb/ft)	I <sub>xx</sub> (in <sup>4</sup> )	r <sub>x</sub> (in)	I <sub>yy</sub> (in <sup>4</sup> )	r <sub>y</sub> (in)	J (in <sup>4</sup> )	C <sub>w</sub> (in <sup>6</sup> )	R <sub>o</sub> (in)
4	2	0.75	16*	0.051	0.466	1.584	1.216	1.615	0.618	1.152	0.00040	1.63	1.984
4	2.5	0.75	16*	0.051	0.517	1.758	1.415	1.654	1.050	1.425	0.00045	2.60	2.183
6	2.5	0.75	16*	0.051	0.619	2.105	3.568	2.401	1.050	1.302	0.00054	6.33	2.731
8	2.5	0.75	16*	0.051	0.721	2.451	6.960	3.107	1.050	1.207	0.00063	11.95	3.333

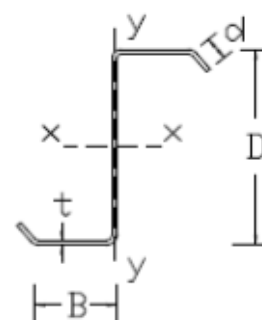
### Notes:

1. Section properties and allowables are calculated in accordance with North American Specification for the Design of Cold-Formed Steel Structural Members (2007 Edition)
2. Properties based on yield stress,  $F_y = 80$  ksi (A1011 HSLAS-F Grade 80).
3. Thickness indicated represents the design thickness. Minimum deliverable bare steel thickness equals  $0.95 \times$  design thickness in accordance with Section A2.4 of the AISI Specification.
4. D = depth, B = flange width, d = lip length

Dimensions				Effective Properties					Allowable Web Crippling Loads, P <sub>a</sub> (lb/web)					
									Exterior			Interior		
D (in)	B (in)	Gauge	t <sup>(3)</sup> (in)	I <sub>xe</sub> <sup>(4)</sup> (in <sup>4</sup> )	S <sub>xe</sub> (in <sup>3</sup> )	A <sub>e</sub> (in <sup>2</sup> )	M <sub>a</sub> (ft-lb)	V <sub>a</sub> (lb)	Bearing Length			Bearing Length		
									2"	3"	4"	2"	3"	4"
4	2	16*	0.051	1.080	0.500	0.290	1995	3351	926	1069	1189	1577	1743	1882
4	2.5	16*	0.051	1.174	0.522	0.295	2083	3351	926	1069	1189	1577	1743	1882
6	2.5	16*	0.051	2.899	0.848	0.299	3385	2137	879	1015	1130	1541	1703	1839
8	2.5	16*	0.051	5.357	1.130	0.301	4511	1569	841	971	1080	1511	1670	1803

### Notes:

1. Section properties and allowables are calculated in accordance with North American Specification for the Design of Cold-Formed Steel Structural Members (2007 Edition)
2. Properties based on yield stress,  $F_y = 80$  ksi (A1011 HSLAS-F Grade 80).
3. Thickness indicated represents the design thickness. Minimum deliverable bare steel thickness equals  $0.95 \times$  design thickness in accordance with Section A2.4 of the AISI Specification.
4. Effective moment of inertia, I<sub>xx</sub>, represents the moment of inertia for deflection, based on Procedure 1 of the AISI Specification.
5. M<sub>a</sub> is allowable bending moment about X-X axis based on fully braced flanges.
6. Allowable web crippling loads are based on section fastened to support.



**Allowable Loads for Simple Span Condition  
Zee (HS)**

Dimensions			Criteria	Allowable Loads (plf)																
D (in)	B (in)	Ga.		Span (ft)																
				10	12	14	16	18	20	22	24	26	28	30	32	34	36	38	40	
4	2	16*	L	159	110	81	62	49	39	32	27	23	20	-	-	-	-	-	-	
			D	0.95	1.37	1.86	2.43	3.07	3.80	4.59	5.46	6.41	7.44	-	-	-	-	-	-	
4	2.5	16*	L	166	115	85	65	51	41	34	28	24	21	-	-	-	-	-	-	
			D	0.89	1.28	1.74	2.27	2.87	3.54	4.29	5.10	5.99	6.95	-	-	-	-	-	-	
6	2.5	16*	L	270	188	138	105	83	67	55	47	40	34	30	26	23	20	-	-	
			D	0.57	0.82	1.11	1.45	1.84	2.27	2.75	3.27	3.84	4.45	5.11	5.82	6.57	7.36	-	-	
8	2.5	16*	L	360	250	184	140	111	90	74	62	53	46	40	35	31	27	24	22	
			D	0.39	0.57	0.77	1.01	1.27	1.57	1.90	2.26	2.66	3.08	3.54	4.02	4.54	5.09	5.68	6.29	

**Notes:**

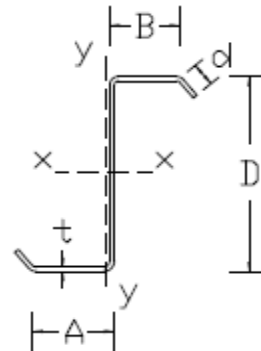
1. L = Allowable total load (plf) that can be supported by the section. The weight of the section has not been subtracted from these values.
2. D = Deflections (in) shown above occur when the full allowable loads are applied. For applications with special deflection requirements, it may be necessary to modify the allowable loads. Refer to sample calculations in General Information.
3. Section properties and allowables are calculated in accordance with North American Specification for the Design of Cold-Formed Steel Structural Members (2007 Edition)
4. These values are valid only if the compressions flange is adequately supported laterally. For special conditions such as members with laterally unsupported sections and non-uniform spans, contact Central State Mfg. to obtain allowable loads.
5. Loads based on flexural strength due to distortional buckling strength must be checked for unbraced flanges.
6. Allowable loads assume the use of plates or clips at supports which will effectively transfer support loads directly to the web of the member. If sections are to bear directly on the supports, the sections must be checked for web crippling strength.

**Physical/Structural Properties  
LGS1 Zee**

Dimensions						Gross Properties								
D (in)	A (in)	B (in)	d (in)	Gauge	t <sup>(3)</sup> (in)	Area (in <sup>2</sup> )	Wt/ft (lb/ft)	I <sub>xx</sub> (in <sup>4</sup> )	r <sub>x</sub> (in)	I <sub>yy</sub> (in <sup>4</sup> )	r <sub>y</sub> (in)	J (in <sup>4</sup> )	C <sub>w</sub> (in <sup>6</sup> )	R <sub>o</sub> (in)
6	2.38	2.13	0.75	16	0.056	0.651	2.213	3.655	2.370	0.893	1.171	0.00068	5.34	2.669
			0.75	14	0.069	0.799	2.717	4.463	2.363	1.086	1.166	0.00127	6.46	2.662
8	2.38	2.13	0.75	16	0.056	0.763	2.594	7.175	3.067	0.894	1.082	0.00080	10.10	3.291
			0.75	14	0.069	0.937	3.186	8.774	3.060	1.087	1.077	0.00149	12.24	3.283
			0.75	12	0.096	1.295	4.403	12.017	3.046	1.471	1.066	0.00398	16.45	3.268
8	3.38	3.13	0.75	16	0.056	0.875	2.975	8.942	3.197	2.204	1.587	0.00092	22.87	3.587
			0.75	14	0.069	1.075	3.655	10.945	3.191	2.689	1.582	0.00171	27.80	3.580
			0.75	12	0.096	1.487	5.055	15.017	3.178	3.666	1.570	0.00457	37.63	3.563
10	2.38	2.13	0.75	16	0.056	0.875	2.975	12.221	3.737	0.894	1.011	0.00092	16.52	3.924
			0.75	14	0.069	1.075	3.655	14.959	3.730	1.087	1.006	0.00171	20.04	3.916
			0.75	12	0.096	1.487	5.055	20.530	3.716	1.472	0.995	0.00457	26.98	3.901
10	2.88	2.63	0.75	14	0.069	1.144	3.890	16.661	3.816	1.770	1.244	0.00182	31.38	4.049
			0.75	12	0.096	1.583	5.382	22.885	3.802	2.407	1.233	0.00486	42.42	4.033
12	2.38	2.13	0.75	14	0.069	1.213	4.124	23.294	4.382	1.087	0.947	0.00193	29.90	4.550
			0.75	12	0.096	1.679	5.708	32.016	4.367	1.473	0.937	0.00516	40.30	4.534
12	3.38	3.13	0.75	16	0.056	1.099	3.737	23.011	4.576	2.204	1.416	0.00115	56.71	4.822
			0.75	14	0.069	1.351	4.594	28.206	4.569	2.690	1.411	0.00214	69.06	4.814
			0.75	12	0.096	1.871	6.361	38.820	4.555	3.668	1.400	0.00575	93.74	4.798

**Notes:**

1. Section properties and allowables are calculated in accordance with North American Specification for the Design of Cold-Formed Steel Structural Members (2007 Edition)
2. Properties based on yield stress,  $F_y = 55$  ksi.
3. Thickness indicated represents the design thickness. Minimum deliverable bare steel thickness equals 0.95 x design thickness in accordance with Section A2.4 of the AISI Specification.
4. D = depth, A = bottom flange width, B = top flange width, d = lip length



**Physical/Structural Properties  
LGSI Zee**

Dimensions					Effective Properties					Allowable Web Crippling Loads, P <sub>a</sub> (lb/web)					
										Exterior			Interior		
D (in)	A (in)	B (in)	Gauge	t <sup>(3)</sup> (in)	I <sub>xe</sub> <sup>(4)</sup> (in <sup>4</sup> )	S <sub>xc</sub> (in <sup>3</sup> )	A <sub>e</sub> (in <sup>2</sup> )	M <sub>a</sub> (ft-lb)	V <sub>a</sub> (lb)	Bearing Length			Bearing Length		
										2"	3"	4"	2"	3"	4"
6	2.38	2.13	16	0.056	3.323	1.063	0.392	2919	2835	727	837	930	1302	1435	1548
			14	0.069	4.139	1.340	0.542	3678	5255	1091	1251	1386	2046	2244	2410
8	2.38	2.13	16	0.056	6.465	1.510	0.396	4144	2080	697	803	892	1278	1409	1519
			14	0.069	8.163	1.988	0.549	5457	3904	1051	1206	1336	2012	2207	2371
			12	0.096	11.870	2.938	0.919	8065	10173	1995	2270	2503	4051	4406	4705
8	3.38	3.13	16	0.056	7.118	1.555	0.408	4269	2080	697	803	892	1278	1409	1519
			14	0.069	9.326	2.152	0.559	5906	3904	1051	1206	1336	2012	2207	2371
			12	0.096	13.395	3.168	0.931	8693	10173	1995	2270	2503	4051	4406	4705
10	2.38	2.13	16	0.056	10.151	1.772	0.398	4864	1643	670	772	858	1257	1386	1494
			14	0.069	13.040	2.377	0.553	6523	3081	1017	1166	1292	1983	2175	2336
			12	0.096	19.795	3.832	0.930	10516	8346	1941	2209	2435	4001	4352	4648
10	2.88	2.63	14	0.069	14.458	2.639	0.552	7243	3081	1017	1166	1292	1983	2175	2336
			12	0.096	21.528	4.212	0.943	11560	8346	1941	2209	2435	4001	4352	4648
12	2.38	2.13	14	0.069	19.624	2.901	0.555	7961	2545	985	1130	1252	1957	2146	2305
			12	0.096	30.114	4.734	0.937	12993	6886	1892	2154	2374	3957	4304	4596
12	3.38	3.13	16**	0.056	16.876	2.326	0.411	6384	1357	647	745	828	1238	1365	1472
			14	0.069	22.303	3.209	0.565	8807	2545	986	1131	1253	1957	2146	2306
			12	0.096	35.053	5.585	0.948	15329	6886	2421	2755	3037	4442	4831	5159

**Notes:**

1. Section properties and allowables are calculated in accordance with North American Specification for the Design of Cold-Formed Steel Structural Members (2007 Edition)
2. Properties based on yield stress, F<sub>y</sub> = 55 ksi.
3. Thickness indicated represents the design thickness. Minimum deliverable bare steel thickness equals 0.95 x design thickness in accordance with Section A2.4 of the AISI Specification.
4. Effective moment of inertia, I<sub>xx</sub>, represents the moment of inertia for deflection, based on Procedure 1 of the AISI Specification.
5. M<sub>a</sub> is allowable bending moment about X-X axis based on fully braced flanges.
6. Allowable web crippling loads are based on section fastened to support.

\*\* h/t exceeds 200.

**Allowable Loads for Simple Span Condition**  
**Zee - LGSI**

Dimensions				Criteria	Allowable Loads (plf)															
D (in)	A (in)	B (in)	Ga.		Span (ft)															
					10	12	14	16	18	20	22	24	26	28	30	32	34	36	38	40
6	2.38	2.13	16	L	233	162	119	91	72	58	48	40	34	29	25	22	20	-	-	-
				D	0.52	0.75	1.02	1.33	1.68	2.07	2.51	2.99	3.51	4.07	4.67	5.31	5.99	-	-	-
			14	L	294	204	150	114	90	73	60	51	43	37	32	28	25	22	20	-
				D	0.53	0.76	1.04	1.35	1.71	2.11	2.56	3.04	3.57	4.14	4.76	5.41	6.11	6.85	7.63	-
8	2.38	2.13	16	L	331	230	169	129	102	82	68	57	49	42	36	32	28	25	22	20
				D	0.38	0.54	0.74	0.97	1.22	1.51	1.83	2.17	2.55	2.96	3.40	3.86	4.36	4.89	5.45	6.04
			14	L	436	303	222	170	134	109	90	75	64	55	48	42	37	33	30	27
				D	0.40	0.57	0.78	1.02	1.29	1.59	1.93	2.29	2.69	3.12	3.58	4.07	4.60	5.16	5.75	6.37
			12	L	645	448	329	252	199	161	133	112	95	82	71	63	55	49	44	40
				D	0.41	0.59	0.81	1.06	1.34	1.65	2.00	2.38	2.79	3.24	3.72	4.23	4.77	5.35	5.96	6.61
8	3.38	3.13	16	L	341	237	174	133	105	85	70	59	50	43	37	33	29	26	23	21
				D	0.34	0.49	0.66	0.86	1.09	1.35	1.63	1.94	2.28	2.64	3.03	3.45	3.90	4.37	4.87	5.39
			14	L	472	328	241	184	145	118	97	82	69	60	52	46	40	36	32	29
				D	0.37	0.53	0.72	0.94	1.18	1.46	1.77	2.10	2.47	2.86	3.29	3.74	4.22	4.73	5.27	5.84
			12	L	695	482	354	271	214	173	143	120	102	88	77	67	60	53	48	43
				D	0.38	0.55	0.75	0.97	1.23	1.52	1.84	2.19	2.57	2.98	3.43	3.90	4.40	4.93	5.50	6.09

**Notes:**

1. L = Allowable total load (plf) that can be supported by the section. The weight of the section has not been subtracted from these values.
2. D = Deflections (in) shown above occur when the full allowable loads are applied. For applications with special deflection requirements, it may be necessary to modify the allowable loads. Refer to sample calculations in General Information.
3. Section properties and allowables are calculated in accordance with North American Specification for the Design of Cold-Formed Steel Structural Members (2007 Edition)
4. These values are valid only if the compressions flange is adequately supported laterally. For special conditions such as members with laterally unsupported sections and non-uniform spans, contact Central State Mfg. to obtain allowable loads.
5. Loads based on flexural strength due to distortional buckling strength must be checked for unbraced flanges.
6. Allowable loads assume the use of plates or clips at supports which will effectively transfer support loads directly to the web of the member. If sections are to bear directly on the supports, the sections must be checked for web crippling strength.



**Allowable Loads for Simple Span Condition**  
**Zee - LGSI**

Dimensions				Criteria	Allowable Loads (plf)															
D (in)	A (in)	B (in)	Ga.		Span (ft)															
					10	12	14	16	18	20	22	24	26	28	30	32	34	36	38	40
10	2.38	2.13	16	L	389	270	198	151	120	97	80	67	57	49	43	37	33	30	26	24
				D	0.27	0.39	0.54	0.70	0.89	1.10	1.32	1.58	1.85	2.15	2.46	2.80	3.16	3.55	3.95	4.38
			14	L	521	362	266	203	161	130	107	90	77	66	57	50	45	40	36	32
				D	0.29	0.42	0.57	0.74	0.94	1.16	1.41	1.68	1.97	2.28	2.62	2.98	3.36	3.77	4.20	4.66
			12	L	841	584	429	328	259	210	173	146	124	107	93	82	72	64	58	52
				D	0.32	0.46	0.63	0.82	1.04	1.28	1.55	1.84	2.16	2.51	2.88	3.28	3.70	4.15	4.62	5.12
10	2.88	2.63	14	L	579	402	295	226	178	144	119	100	85	73	64	56	50	44	40	36
				D	0.29	0.42	0.57	0.74	0.94	1.16	1.41	1.68	1.97	2.28	2.62	2.98	3.36	3.77	4.20	4.65
			12	L	924	642	471	361	285	231	191	160	136	117	102	90	79	71	64	57
				D	0.32	0.46	0.63	0.82	1.04	1.28	1.55	1.85	2.17	2.52	2.89	3.29	3.71	4.16	4.63	5.13
12	2.38	2.13	14	L	636	442	324	248	196	159	131	110	94	81	70	62	55	49	44	39
				D	0.23	0.34	0.46	0.60	0.75	0.93	1.13	1.34	1.58	1.83	2.10	2.39	2.69	3.02	3.36	3.73
			12	L	1039	721	530	406	320	259	214	180	153	132	115	101	89	80	71	64
				D	0.26	0.37	0.51	0.66	0.84	1.03	1.25	1.49	1.74	2.02	2.32	2.64	2.98	3.34	3.72	4.13
12	3.38	3.13	16	L	510	354	260	199	157	127	105	88	75	65	56	49	44	39	35	31
				D	0.21	0.30	0.40	0.53	0.67	0.82	1.00	1.19	1.39	1.61	1.85	2.11	2.38	2.67	2.97	3.29
			14	L	704	489	359	275	217	176	145	122	104	89	78	64	53	45	38	33
				D	0.22	0.32	0.43	0.57	0.72	0.89	1.07	1.28	1.50	1.74	1.99	2.27	2.56	2.87	3.20	3.54
			12	L	1226	851	625	479	378	306	253	212	181	156	117	96	80	68	57	49
				D	0.26	0.37	0.50	0.66	0.83	1.03	1.25	1.48	1.74	2.02	2.32	2.64	2.98	3.34	3.72	4.12

**Notes:**

1. L = Allowable total load (plf) that can be supported by the section. The weight of the section has not been subtracted from these values.
2. D = Deflections (in) shown above occur when the full allowable loads are applied. For applications with special deflection requirements, it may be necessary to modify the allowable loads. Refer to sample calculations in General Information.
3. Section properties and allowables are calculated in accordance with North American Specification for the Design of Cold-Formed Steel Structural Members (2007 Edition)
4. These values are valid only if the compressions flange is adequately supported laterally. For special conditions such as members with laterally unsupported sections and non-uniform spans, contact Central State Mfg. to obtain allowable loads.
5. Loads based on flexural strength due to distortional buckling strength must be checked for unbraced flanges.
6. Allowable loads assume the use of plates or clips at supports which will effectively transfer support loads directly to the web of the member. If sections are to bear directly on the supports, the sections must be checked for web crippling strength.

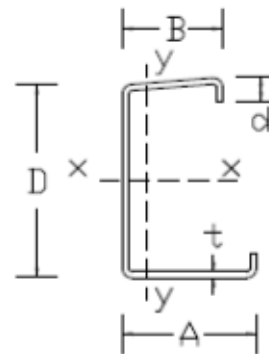
**Physical/Structural Properties  
Eave Strut Single Slope Up  
Slope 1:12**

Dimensions						Gross Properties								
D (in)	A (in)	B (in)	d (in)	Gauge	t <sup>(3)</sup> (in)	Area (in <sup>2</sup> )	Wt/ft (lb/ft)	I <sub>xx</sub> (in <sup>4</sup> )	r <sub>x</sub> (in)	I <sub>yy</sub> (in <sup>4</sup> )	r <sub>y</sub> (in)	J (in <sup>4</sup> )	C <sub>w</sub> (in <sup>6</sup> )	R <sub>o</sub> (in)
6	4	3	0.75	16	0.056	0.779	2.647	4.899	2.509	1.379	1.331	0.00081	8.62	4.023
			0.75	14	0.069	0.955	3.247	5.979	2.502	1.676	1.325	0.00152	10.38	4.006
			0.75	12	0.096	1.316	4.474	8.152	2.489	2.265	1.312	0.00404	13.79	3.970
8	4	3	0.75	14	0.069	1.093	3.716	11.406	3.231	1.841	1.298	0.00173	19.36	4.391
			0.75	12	0.096	1.508	5.127	15.597	3.216	2.489	1.285	0.00463	25.82	4.358
8	5	3	0.75	14	0.069	1.162	3.951	12.317	3.256	2.873	1.573	0.00184	22.89	4.820
			0.75	12	0.096	1.604	5.453	16.854	3.242	3.903	1.560	0.00493	30.53	4.787
10	5	3	0.75	14	0.069	1.300	4.420	20.469	3.968	3.069	1.537	0.00206	37.61	5.347

Dimensions					Effective Properties					Allowable Web Crippling Loads, P <sub>a</sub> (lb/web)					
										Exterior			Interior		
D (in)	A (in)	B (in)	Gauge	t <sup>(3)</sup> (in)	I <sub>xe</sub> <sup>(4)</sup> (in <sup>4</sup> )	S <sub>xc</sub> (in <sup>3</sup> )	A <sub>e</sub> (in <sup>2</sup> )	M <sub>a</sub> (ft-lb)	V <sub>a</sub> (lb)	Bearing Length			Bearing Length		
										2"	3"	4"	2"	3"	4"
6	4	3	16	0.056	3.871	1.123	0.407	3082	2834	727	837	930	1302	1435	1548
			14	0.069	4.874	1.425	0.555	3911	5272	1091	1251	1386	2046	2244	2410
			12	0.096	7.029	2.138	0.924	5868	10204	2057	2341	2580	4108	4467	4771
8	4	3	14	0.069	9.410	2.103	0.562	5772	3903	1051	1206	1336	2012	2207	2371
			12	0.096	13.539	3.160	0.942	8672	10196	1995	2270	2503	4051	4406	4705
8	5	3	14	0.069	9.414	2.077	0.562	5701	3903	1051	1206	1336	2012	2207	2371
			12	0.096	13.623	3.251	0.947	8923	10196	1995	2270	2503	4051	4406	4705
10	5	3	14	0.069	15.312	2.612	0.566	7169	3080	1017	1166	1292	1983	2175	2336

**Notes:**

1. Section properties and allowables are calculated in accordance with North American Specification for the Design of Cold-Formed Steel Structural Members (2007 Edition)
2. Properties based on yield stress, F<sub>y</sub> = 55 ksi.
3. Thickness indicated represents the design thickness. Minimum deliverable bare steel thickness equals 0.95 x design thickness in accordance with Section A2.4 of the AISI Specification.
4. Effective moment of inertia, I<sub>xx</sub>, represents the moment of inertia for deflection, based on Procedure 1 of the AISI Specification.
5. M<sub>a</sub> is allowable bending moment about X-X axis based on fully braced flanges.
6. Allowable web crippling loads are based on section fastened to support.
7. D = depth, A = bottom flange width, B = top flange width, d = lip length



**Allowable Loads for Simple Span Condition  
Eave Strut Single Slope Up  
Slope 1:12**

Dimensions				Criteria	Allowable Loads (plf)															
D (in)	A (in)	B (in)	Ga.		Span (ft)															
					10	12	14	16	18	20	22	24	26	28	30	32	34	36	38	40
6	4	3	16	L	246	171	125	96	76	61	50	42	36	31	27	24	21	-	-	-
				D	0.45	0.64	0.87	1.14	1.45	1.79	2.16	2.57	3.02	3.50	4.02	4.57	5.16	-	-	-
			14	L	312	217	159	122	96	78	64	54	46	39	34	30	27	24	21	-
				D	0.46	0.66	0.89	1.17	1.47	1.82	2.20	2.62	3.08	3.57	4.10	4.66	5.26	5.90	6.57	-
			12	L	469	326	239	183	144	117	96	81	69	59	52	45	40	36	32	29
				D	0.48	0.70	0.95	1.24	1.57	1.93	2.34	2.79	3.27	3.79	4.35	4.95	5.59	6.27	6.98	7.74
8	4	3	14	L	461	320	235	180	142	115	95	80	68	58	51	45	39	35	31	28
				D	0.35	0.50	0.69	0.89	1.13	1.40	1.69	2.01	2.36	2.74	3.15	3.58	4.04	4.53	5.05	5.59
			12	L	693	481	353	270	214	173	143	120	102	88	77	67	60	53	48	43
				D	0.37	0.54	0.73	0.95	1.21	1.49	1.80	2.14	2.51	2.92	3.35	3.81	4.30	4.82	5.37	5.95
			14	L	456	316	232	178	140	114	94	79	67	58	50	44	39	35	31	28
				D	0.34	0.48	0.66	0.86	1.09	1.34	1.62	1.93	2.26	2.63	3.02	3.43	3.87	4.34	4.84	5.36
8	5	3	14	L	713	495	364	278	220	178	147	123	105	91	79	69	61	55	49	44
				D	0.37	0.53	0.73	0.95	1.20	1.48	1.79	2.13	2.50	2.90	3.33	3.79	4.28	4.80	5.35	5.93
			12	L	573	398	292	224	177	143	118	99	84	73	63	56	49	44	39	35
				D	0.26	0.37	0.50	0.66	0.83	1.03	1.24	1.48	1.74	2.01	2.31	2.63	2.97	3.33	3.71	4.11
			14	L	573	398	292	224	177	143	118	99	84	73	63	56	49	44	39	35
				D	0.26	0.37	0.50	0.66	0.83	1.03	1.24	1.48	1.74	2.01	2.31	2.63	2.97	3.33	3.71	4.11

**Notes:**

1. L = Allowable total load (plf) that can be supported by the section. The weight of the section has not been subtracted from these values.
2. D = Deflections (in) shown above occur when the full allowable loads are applied. For applications with special deflection requirements, it may be necessary to modify the allowable loads. Refer to sample calculations in General Information.
3. Section properties and allowables are calculated in accordance with North American Specification for the Design of Cold-Formed Steel Structural Members (2007 Edition)
4. These values are valid only if the compressions flange is adequately supported laterally. For special conditions such as members with laterally unsupported sections and non-uniform spans, contact Central State Mfg. to obtain allowable loads.
5. Loads based on flexural strength due to distortional buckling strength must be checked for unbraced flanges.
6. Allowable loads assume the use of plates or clips at supports which will effectively transfer support loads directly to the web of the member. If sections are to bear directly on the supports, the sections must be checked for web crippling strength.

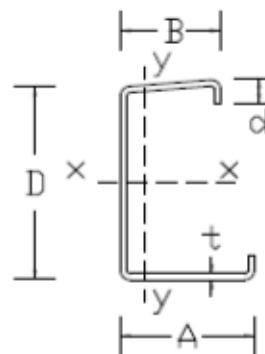
**Physical/Structural Properties  
Eave Strut Single Slope Up  
Slope 4:12**

Dimensions						Gross Properties								
D (in)	A (in)	B (in)	d (in)	Gauge	t <sup>(3)</sup> (in)	Area (in <sup>2</sup> )	Wt/ft (lb/ft)	I <sub>xx</sub> (in <sup>4</sup> )	r <sub>x</sub> (in)	I <sub>yy</sub> (in <sup>4</sup> )	r <sub>y</sub> (in)	J (in <sup>4</sup> )	C <sub>w</sub> (in <sup>6</sup> )	R <sub>o</sub> (in)
6	4	3	0.75	16	0.056	0.776	2.638	5.399	2.638	1.335	1.312	0.00081	7.10	4.079
			0.75	14	0.069	0.951	3.235	6.584	2.631	1.622	1.306	0.00151	8.54	4.060
			0.75	12	0.096	1.310	4.456	8.964	2.615	2.190	1.293	0.00403	11.31	4.022
8	4	3	0.75	14	0.069	1.089	3.704	12.180	3.344	1.777	1.277	0.00173	16.38	4.501
			0.75	12	0.096	1.502	5.108	16.633	3.327	2.399	1.264	0.00462	21.77	4.467
8	5	3	0.75	14	0.069	1.158	3.938	13.126	3.366	2.825	1.562	0.00184	19.07	4.917
			0.75	12	0.096	1.598	5.435	17.936	3.350	3.837	1.549	0.00491	25.34	4.882
10	5	3	0.75	14	0.069	1.296	4.408	21.440	4.067	3.013	1.525	0.00206	31.86	5.489

Dimensions					Effective Properties					Allowable Web Crippling Loads, P <sub>a</sub> (lb/web)					
										Exterior			Interior		
D (in)	A (in)	B (in)	Gauge	t <sup>(3)</sup> (in)	I <sub>xe</sub> <sup>(4)</sup> (in <sup>4</sup> )	S <sub>xc</sub> (in <sup>3</sup> )	A <sub>e</sub> (in <sup>2</sup> )	M <sub>a</sub> (ft-lb)	V <sub>a</sub> (lb)	Bearing Length			Bearing Length		
										2"	3"	4"	2"	3"	4"
6	4	3	16	0.056	4.384	1.059	0.407	2905	2930	727	837	930	1302	1435	1548
			14	0.069	5.443	1.291	0.544	3542	5488	1091	1251	1386	2046	2244	2410
			12	0.096	7.898	1.954	0.907	5361	10616	2057	2341	2580	4108	4467	4771
8	4	3	14	0.069	10.142	1.942	0.550	5330	3993	1051	1206	1336	2012	2207	2371
			12	0.096	14.665	2.907	0.925	7978	10498	1995	2270	2503	4051	4406	4705
8	5	3	14	0.069	10.150	1.937	0.550	5315	3993	1051	1206	1336	2012	2207	2371
			12	0.096	14.790	3.000	0.930	8232	10498	1995	2270	2503	4051	4406	4705
10	5	3	14	0.069	16.048	2.447	0.554	6715	3137	1017	1166	1292	1983	2175	2336

**Notes:**

1. Section properties and allowables are calculated in accordance with North American Specification for the Design of Cold-Formed Steel Structural Members (2007 Edition)
2. Properties based on yield stress, F<sub>y</sub> = 55 ksi.
3. Thickness indicated represents the design thickness. Minimum deliverable bare steel thickness equals 0.95 x design thickness in accordance with Section A2.4 of the AISI Specification.
4. Effective moment of inertia, I<sub>xx</sub>, represents the moment of inertia for deflection, based on Procedure 1 of the AISI Specification.
5. M<sub>a</sub> is allowable bending moment about X-X axis based on fully braced flanges.
6. Allowable web crippling loads are based on section fastened to support.
7. D = depth, A = bottom flange width, B = top flange width, d = lip length



**Allowable Loads for Simple Span Condition  
Eave Strut Single Slope Up  
Slope 4:12**

Dimensions				Criteria	Allowable Loads (plf)																		
D (in)	A (in)	B (in)	Ga.		Span (ft)																		
					10	12	14	16	18	20	22	24	26	28	30	32	34	36	38	40			
6	4	3	16	L	232	161	118	90	71	58	48	40	34	29	25	22	20	-	-	-			
				D	0.38	0.54	0.74	0.96	1.22	1.50	1.82	2.16	2.54	2.94	3.38	3.84	4.34	-	-	-			
			14	L	283	196	144	110	87	70	58	49	41	36	31	27	24	21	-	-			
				D	0.37	0.53	0.73	0.95	1.20	1.48	1.80	2.14	2.51	2.91	3.34	3.80	4.29	4.81	-	-			
			12	L	428	297	218	167	132	107	88	74	63	54	47	41	37	33	29	26			
				D	0.40	0.57	0.78	1.01	1.28	1.59	1.92	2.28	2.68	3.11	3.57	4.06	4.58	5.14	5.72	6.34			
8	4	3	14	L	426	296	217	166	131	106	88	74	63	54	47	41	36	32	29	26			
				D	0.30	0.43	0.59	0.77	0.97	1.20	1.45	1.73	2.03	2.36	2.70	3.08	3.47	3.90	4.34	4.81			
			12	L	638	443	325	249	196	159	131	110	94	81	70	62	55	49	44	39			
				D	0.32	0.46	0.62	0.81	1.03	1.27	1.54	1.83	2.15	2.49	2.86	3.25	3.67	4.12	4.59	5.08			
			8	5	3	14	L	425	295	216	166	131	106	87	73	62	54	47	41	36	32	29	26
							D	0.29	0.42	0.57	0.75	0.94	1.16	1.41	1.68	1.97	2.28	2.62	2.98	3.36	3.77	4.20	4.66
12	5	3	14	L	658	457	336	257	203	164	136	114	97	84	73	64	56	50	45	41			
				D	0.32	0.46	0.62	0.81	1.03	1.27	1.53	1.83	2.14	2.49	2.85	3.25	3.67	4.11	4.58	5.07			
10	5	3	14	L	537	373	274	209	165	134	110	93	79	68	59	52	46	41	37	33			
				D	0.23	0.33	0.45	0.59	0.74	0.92	1.11	1.32	1.55	1.80	2.07	2.35	2.65	2.98	3.32	3.67			

**Notes:**

1. L = Allowable total load (plf) that can be supported by the section. The weight of the section has not been subtracted from these values.
2. D = Deflections (in) shown above occur when the full allowable loads are applied. For applications with special deflection requirements, it may be necessary to modify the allowable loads. Refer to sample calculations in General Information.
3. Section properties and allowables are calculated in accordance with North American Specification for the Design of Cold-Formed Steel Structural Members (2007 Edition)
4. These values are valid only if the compressions flange is adequately supported laterally. For special conditions such as members with laterally unsupported sections and non-uniform spans, contact Central State Mfg. to obtain allowable loads.
5. Loads based on flexural strength due to distortional buckling strength must be checked for unbraced flanges.
6. Allowable loads assume the use of plates or clips at supports which will effectively transfer support loads directly to the web of the member. If sections are to bear directly on the supports, the sections must be checked for web crippling strength.

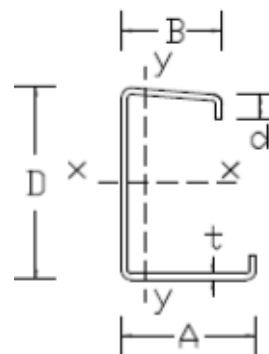
**Physical/Structural Properties  
Eave Strut Single Slope Down  
Slope 1:12**

Dimensions						Gross Properties								
D (in)	A (in)	B (in)	d (in)	Gauge	t <sup>(3)</sup> (in)	Area (in <sup>2</sup> )	Wt/ft (lb/ft)	I <sub>xx</sub> (in <sup>4</sup> )	r <sub>x</sub> (in)	I <sub>yy</sub> (in <sup>4</sup> )	r <sub>y</sub> (in)	J (in <sup>4</sup> )	C <sub>w</sub> (in <sup>6</sup> )	R <sub>o</sub> (in)
6	4	3	0.75	16	0.056	0.779	2.647	4.541	2.415	1.383	1.333	0.00081	9.38	3.968
			0.75	14	0.069	0.955	3.247	5.541	2.409	1.681	1.327	0.00152	11.31	3.951
			0.75	12	0.096	1.316	4.474	7.554	2.396	2.272	1.314	0.00404	15.02	3.916
8	4	3	0.75	14	0.069	1.093	3.716	10.820	3.146	1.848	1.300	0.00173	20.63	4.314
			0.75	12	0.096	1.508	5.127	14.796	3.132	2.500	1.288	0.00463	27.53	4.282
8	5	3	0.75	14	0.069	1.162	3.951	11.699	3.173	2.877	1.573	0.00184	24.49	4.745
			0.75	12	0.096	1.604	5.453	16.010	3.159	3.908	1.561	0.00493	32.70	4.714
10	5	3	0.75	14	0.069	1.300	4.420	19.700	3.893	3.075	1.538	0.00206	39.73	5.260

Dimensions					Effective Properties					Allowable Web Crippling Loads, P <sub>a</sub> (lb/web)					
										Exterior			Interior		
D (in)	A (in)	B (in)	Gauge	t <sup>(3)</sup> (in)	I <sub>xe</sub> <sup>(4)</sup> (in <sup>4</sup> )	S <sub>xc</sub> (in <sup>3</sup> )	A <sub>e</sub> (in <sup>2</sup> )	M <sub>a</sub> (ft-lb)	V <sub>a</sub> (lb)	Bearing Length			Bearing Length		
										2"	3"	4"	2"	3"	4"
6	4	3	16	0.056	3.569	1.108	0.412	3041	2855	727	837	930	1302	1435	1548
			14	0.069	4.497	1.421	0.561	3900	5272	1091	1251	1386	2046	2244	2410
			12	0.096	6.494	2.123	0.932	5827	10204	2057	2341	2580	4108	4467	4771
8	4	3	14	0.069	8.895	2.114	0.567	5803	3925	1051	1206	1336	2012	2207	2371
			12	0.096	12.812	3.135	0.951	8605	10196	1995	2270	2503	4051	4406	4705
8	5	3	14	0.069	8.899	2.092	0.567	5740	3925	1051	1206	1336	2012	2207	2371
			12	0.096	12.893	3.167	0.955	8691	10196	1995	2270	2503	4051	4406	4705
10	5	3	14	0.069	14.758	2.639	0.571	7243	3094	1017	1166	1292	1983	2175	2336

**Notes:**

1. Section properties and allowables are calculated in accordance with North American Specification for the Design of Cold-Formed Steel Structural Members (2007 Edition)
2. Properties based on yield stress, F<sub>y</sub> = 55 ksi.
3. Thickness indicated represents the design thickness. Minimum deliverable bare steel thickness equals 0.95 x design thickness in accordance with Section A2.4 of the AISI Specification.
4. Effective moment of inertia, I<sub>xx</sub>, represents the moment of inertia for deflection, based on Procedure 1 of the AISI Specification.
5. M<sub>a</sub> is allowable bending moment about X-X axis based on fully braced flanges.
6. Allowable web crippling loads are based on section fastened to support.
7. D = depth, A = bottom flange width, B = top flange width, d = lip length



**Allowable Loads for Simple Span Condition**  
**Eave Strut Single Slope Down**  
**Slope 1:12**

Dimensions				Criteria	Allowable Loads (plf)																		
D (in)	A (in)	B (in)	Ga.		Span (ft)																		
					10	12	14	16	18	20	22	24	26	28	30	32	34	36	38	40			
6	4	3	16	L	243	168	124	95	75	60	50	42	35	31	27	23	21	-	-	-			
				D	0.48	0.69	0.93	1.22	1.54	1.91	2.31	2.75	3.22	3.74	4.29	4.88	5.51	-	-	-			
			14	L	311	216	159	121	96	77	64	54	46	39	34	30	26	24	21	-			
				D	0.49	0.71	0.96	1.26	1.59	1.96	2.38	2.83	3.32	3.85	4.42	5.03	5.68	6.37	7.09	-			
			12	L	466	323	237	182	143	116	96	80	68	59	51	45	40	35	32	29			
				D	0.52	0.75	1.02	1.33	1.68	2.08	2.51	2.99	3.51	4.07	4.67	5.32	6.00	6.73	7.50	8.31			
8	4	3	14	L	464	322	236	181	143	116	95	80	68	59	51	45	40	35	32	29			
				D	0.37	0.53	0.73	0.95	1.20	1.48	1.80	2.14	2.51	2.91	3.34	3.80	4.29	4.81	5.36	5.94			
			12	L	688	478	351	268	212	172	142	119	101	87	76	67	59	53	47	43			
				D	0.39	0.56	0.76	1.00	1.26	1.56	1.89	2.24	2.63	3.06	3.51	3.99	4.50	5.05	5.63	6.24			
			8	5	3	14	L	459	318	234	179	141	114	94	79	67	58	51	44	39	35	31	28
							D	0.36	0.51	0.70	0.91	1.15	1.42	1.72	2.05	2.41	2.79	3.21	3.65	4.12	4.62	5.14	5.70
8	5	3	12	L	695	482	354	271	214	173	143	120	102	88	77	67	60	53	48	43			
				D	0.38	0.55	0.75	0.97	1.23	1.52	1.84	2.19	2.57	2.98	3.43	3.90	4.40	4.93	5.50	6.09			
10	5	3	14	L	579	402	295	226	178	144	119	100	85	73	64	56	50	44	40	36			
				D	0.27	0.39	0.53	0.69	0.87	1.08	1.30	1.55	1.82	2.11	2.42	2.76	3.11	3.49	3.89	4.31			

**Notes:**

1. L = Allowable total load (plf) that can be supported by the section. The weight of the section has not been subtracted from these values.
2. D = Deflections (in) shown above occur when the full allowable loads are applied. For applications with special deflection requirements, it may be necessary to modify the allowable loads. Refer to sample calculations in General Information.
3. Section properties and allowables are calculated in accordance with North American Specification for the Design of Cold-Formed Steel Structural Members (2007 Edition)
4. These values are valid only if the compressions flange is adequately supported laterally. For special conditions such as members with laterally unsupported sections and non-uniform spans, contact Central State Mfg. to obtain allowable loads.
5. Loads based on flexural strength due to distortional buckling strength must be checked for unbraced flanges.
6. Allowable loads assume the use of plates or clips at supports which will effectively transfer support loads directly to the web of the member. If sections are to bear directly on the supports, the sections must be checked for web crippling strength.

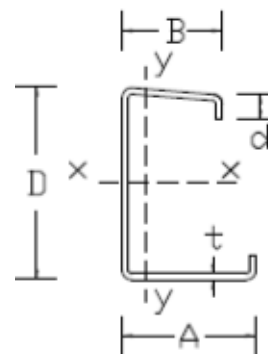
**Physical/Structural Properties  
Eave Strut Single Slope Down  
Slope 4:12**

Dimensions						Gross Properties								
D (in)	A (in)	B (in)	d (in)	Gauge	t <sup>(3)</sup> (in)	Area (in <sup>2</sup> )	Wt/ft (lb/ft)	I <sub>xx</sub> (in <sup>4</sup> )	r <sub>x</sub> (in)	I <sub>yy</sub> (in <sup>4</sup> )	r <sub>y</sub> (in)	J (in <sup>4</sup> )	C <sub>w</sub> (in <sup>6</sup> )	R <sub>o</sub> (in)
6	4	3	0.75	16	0.056	0.776	2.638	4.051	2.285	1.347	1.318	0.00081	9.86	3.848
			0.75	14	0.069	0.951	3.235	4.939	2.279	1.638	1.312	0.00151	11.88	3.832
			0.75	12	0.096	1.310	4.456	6.723	2.265	2.214	1.300	0.00403	15.75	3.800
8	4	3	0.75	14	0.069	1.089	3.704	9.976	3.026	1.802	1.286	0.00173	21.00	4.192
			0.75	12	0.096	1.502	5.108	13.628	3.012	2.438	1.274	0.00462	27.99	4.161
8	5	3	0.75	14	0.069	1.158	3.938	10.804	3.054	2.835	1.565	0.00184	24.80	4.625
			0.75	12	0.096	1.598	5.435	14.768	3.040	3.852	1.552	0.00491	33.07	4.595
10	5	3	0.75	14	0.069	1.296	4.408	18.548	3.783	3.031	1.529	0.00206	39.49	5.154

Dimensions					Effective Properties					Allowable Web Crippling Loads, P <sub>a</sub> (lb/web)					
										Exterior			Interior		
D (in)	A (in)	B (in)	Gauge	t <sup>(3)</sup> (in)	I <sub>xe</sub> <sup>(4)</sup> (in <sup>4</sup> )	S <sub>xc</sub> (in <sup>3</sup> )	A <sub>e</sub> (in <sup>2</sup> )	M <sub>a</sub> (ft-lb)	V <sub>a</sub> (lb)	Bearing Length			Bearing Length		
										2"	3"	4"	2"	3"	4"
6	4	3	16	0.056	3.165	1.028	0.417	2821	3016	727	837	930	1302	1435	1548
			14	0.069	3.990	1.319	0.565	3620	5495	1091	1251	1386	2046	2244	2410
			12	0.096	5.778	1.944	0.939	5334	10632	2057	2341	2580	4108	4467	4771
8	4	3	14	0.069	8.163	1.999	0.572	5486	4089	1051	1206	1336	2012	2207	2371
			12	0.096	11.766	2.968	0.959	8144	10506	1995	2270	2503	4051	4406	4705
8	5	3	14	0.069	8.171	1.979	0.572	5433	4089	1051	1206	1336	2012	2207	2371
			12	0.096	11.842	2.998	0.963	8227	10506	1995	2270	2503	4051	4406	4705
10	5	3	14	0.069	13.963	2.538	0.576	6965	3196	1017	1166	1292	1983	2175	2336

**Notes:**

1. Section properties and allowables are calculated in accordance with North American Specification for the Design of Cold-Formed Steel Structural Members (2007 Edition)
2. Properties based on yield stress, F<sub>y</sub> = 55 ksi.
3. Thickness indicated represents the design thickness. Minimum deliverable bare steel thickness equals 0.95 x design thickness in accordance with Section A2.4 of the AISI Specification.
4. Effective moment of inertia, I<sub>xx</sub>, represents the moment of inertia for deflection, based on Procedure 1 of the AISI Specification.
5. M<sub>a</sub> is allowable bending moment about X-X axis based on fully braced flanges.
6. Allowable web crippling loads are based on section fastened to support.
7. D = depth, A = bottom flange width, B = top flange width, d = lip length





**Allowable Loads for Simple Span Condition**  
**Eave Strut Single Slope Down**  
**Slope 4:12**

Dimensions				Criteria	Allowable Loads (plf)															
D (in)	A (in)	B (in)	Ga.		Span (ft)															
					10	12	14	16	18	20	22	24	26	28	30	32	34	36	38	40
6	4	3	16	L	225	156	115	88	69	56	46	39	33	28	25	22	-	-	-	-
				D	0.50	0.72	0.97	1.27	1.61	1.99	2.41	2.86	3.36	3.90	4.48	5.09	-	-	-	-
			14	L	289	201	147	113	89	72	59	50	42	36	32	28	25	22	20	-
				D	0.51	0.74	1.01	1.31	1.66	2.05	2.48	2.95	3.47	4.02	4.62	5.25	5.93	6.65	7.41	-
			12	L	426	296	217	166	131	106	88	74	63	54	47	41	36	32	29	26
				D	0.53	0.77	1.05	1.37	1.73	2.14	2.59	3.08	3.61	4.19	4.81	5.47	6.17	6.92	7.71	8.55
8	4	3	14	L	438	304	223	171	135	109	90	76	64	55	48	42	37	33	30	27
				D	0.38	0.55	0.75	0.98	1.24	1.53	1.85	2.20	2.58	2.99	3.44	3.91	4.41	4.95	5.51	6.11
			12	L	651	452	332	254	201	162	134	113	96	83	72	63	56	50	45	40
				D	0.40	0.58	0.79	1.03	1.30	1.60	1.94	2.31	2.71	3.15	3.61	4.11	4.64	5.20	5.79	6.42
8	5	3	14	L	434	301	221	169	134	108	89	75	64	55	48	42	37	33	30	27
				D	0.37	0.53	0.72	0.94	1.19	1.47	1.77	2.11	2.48	2.87	3.30	3.75	4.23	4.75	5.29	5.86
			12	L	658	457	335	257	203	164	135	114	97	83	73	64	56	50	45	41
				D	0.39	0.56	0.77	1.00	1.27	1.57	1.90	2.26	2.65	3.07	3.52	4.01	4.53	5.08	5.66	6.27
10	5	3	14	L	557	386	284	217	171	139	115	96	82	71	61	54	48	42	38	34
				D	0.27	0.40	0.54	0.70	0.89	1.10	1.33	1.58	1.85	2.15	2.47	2.81	3.17	3.56	3.96	4.39

**Notes:**

1. L = Allowable total load (plf) that can be supported by the section. The weight of the section has not been subtracted from these values.
2. D = Deflections (in) shown above occur when the full allowable loads are applied. For applications with special deflection requirements, it may be necessary to modify the allowable loads. Refer to sample calculations in General Information.
3. Section properties and allowables are calculated in accordance with North American Specification for the Design of Cold-Formed Steel Structural Members (2007 Edition)
4. These values are valid only if the compressions flange is adequately supported laterally. For special conditions such as members with laterally unsupported sections and non-uniform spans, contact Central State Mfg. to obtain allowable loads.
5. Loads based on flexural strength due to distortional buckling strength must be checked for unbraced flanges.
6. Allowable loads assume the use of plates or clips at supports which will effectively transfer support loads directly to the web of the member. If sections are to bear directly on the supports, the sections must be checked for web crippling strength.

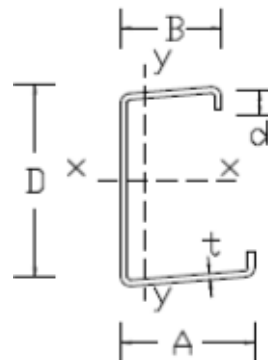
**Physical/Structural Properties**  
**Eave Strut Double Slope Up**  
**Slope 1:12**

Dimensions						Gross Properties								
D (in)	A (in)	B (in)	d (in)	Gauge	t <sup>(3)</sup> (in)	Area (in <sup>2</sup> )	Wt/ft (lb/ft)	I <sub>xx</sub> (in <sup>4</sup> )	r <sub>x</sub> (in)	I <sub>yy</sub> (in <sup>4</sup> )	r <sub>y</sub> (in)	J (in <sup>4</sup> )	C <sub>w</sub> (in <sup>6</sup> )	R <sub>o</sub> (in)
6	4	3	0.75	16	0.056	0.778	2.646	4.644	2.443	1.378	1.331	0.00081	8.95	4.025
			0.75	14	0.069	0.955	3.246	5.667	2.436	1.675	1.325	0.00152	10.78	4.008
			0.75	12	0.096	1.316	4.473	7.725	2.423	2.265	1.312	0.00404	14.31	3.972
8	4	3	0.75	14	0.069	1.093	3.715	10.978	3.170	1.841	1.298	0.00173	19.88	4.385
			0.75	12	0.096	1.508	5.126	15.011	3.155	2.491	1.285	0.00463	26.50	4.354
8	5	3	0.75	14	0.069	1.162	3.950	11.722	3.177	2.871	1.572	0.00184	23.53	4.832
			0.75	12	0.096	1.604	5.452	16.037	3.162	3.903	1.560	0.00493	31.38	4.800
10	5	3	0.75	14	0.069	1.300	4.419	19.705	3.894	3.069	1.537	0.00206	38.40	5.357

Dimensions					Effective Properties					Allowable Web Crippling Loads, P <sub>a</sub> (lb/web)					
										Exterior			Interior		
D (in)	A (in)	B (in)	Gauge	t <sup>(3)</sup> (in)	I <sub>xe</sub> <sup>(4)</sup> (in <sup>4</sup> )	S <sub>xc</sub> (in <sup>3</sup> )	A <sub>e</sub> (in <sup>2</sup> )	M <sub>a</sub> (ft-lb)	V <sub>a</sub> (lb)	Bearing Length			Bearing Length		
										2"	3"	4"	2"	3"	4"
6	4	3	16	0.056	3.757	1.082	0.409	2970	2857	727	837	930	1302	1435	1548
			14	0.069	4.727	1.374	0.557	3770	5295	1091	1251	1386	2046	2244	2410
			12	0.096	6.793	2.063	0.927	5661	10248	2057	2341	2580	4108	4467	4771
8	4	3	14	0.069	9.410	2.103	0.562	5772	3903	1051	1206	1336	2012	2207	2371
			12	0.096	13.539	3.160	0.942	8672	10196	1995	2270	2503	4051	4406	4705
8	5	3	14	0.069	9.202	2.034	0.564	5581	3930	1051	1206	1336	2012	2207	2371
			12	0.096	13.283	3.143	0.951	8626	10238	1995	2270	2503	4051	4406	4705
10	5	3	14	0.069	15.048	2.566	0.568	7043	3098	1017	1166	1292	1983	2175	2336

**Notes:**

1. Section properties and allowables are calculated in accordance with North American Specification for the Design of Cold-Formed Steel Structural Members (2007 Edition)
2. Properties based on yield stress, F<sub>y</sub> = 55 ksi.
3. Thickness indicated represents the design thickness. Minimum deliverable bare steel thickness equals 0.95 x design thickness in accordance with Section A2.4 of the AISI Specification.
4. Effective moment of inertia, I<sub>xx</sub>, represents the moment of inertia for deflection, based on Procedure 1 of the AISI Specification.
5. M<sub>a</sub> is allowable bending moment about X-X axis based on fully braced flanges.
6. Allowable web crippling loads are based on section fastened to support.
7. D = depth, A = bottom flange width, B = top flange width, d = lip length



**Allowable Loads for Simple Span Condition  
Eave Strut Double Slope Up  
Slope 1:12**

Dimensions				Criteria	Allowable Loads (plf)																	
D (in)	A (in)	B (in)	Ga.		Span (ft)																	
					10	12	14	16	18	20	22	24	26	28	30	32	34	36	38	40		
6	4	3	16	L	237	165	121	92	73	59	49	41	35	30	26	23	20	-	-	-		
				D	0.45	0.64	0.88	1.14	1.45	1.79	2.16	2.58	3.02	3.51	4.02	4.58	5.17	-	-	-		
			14	L	301	209	153	117	93	75	62	52	44	38	33	29	26	23	20	-	-	
				D	0.46	0.66	0.89	1.17	1.48	1.83	2.21	2.63	3.09	3.58	4.11	4.67	5.28	5.91	6.59	-	-	
			12	L	452	314	231	176	139	113	93	78	66	57	50	44	39	34	31	28	-	-
				D	0.49	0.70	0.95	1.24	1.58	1.95	2.35	2.80	3.29	3.81	4.38	4.98	5.62	6.30	7.02	7.78	-	-
8	4	3	14	L	461	320	235	180	142	115	95	80	68	58	51	45	39	35	31	28		
				D	0.35	0.51	0.69	0.91	1.15	1.42	1.72	2.04	2.40	2.78	3.19	3.63	4.10	4.60	5.12	5.67		
			12	L	693	481	353	270	214	173	143	120	102	88	77	67	60	53	48	43	-	-
				D	0.38	0.54	0.74	0.97	1.22	1.51	1.83	2.17	2.55	2.96	3.39	3.86	4.36	4.89	5.45	6.03	-	-
8	5	3	14	L	446	310	227	174	137	111	92	77	66	56	49	43	38	34	30	27		
				D	0.34	0.49	0.66	0.87	1.10	1.36	1.64	1.95	2.29	2.66	3.05	3.47	3.92	4.40	4.90	5.43	-	-
			12	L	690	479	352	269	212	172	142	119	102	88	76	67	59	53	47	43	-	-
				D	0.37	0.53	0.73	0.95	1.20	1.48	1.79	2.13	2.51	2.91	3.34	3.80	4.28	4.80	5.35	5.93	-	-
10	5	3	14	L	563	391	287	220	173	140	116	97	83	71	62	55	48	43	39	35		
				D	0.26	0.37	0.51	0.66	0.84	1.04	1.25	1.49	1.75	2.03	2.33	2.65	2.99	3.35	3.74	4.14	-	-

**Notes:**

1. L = Allowable total load (plf) that can be supported by the section. The weight of the section has not been subtracted from these values.
2. D = Deflections (in) shown above occur when the full allowable loads are applied. For applications with special deflection requirements, it may be necessary to modify the allowable loads. Refer to sample calculations in General Information.
3. Section properties and allowables are calculated in accordance with North American Specification for the Design of Cold-Formed Steel Structural Members (2007 Edition)
4. These values are valid only if the compressions flange is adequately supported laterally. For special conditions such as members with laterally unsupported sections and non-uniform spans, contact Central State Mfg. to obtain allowable loads.
5. Loads based on flexural strength due to distortional buckling strength must be checked for unbraced flanges.
6. Allowable loads assume the use of plates or clips at supports which will effectively transfer support loads directly to the web of the member. If sections are to bear directly on the supports, the sections must be checked for web crippling strength.

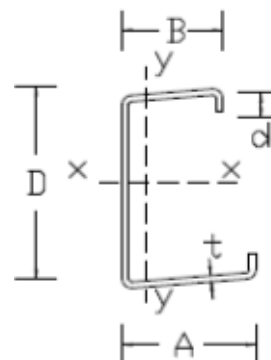
**Physical/Structural Properties  
Eave Strut Double Slope Up  
Slope 4:12**

Dimensions						Gross Properties								
D (in)	A (in)	B (in)	d (in)	Gauge	t <sup>(3)</sup> (in)	Area (in <sup>2</sup> )	Wt/ft (lb/ft)	I <sub>xx</sub> (in <sup>4</sup> )	r <sub>x</sub> (in)	I <sub>yy</sub> (in <sup>4</sup> )	r <sub>y</sub> (in)	J (in <sup>4</sup> )	C <sub>w</sub> (in <sup>6</sup> )	R <sub>o</sub> (in)
6	4	3	0.75	16	0.056	0.773	2.628	4.454	2.401	1.246	1.270	0.00081	7.90	4.091
			0.75	14	0.069	0.948	3.222	5.426	2.393	1.514	1.264	0.00150	9.49	4.073
			0.75	12	0.096	1.305	4.436	7.372	2.377	2.046	1.252	0.00401	12.54	4.037
8	4	3	0.75	14	0.069	1.086	3.691	10.567	3.120	1.664	1.238	0.00172	17.50	4.469
			0.75	12	0.096	1.497	5.088	14.411	3.103	2.250	1.226	0.00460	23.21	4.438
8	5	3	0.75	14	0.069	1.155	3.925	10.955	3.080	2.613	1.505	0.00183	20.64	4.957
			0.75	12	0.096	1.593	5.415	14.946	3.064	3.553	1.494	0.00489	27.37	4.924
10	5	3	0.75	14	0.069	1.293	4.395	18.610	3.795	2.792	1.470	0.00205	33.65	5.502

Dimensions					Effective Properties					Allowable Web Crippling Loads, P <sub>a</sub> (lb/web)					
										Exterior			Interior		
D (in)	A (in)	B (in)	Gauge	t <sup>(3)</sup> (in)	I <sub>xe</sub> <sup>(4)</sup> (in <sup>4</sup> )	S <sub>xc</sub> (in <sup>3</sup> )	A <sub>e</sub> (in <sup>2</sup> )	M <sub>a</sub> (ft-lb)	V <sub>a</sub> (lb)	Bearing Length			Bearing Length		
										2"	3"	4"	2"	3"	4"
6	4	3	16	0.056	3.550	0.880	0.403	2415	3158	727	837	930	1302	1435	1548
			14	0.069	4.480	1.126	0.551	3091	5825	1091	1251	1386	2046	2244	2410
			12	0.096	6.591	1.710	0.916	4693	11266	2057	2341	2580	4108	4467	4771
8	4	3	14	0.069	8.938	1.751	0.558	4807	4230	1051	1206	1336	2012	2207	2371
			12	0.096	13.049	2.628	0.935	7211	10971	1995	2270	2503	4051	4406	4705
8	5	3	14	0.069	9.227	1.762	0.557	4836	4283	1051	1206	1336	2012	2207	2371
			12	0.096	13.310	2.644	0.940	7256	11108	1995	2270	2503	4051	4406	4705
10	5	3	14	0.069	14.947	2.300	0.561	6312	3316	1017	1166	1292	1983	2175	2336

**Notes:**

1. Section properties and allowables are calculated in accordance with North American Specification for the Design of Cold-Formed Steel Structural Members (2007 Edition)
2. Properties based on yield stress, F<sub>y</sub> = 55 ksi.
3. Thickness indicated represents the design thickness. Minimum deliverable bare steel thickness equals 0.95 x design thickness in accordance with Section A2.4 of the AISI Specification.
4. Effective moment of inertia, I<sub>xx</sub>, represents the moment of inertia for deflection, based on Procedure 1 of the AISI Specification.
5. M<sub>a</sub> is allowable bending moment about X-X axis based on fully braced flanges.
6. Allowable web crippling loads are based on section fastened to support.
7. D = depth, A = bottom flange width, B = top flange width, d = lip length



**Allowable Loads for Simple Span Condition  
Eave Strut Double Slope Up  
Slope 4:12**

Dimensions				Criteria	Allowable Loads (plf)																		
D (in)	A (in)	B (in)	Ga.		Span (ft)																		
					10	12	14	16	18	20	22	24	26	28	30	32	34	36	38	40			
6	4	3	16	L	193	134	98	75	59	48	39	33	28	24	21	-	-	-	-	-			
				D	0.38	0.55	0.75	0.98	1.24	1.53	1.85	2.20	2.59	3.00	3.44	-	-	-	-	-			
			14	L	247	171	126	96	76	61	51	42	36	31	27	24	21	-	-	-	-		
				D	0.39	0.57	0.77	1.01	1.27	1.57	1.90	2.27	2.66	3.08	3.54	4.03	4.55	-	-	-	-		
			12	L	375	260	191	146	115	93	77	65	55	47	41	36	32	28	25	23			
				D	0.42	0.60	0.82	1.07	1.35	1.67	2.02	2.41	2.83	3.28	3.76	4.28	4.83	5.42	6.03	6.69			
8	4	3	14	L	384	267	196	150	118	96	79	66	56	49	42	37	33	29	26	24			
				D	0.31	0.45	0.61	0.79	1.00	1.24	1.50	1.78	2.09	2.43	2.78	3.17	3.58	4.01	4.47	4.95			
			12	L	576	400	294	225	178	144	119	100	85	73	64	56	49	44	39	36			
				D	0.33	0.47	0.64	0.83	1.06	1.30	1.58	1.88	2.20	2.55	2.93	3.34	3.77	4.22	4.71	5.21			
			8	5	3	14	L	386	268	197	151	119	96	79	67	57	49	42	37	33	29	26	24
							D	0.30	0.43	0.59	0.77	0.98	1.20	1.46	1.73	2.03	2.36	2.71	3.08	3.48	3.90	4.35	4.82
12	L	580				403	296	226	179	145	119	100	85	74	64	56	50	44	40	36			
	D	0.32				0.46	0.63	0.82	1.04	1.28	1.55	1.84	2.16	2.51	2.88	3.27	3.69	4.14	4.61	5.11			
10	5	3				14	L	504	350	257	197	155	126	104	87	74	64	56	49	43	38	34	31
							D	0.24	0.34	0.47	0.61	0.77	0.95	1.15	1.37	1.61	1.87	2.14	2.44	2.75	3.09	3.44	3.81

**Notes:**

1. L = Allowable total load (plf) that can be supported by the section. The weight of the section has not been subtracted from these values.
2. D = Deflections (in) shown above occur when the full allowable loads are applied. For applications with special deflection requirements, it may be necessary to modify the allowable loads. Refer to sample calculations in General Information.
3. Section properties and allowables are calculated in accordance with North American Specification for the Design of Cold-Formed Steel Structural Members (2007 Edition)
4. These values are valid only if the compressions flange is adequately supported laterally. For special conditions such as members with laterally unsupported sections and non-uniform spans, contact Central State Mfg. to obtain allowable loads.
5. Loads based on flexural strength due to distortional buckling strength must be checked for unbraced flanges.
6. Allowable loads assume the use of plates or clips at supports which will effectively transfer support loads directly to the web of the member. If sections are to bear directly on the supports, the sections must be checked for web crippling strength.

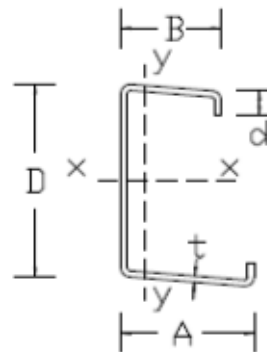
**Physical/Structural Properties  
Eave Strut Double Slope Down  
Slope 1:12**

Dimensions						Gross Properties								
D (in)	A (in)	B (in)	d (in)	Gauge	t <sup>(3)</sup> (in)	Area (in <sup>2</sup> )	Wt/ft (lb/ft)	I <sub>xx</sub> (in <sup>4</sup> )	r <sub>x</sub> (in)	I <sub>yy</sub> (in <sup>4</sup> )	r <sub>y</sub> (in)	J (in <sup>4</sup> )	C <sub>w</sub> (in <sup>6</sup> )	R <sub>o</sub> (in)
6	4	3	0.75	16	0.056	0.778	2.646	4.799	2.483	1.368	1.326	0.00081	8.98	3.969
			0.75	14	0.069	0.955	3.246	5.856	2.477	1.662	1.319	0.00152	10.82	3.952
			0.75	12	0.096	1.316	4.473	7.985	2.464	2.245	1.306	0.00404	14.37	3.916
8	4	3	0.75	14	0.069	1.093	3.715	11.248	3.208	1.827	1.293	0.00173	19.97	4.319
			0.75	12	0.096	1.508	5.126	15.381	3.194	2.469	1.280	0.00463	26.65	4.286
8	5	3	0.75	14	0.069	1.162	3.950	12.309	3.255	2.840	1.564	0.00184	23.71	4.732
			0.75	12	0.096	1.604	5.452	16.844	3.241	3.856	1.551	0.00493	31.66	4.700
10	5	3	0.75	14	0.069	1.300	4.419	20.474	3.969	3.036	1.528	0.00206	38.74	5.245

Dimensions					Effective Properties					Allowable Web Crippling Loads, P <sub>a</sub> (lb/web)					
										Exterior			Interior		
D (in)	A (in)	B (in)	Gauge	t <sup>(3)</sup> (in)	I <sub>xe</sub> <sup>(4)</sup> (in <sup>4</sup> )	S <sub>xc</sub> (in <sup>3</sup> )	A <sub>e</sub> (in <sup>2</sup> )	M <sub>a</sub> (ft-lb)	V <sub>a</sub> (lb)	Bearing Length			Bearing Length		
										2"	3"	4"	2"	3"	4"
6	4	3	16	0.056	3.675	1.047	0.410	2873	2857	727	837	930	1302	1435	1548
			14	0.069	4.635	1.343	0.557	3686	5295	1091	1251	1386	2046	2244	2410
			12	0.096	6.718	2.013	0.928	5523	10248	2057	2341	2580	4108	4467	4771
8	4	3	14	0.069	9.071	2.016	0.564	5533	3927	1051	1206	1336	2012	2207	2371
			12	0.096	13.101	2.997	0.946	8226	10228	1995	2270	2503	4051	4406	4705
8	5	3	14	0.069	9.099	1.987	0.564	5454	3930	1051	1206	1336	2012	2207	2371
			12	0.096	13.216	2.979	0.951	8175	10237	1995	2270	2503	4051	4406	4705
10	5	3	14	0.069	15.123	2.649	0.568	7269	3098	1017	1166	1292	1983	2175	2336

**Notes:**

1. Section properties and allowables are calculated in accordance with North American Specification for the Design of Cold-Formed Steel Structural Members (2007 Edition)
2. Properties based on yield stress, F<sub>y</sub> = 55 ksi.
3. Thickness indicated represents the design thickness. Minimum deliverable bare steel thickness equals 0.95 x design thickness in accordance with Section A2.4 of the AISI Specification.
4. Effective moment of inertia, I<sub>xx</sub>, represents the moment of inertia for deflection, based on Procedure 1 of the AISI Specification.
5. M<sub>a</sub> is allowable bending moment about X-X axis based on fully braced flanges.
6. Allowable web crippling loads are based on section fastened to support.
7. D = depth, A = bottom flange width, B = top flange width, d = lip length



**Allowable Loads for Simple Span Condition  
Eave Strut Double Slope Down  
Slope 1:12**

Dimensions				Criteria	Allowable Loads (plf)															
D (in)	A (in)	B (in)	Ga.		Span (ft)															
					10	12	14	16	18	20	22	24	26	28	30	32	34	36	38	40
6	4	3	16	L	229	159	117	89	70	57	47	39	33	29	25	22	-	-	-	-
				D	0.43	0.62	0.85	1.11	1.40	1.73	2.09	2.49	2.93	3.39	3.90	4.43	-	-	-	-
			14	L	294	204	150	115	91	73	60	51	43	37	32	28	25	22	20	-
				D	0.45	0.64	0.87	1.14	1.45	1.78	2.16	2.57	3.02	3.50	4.01	4.57	5.16	5.78	6.44	-
			12	L	441	306	225	172	136	110	91	76	65	56	49	43	38	34	30	27
				D	0.47	0.68	0.93	1.21	1.53	1.89	2.28	2.72	3.19	3.70	4.25	4.83	5.46	6.12	6.82	7.55
8	4	3	14	L	442	307	225	172	136	110	91	76	65	56	49	43	38	34	30	27
				D	0.34	0.50	0.68	0.88	1.12	1.38	1.67	1.99	2.33	2.70	3.10	3.53	3.98	4.47	4.98	5.51
			12	L	658	456	335	257	203	164	135	114	97	83	73	64	56	50	45	41
				D	0.36	0.52	0.71	0.93	1.17	1.45	1.75	2.09	2.45	2.84	3.26	3.71	4.19	4.69	5.23	5.79
8	5	3	14	L	436	303	222	170	134	109	90	75	64	55	48	42	37	33	30	27
				D	0.33	0.47	0.64	0.84	1.06	1.31	1.58	1.89	2.21	2.57	2.95	3.35	3.78	4.24	4.73	5.24
			12	L	654	454	333	255	201	163	135	113	96	83	72	63	56	50	45	40
				D	0.35	0.50	0.68	0.89	1.12	1.38	1.67	1.99	2.34	2.71	3.11	3.54	4.00	4.48	4.99	5.53
10	5	3	14	L	581	403	296	227	179	145	120	100	86	74	64	56	50	44	40	36
				D	0.26	0.38	0.51	0.67	0.85	1.05	1.27	1.51	1.77	2.06	2.36	2.69	3.03	3.40	3.79	4.20

**Notes:**

1. L = Allowable total load (plf) that can be supported by the section. The weight of the section has not been subtracted from these values.
2. D = Deflections (in) shown above occur when the full allowable loads are applied. For applications with special deflection requirements, it may be necessary to modify the allowable loads. Refer to sample calculations in General Information.
3. Section properties and allowables are calculated in accordance with North American Specification for the Design of Cold-Formed Steel Structural Members (2007 Edition)
4. These values are valid only if the compressions flange is adequately supported laterally. For special conditions such as members with laterally unsupported sections and non-uniform spans, contact Central State Mfg. to obtain allowable loads.
5. Loads based on flexural strength due to distortional buckling strength must be checked for unbraced flanges.
6. Allowable loads assume the use of plates or clips at supports which will effectively transfer support loads directly to the web of the member. If sections are to bear directly on the supports, the sections must be checked for web crippling strength.

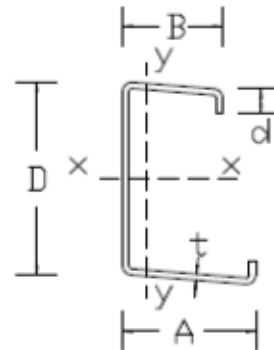
**Physical/Structural Properties  
Eave Strut Double Slope Down  
Slope 4:12**

Dimensions						Gross Properties								
D (in)	A (in)	B (in)	d (in)	Gauge	t <sup>(3)</sup> (in)	Area (in <sup>2</sup> )	Wt/ft (lb/ft)	I <sub>xx</sub> (in <sup>4</sup> )	r <sub>x</sub> (in)	I <sub>yy</sub> (in <sup>4</sup> )	r <sub>y</sub> (in)	J (in <sup>4</sup> )	C <sub>w</sub> (in <sup>6</sup> )	R <sub>o</sub> (in)
6	4	3	0.75	16	0.056	0.773	2.628	5.037	2.553	1.208	1.250	0.00081	8.01	3.879
			0.75	14	0.069	0.948	3.222	6.139	2.546	1.465	1.243	0.00150	9.64	3.861
			0.75	12	0.096	1.305	4.436	8.349	2.530	1.971	1.229	0.00401	12.78	3.824
8	4	3	0.75	14	0.069	1.086	3.691	11.583	3.267	1.612	1.218	0.00172	17.85	4.214
			0.75	12	0.096	1.497	5.088	15.805	3.250	2.170	1.204	0.00460	23.76	4.179
8	5	3	0.75	14	0.069	1.155	3.925	13.164	3.377	2.497	1.471	0.00183	21.30	4.575
			0.75	12	0.096	1.593	5.415	17.981	3.360	3.375	1.456	0.00489	28.40	4.540
10	5	3	0.75	14	0.069	1.293	4.395	21.509	4.079	2.670	1.437	0.00205	34.89	5.071

Dimensions					Effective Properties					Allowable Web Crippling Loads, P <sub>a</sub> (lb/web)					
										Exterior			Interior		
D (in)	A (in)	B (in)	Gauge	t <sup>(3)</sup> (in)	I <sub>xe</sub> <sup>(4)</sup> (in <sup>4</sup> )	S <sub>xc</sub> (in <sup>3</sup> )	A <sub>e</sub> (in <sup>2</sup> )	M <sub>a</sub> (ft-lb)	V <sub>a</sub> (lb)	Bearing Length			Bearing Length		
										2"	3"	4"	2"	3"	4"
6	4	3	16	0.056	3.517	0.839	0.405	2302	3158	727	837	930	1302	1435	1548
			14	0.069	4.458	1.081	0.551	2967	5825	1091	1251	1386	2046	2244	2410
			12	0.096	6.530	1.636	0.919	4490	11266	2057	2341	2580	4108	4467	4771
8	4	3	14	0.069	8.742	1.680	0.558	4611	4230	1051	1206	1336	2012	2207	2371
			12	0.096	12.728	2.517	0.938	6907	10971	1995	2270	2503	4051	4406	4705
8	5	3	14	0.069	8.855	1.608	0.558	4413	4283	1051	1206	1336	2012	2207	2371
			12	0.096	12.956	2.422	0.942	6646	11108	1995	2270	2503	4051	4406	4705
10	5	3	14	0.069	15.048	2.291	0.562	6288	3316	1017	1166	1292	1983	2175	2336

**Notes:**

1. Section properties and allowables are calculated in accordance with North American Specification for the Design of Cold-Formed Steel Structural Members (2007 Edition)
2. Properties based on yield stress, F<sub>y</sub> = 55 ksi.
3. Thickness indicated represents the design thickness. Minimum deliverable bare steel thickness equals 0.95 x design thickness in accordance with Section A2.4 of the AISI Specification.
4. Effective moment of inertia, I<sub>xx</sub>, represents the moment of inertia for deflection, based on Procedure 1 of the AISI Specification.
5. M<sub>a</sub> is allowable bending moment about X-X axis based on fully braced flanges.
6. Allowable web crippling loads are based on section fastened to support.
7. D = depth, A = bottom flange width, B = top flange width, d = lip length





**Allowable Loads for Simple Span Condition  
Eave Strut Double Slope Down  
Slope 4:12**

Dimensions				Criteria	Allowable Loads (plf)																		
D (in)	A (in)	B (in)	Ga.		Span (ft)																		
					10	12	14	16	18	20	22	24	26	28	30	32	34	36	38	40			
6	4	3	16	L	184	127	93	71	56	46	38	31	27	23	20	-	-	-	-	-			
				D	0.35	0.50	0.68	0.89	1.13	1.40	1.69	2.01	2.36	2.74	3.14	-	-	-	-	-			
			14	L	237	164	121	92	73	59	49	41	35	30	26	23	20	-	-	-	-		
				D	0.36	0.52	0.71	0.92	1.17	1.44	1.75	2.08	2.44	2.83	3.25	3.69	4.17	-	-	-	-		
			12	L	359	249	183	140	110	89	74	62	53	45	39	35	31	27	24	22			
				D	0.38	0.55	0.75	0.98	1.24	1.54	1.86	2.21	2.59	3.01	3.45	3.93	4.44	4.97	5.54	6.14			
8	4	3	14	L	368	256	188	144	113	92	76	64	54	47	40	36	31	28	25	23			
				D	0.29	0.42	0.57	0.74	0.94	1.16	1.41	1.67	1.96	2.28	2.61	2.97	3.36	3.76	4.19	4.65			
			12	L	552	383	281	215	170	138	114	95	81	70	61	53	47	42	38	34			
				D	0.31	0.44	0.60	0.78	0.99	1.23	1.48	1.76	2.07	2.40	2.76	3.14	3.54	3.97	4.42	4.90			
			8	5	3	14	L	353	245	180	137	108	88	72	61	52	45	39	34	30	27	24	22
							D	0.26	0.38	0.51	0.67	0.85	1.05	1.27	1.51	1.77	2.05	2.35	2.68	3.02	3.39	3.78	4.19
8	5	3	12	L	531	369	271	207	164	132	109	92	78	67	59	51	45	41	36	33			
				D	0.28	0.40	0.54	0.71	0.90	1.11	1.34	1.60	1.87	2.17	2.49	2.84	3.20	3.59	4.00	4.43			
10	5	3	14	L	503	349	256	196	155	125	103	87	74	64	55	49	43	38	34	31			
				D	0.22	0.32	0.44	0.57	0.72	0.89	1.08	1.28	1.51	1.75	2.01	2.28	2.58	2.89	3.22	3.57			

**Notes:**

1. L = Allowable total load (plf) that can be supported by the section. The weight of the section has not been subtracted from these values.
2. D = Deflections (in) shown above occur when the full allowable loads are applied. For applications with special deflection requirements, it may be necessary to modify the allowable loads. Refer to sample calculations in General Information.
3. Section properties and allowables are calculated in accordance with North American Specification for the Design of Cold-Formed Steel Structural Members (2007 Edition)
4. These values are valid only if the compressions flange is adequately supported laterally. For special conditions such as members with laterally unsupported sections and non-uniform spans, contact Central State Mfg. to obtain allowable loads.
5. Loads based on flexural strength due to distortional buckling strength must be checked for unbraced flanges.
6. Allowable loads assume the use of plates or clips at supports which will effectively transfer support loads directly to the web of the member. If sections are to bear directly on the supports, the sections must be checked for web crippling strength.

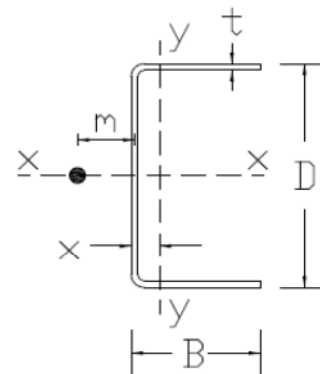
## Physical/Structural Properties Channel

Dimensions				Gross Properties								
D (in)	B (in)	Gauge	t <sup>(3)</sup> (in)	Area (in <sup>2</sup> )	Wt/ft (lb/ft)	I <sub>xx</sub> (in <sup>4</sup> )	x (in)	I <sub>yy</sub> (in <sup>4</sup> )	m (in)	J (in <sup>4</sup> )	C <sub>w</sub> (in <sup>6</sup> )	R <sub>o</sub> (in)
4.25	2.35	16	0.056	0.485	1.649	1.441	0.652	0.279	0.892	0.00051	0.87	2.433
4.25	2.85	16	0.056	0.541	1.839	1.687	0.853	0.471	1.131	0.00057	1.47	2.814
		14	0.069	0.664	2.258	2.060	0.860	0.575	1.129	0.00105	1.79	2.808
6.25	2.85	16	0.056	0.653	2.220	4.040	0.712	0.534	1.033	0.00068	3.63	3.167
		14	0.069	0.802	2.727	4.942	0.718	0.653	1.031	0.00127	4.42	3.161
8.25	2.85	16	0.056	0.765	2.601	7.698	0.612	0.579	0.951	0.00080	6.97	3.638
		14	0.069	0.940	3.196	9.430	0.618	0.708	0.949	0.00149	8.50	3.631
		12	0.096	1.301	4.423	12.956	0.628	0.971	0.943	0.00400	11.58	3.617

Dimensions				Effective Properties					Allowable Web Crippling Loads, P <sub>a</sub> (lb/web)					
									Exterior			Interior		
D (in)	B (in)	Gauge	t <sup>(3)</sup> (in)	I <sub>xe</sub> <sup>(4)</sup> (in <sup>4</sup> )	S <sub>xe</sub> (in <sup>3</sup> )	A <sub>e</sub> (in <sup>2</sup> )	M <sub>a</sub> (ft-lb)	V <sub>a</sub> (lb)	Bearing Length			Bearing Length		
									2"	3"	4"	2"	3"	4"
4.25	2.35	16	0.056	1.043	0.414	0.239	1137	3462	355	418	470	757	821	875
4.25	2.85	16	0.056	1.124	0.429	0.240	1176	3462	355	418	470	757	821	875
		14	0.069	1.447	0.564	0.346	1548	5255	653	766	860	1274	1374	1458
6.25	2.85	16	0.056	2.754	0.725	0.247	1991	2712	328	385	434	741	804	856
		14	0.069	3.649	1.001	0.359	2746	5095	609	714	802	1249	1348	1430
8.25	2.85	16	0.056	4.977	0.961	0.251	2638	2013	305	358	404	728	789	841
		14	0.069	6.941	1.440	0.365	3952	3778	572	670	753	1229	1326	1407
		12	0.096	10.580	2.314	0.662	6351	10173	1359	1582	1771	2684	2873	3032

### Notes:

1. Section properties and allowables are calculated in accordance with North American Specification for the Design of Cold-Formed Steel Structural Members (2007 Edition)
2. Properties based on yield stress, F<sub>y</sub> = 55 ksi.
3. Thickness indicated represents the design thickness. Minimum deliverable bare steel thickness equals 0.95 x design thickness in accordance with Section A2.4 of the AISI Specification.
4. Effective moment of inertia, I<sub>xx</sub>, represents the moment of inertia for deflection, based on Procedure 1 of the AISI Specification.
5. M<sub>a</sub> is allowable bending moment about X-X axis based on fully braced flanges.
6. Allowable web crippling loads are based on section fastened to support.
7. D = depth, B = flange width



## Allowable Loads for Simple Span Condition Channel

Dimensions			Criteria	Allowable Loads (plf)																	
D (in)	B (in)	Ga.		Span (ft)																	
				6	8	10	12	14	16	18	20	22	24	26	28	30	32	34	36		
4.3	2.35	16	L	252	142	90	63	46	35	28	22	-	-	-	-	-	-	-	-		
			D	0.21	0.38	0.59	0.85	1.16	1.51	1.91	2.36	-	-	-	-	-	-	-	-	-	
4.3	2.85	16	L	261	147	94	65	48	36	29	23	-	-	-	-	-	-	-	-		
			D	0.20	0.35	0.55	0.79	1.07	1.40	1.77	2.19	-	-	-	-	-	-	-	-	-	
		14	L	343	193	123	85	63	48	38	30	25	21	-	-	-	-	-	-	-	
			D	0.21	0.37	0.57	0.82	1.12	1.46	1.85	2.29	2.77	3.29	-	-	-	-	-	-	-	-
6.3	2.85	16	L	442	248	159	110	81	62	49	39	32	27	23	20	-	-	-	-		
			D	0.14	0.24	0.38	0.55	0.75	0.98	1.24	1.53	1.85	2.20	2.58	2.99	-	-	-	-	-	
		14	L	610	343	219	152	112	85	67	54	45	38	32	28	24	21	-	-	-	
			D	0.15	0.26	0.41	0.59	0.81	1.05	1.33	1.64	1.99	2.37	2.78	3.22	3.70	4.21	-	-	-	-
8.3	2.85	16	L	586	329	211	146	107	82	65	52	43	36	31	26	23	20	-	-		
			D	0.10	0.18	0.27	0.39	0.54	0.70	0.89	1.09	1.32	1.58	1.85	2.14	2.46	2.80	-	-	-	-
		14	L	878	494	316	219	161	123	97	79	65	54	46	40	35	30	27	24	-	-
			D	0.11	0.20	0.31	0.45	0.61	0.79	1.01	1.24	1.50	1.79	2.10	2.43	2.79	3.18	3.59	4.02	-	-
		12	L	###	793	508	352	259	198	156	127	104	88	75	64	56	49	43	39	-	-
			D	0.12	0.22	0.34	0.49	0.67	0.87	1.10	1.36	1.65	1.96	2.30	2.67	3.07	3.49	3.94	4.42	-	-

**Notes:**

1. L = Allowable total load (plf) that can be supported by the section. The weight of the section has not been subtracted from these values.
2. D = Deflections (in) shown above occur when the full allowable loads are applied. For applications with special deflection requirements, it may be necessary to modify the allowable loads. Refer to sample calculations in General Information.
3. Section properties and allowables are calculated in accordance with North American Specification for the Design of Cold-Formed Steel Structural Members (2007 Edition)
4. These values are valid only if the compressions flange is adequately supported laterally. For special conditions such as members with laterally unsupported sections and non-uniform spans, contact Central State Mfg. to obtain allowable loads.
5. Allowable loads assume the use of plates or clips at supports which will effectively transfer support loads directly to the web of the member. If sections are to bear directly on the supports, the sections must be checked for web crippling strength.

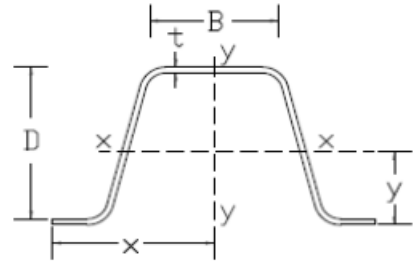
## Physical/Structural Properties Hat

Dimensions				Gross Properties								
D (in)	B (in)	Gauge	t <sup>(3)</sup> (in)	Area (in <sup>2</sup> )	Wt/ft (lb/ft)	I <sub>xx</sub> (in <sup>4</sup> )	x (in)	I <sub>yy</sub> (in <sup>4</sup> )	y (in)	J (in <sup>4</sup> )	C <sub>w</sub> (in <sup>6</sup> )	R <sub>o</sub> (in)
1.5	1.25	16	0.056	0.278	0.944	0.085	1.469	0.192	0.786	0.00029	0.01	1.526

Dimensions				Effective Properties					Allowable Web Crippling Loads, P <sub>a</sub> (lb/web)					
									Exterior			Interior		
D (in)	B (in)	Gauge	t <sup>(3)</sup> (in)	I <sub>xe</sub> <sup>(4)</sup> (in <sup>4</sup> )	S <sub>xe</sub> (in <sup>3</sup> )	A <sub>e</sub> (in <sup>2</sup> )	M <sub>a</sub> (ft-lb)	V <sub>a</sub> (lb)	Bearing Length			Bearing Length		
									2"	3"	4"	2"	3"	4"
1.5	1.25	16	0.056	0.085	0.109	0.266	298	2597.7	1497	1767	1995	3485	3827	4116

### Notes:

1. Section properties and allowables are calculated in accordance with North American Specification for the Design of Cold-Formed Steel Structural Members (2007 Edition)
2. Properties based on yield stress, F<sub>y</sub> = 55 ksi.
3. Thickness indicated represents the design thickness. Minimum deliverable bare steel thickness equals 0.95 x design thickness in accordance with Section A2.4 of the AISI Specification.
4. Effective moment of inertia, I<sub>xx</sub>, represents the moment of inertia for deflection, based on Procedure 1 of the AISI Specification.
5. M<sub>a</sub> is allowable bending moment about X-X axis based on fully braced flanges.
6. D = depth, B = flange width



## Allowable Loads for Simple Span Condition Hat

Dimensions			Criteria	Allowable Loads (plf)									
D	B	Ga.		Span (ft)									
(in)	(in)			2.5	3	3.5	4	4.5	5	5.5	6	6.5	7
1.5	1.25	16	L	381	265	194	149	117	95	78	66	56	48
			D	0.13	0.19	0.26	0.34	0.43	0.53	0.64	0.77	0.90	1.04

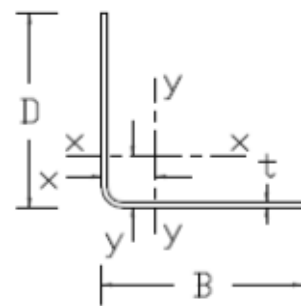
**Notes:**

1. L = Allowable total load (plf) that can be supported by the section. The weight of the section has not been subtracted from these values.
2. D = Deflections (in) shown above occur when the full allowable loads are applied. For applications with special deflection requirements, it may be necessary to modify the allowable loads. Refer to sample calculations in General Information.
3. Section properties and allowables are calculated in accordance with North American Specification for the Design of Cold-Formed Steel Structural Members (2007 Edition)
4. These values are valid only if the compressions flange is adequately supported laterally. For special conditions such as members with laterally unsupported sections and non-uniform spans, contact Central State Mfg. to obtain allowable loads.
5. Loads based on flexural strength due to distortional buckling strength must be checked for unbraced flanges.
6. Allowable loads assume the use of plates or clips at supports which will effectively transfer support loads directly to the web of the member. If sections are to bear directly on the supports, the sections must be checked for web crippling strength.

## Physical/Structural Properties Angle

Dimensions				Gross Properties								
D (in)	B (in)	Gauge	t <sup>(3)</sup> (in)	Area (in <sup>2</sup> )	Wt/ft (lb/ft)	I <sub>xx</sub> (in <sup>4</sup> )	x (in)	I <sub>yy</sub> (in <sup>4</sup> )	y (in)	I <sub>xy</sub> (in <sup>4</sup> )	J (in <sup>4</sup> )	R <sub>o</sub> (in)
2.5	2.5	14	0.069	0.334	1.136	0.213	0.663	0.213	0.663	-0.132	0.00053	1.432
3	3	16	0.056	0.328	1.115	0.303	0.783	0.303	0.783	-0.187	0.00034	1.725
		14	0.069	0.403	1.370	0.371	0.788	0.371	0.788	-0.229	0.00064	1.722
4	2	16	0.056	0.328	1.114	0.107	1.377	0.574	0.361	-0.147	0.00034	1.995
		14	0.069	0.403	1.369	0.131	1.382	0.703	0.366	-0.180	0.00064	1.991
4	3	16	0.056	0.384	1.305	0.331	1.180	0.661	0.673	-0.285	0.00040	2.076

Dimensions				Effective Properties				
D (in)	B (in)	Gauge	t <sup>(3)</sup> (in)	I <sub>xe</sub> <sup>(4)</sup> (in <sup>4</sup> )	S <sub>xe</sub> (in <sup>3</sup> )	A <sub>e</sub> (in <sup>2</sup> )	M <sub>a</sub> (ft-lb)	V <sub>a</sub> (lb)
2.5	2.5	14	0.069	0.032	0.014	0.148	40	3193
3	3	16	0.056	0.018	0.007	0.104	18	3184
		14	0.069	0.036	0.013	0.151	35	3904
4	2	16	0.056	0.017	0.009	0.103	25	2029
		14	0.069	0.032	0.018	0.149	49	2481
4	3	16	0.056	0.019	0.007	0.104	19	3184



### Notes:

1. Section properties and allowables are calculated in accordance with North American Specification for the Design of Cold-Formed Steel Structural Members (2007 Edition)
2. Properties based on yield stress,  $F_y = 55$  ksi.
3. Thickness indicated represents the design thickness. Minimum deliverable bare steel thickness equals  $0.95 \times$  design thickness in accordance with Section A2.4 of the AISI Specification.
4. Effective moment of inertia,  $I_{xx}$ , represents the moment of inertia for deflection, based on Procedure 1 of the AISI Specification.
5.  $M_a$  is allowable bending moment about X-X axis based on fully braced flanges.
6.  $D =$  depth,  $B =$  flange width



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