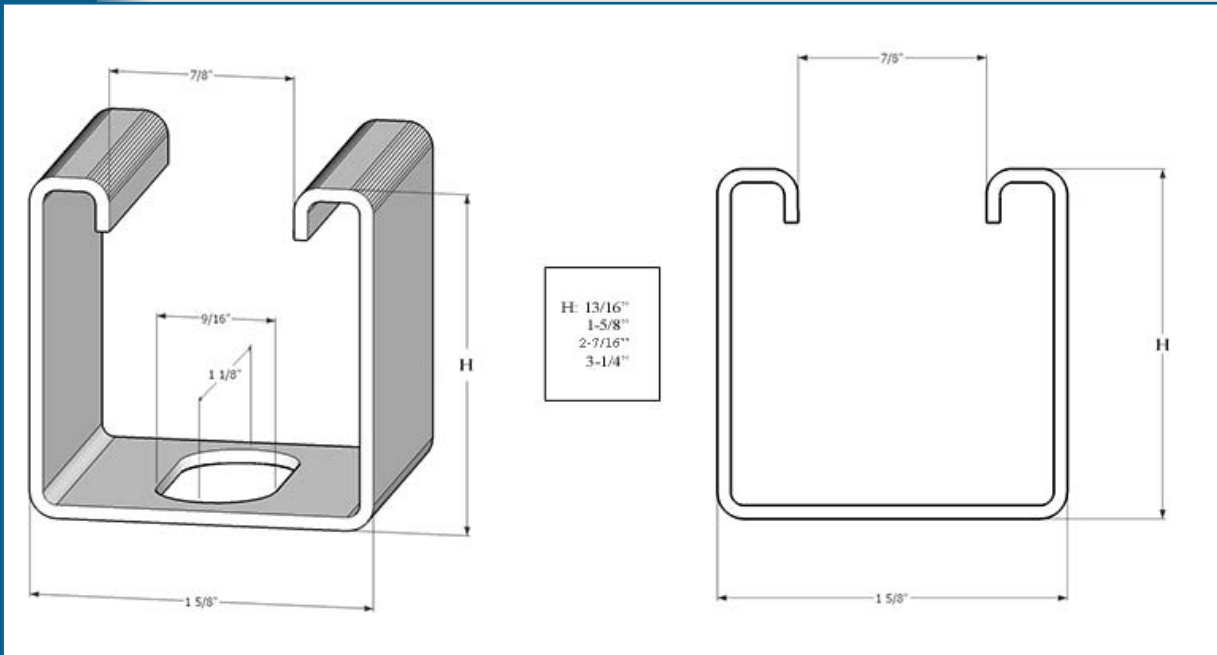




STRUT CHANNEL



Elgen Manufacturing
10 Railroad Ave, Closter NJ 07624
(800) 503-9805 :: www.elgenmfg.com

DESCRIPTION

The Elgen Strut Channel is used in conjunction with threaded rod and other misc. hardware to hang duct work where it requires a heavy application. The Elgen Strut Channel can also be used for external reinforcement.

SPECIAL FEATURES

- Alternative method to trapeze angles
 - Union Made

TECHNICAL INFORMATION

- Meets SMACNA- refer to SMACNA table 5-4 in the 2005 3rd Edition for load requirements
 - Meets MFMA-3
 - Manufactured from Structural Grade 33 - G-6
 - Slotted Holes are 2" on center & measure 9/16" x 1 1/8"
- Load Data pertains to carbon steel and stainless steel channels. Load tables & charts are constructed to be in accordance with the SPECIFICATION FOR THE DESIGN OF COLD-FORMED STEEL STRUCTURAL MEMBERS 1996 EDITION published by the AMERICAN IRON & STEEL INSTITUTE.

PRODUCT SPECIFICATIONS

MATERIAL

STRUT channels are produced from prime structural steel covered by the following specifications.
(See technical section for additional information)

- Pre-Galvanized Steel
 - Plain Steel
 - Aluminum (Type 3003-H14)
 - Stainless Steel (Type 304 & 316)
- Other materials and specifications available on request.

LENGTH INFORMATION

STRUT Channels are produced and stocked in 10 and 20 foot lengths with a tolerance of +/-1/4".
Other lengths are available upon request.

LOADING DATA

When calculating load at center of span, multiply load from table by 0.5 and deflection by 0.8
When calculating beam and column loads for aluminum, multiply by 0.33

PACKAGING

GA	Lengths
12	10' & 20'
14	10' & 20'

- Cut to Length available upon request

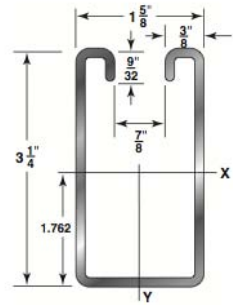
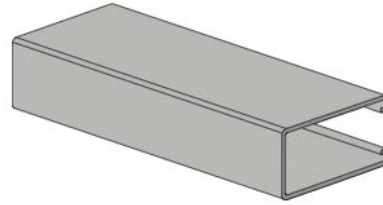
PRODUCT GUARANTEE

Elgen's Strut Channel is guaranteed by Elgen Manufacturing against defective material.

LOAD BEARING CALCULATION TABLE



3-1/4" X 1-5/8" - 12 GAUGE - WT./100 FT. - 313#



Item #	Wt./Ft. Lbs.	Area of Section Sq. In.	X-X Axis			Y - Y Axis		
			I in ⁴	S in ³	r in.	I in ⁴	S in ³	r in.
	3.13	0.887	1.100	0.633	1.114	0.431	0.53	0.697

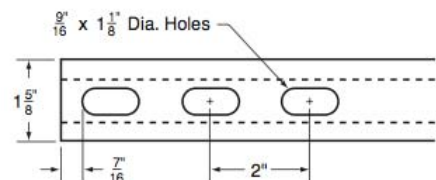
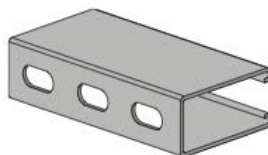
I = Moment of Inertia S = Section Modulus r = Radius of Gyration

Span (in)	Static Beam Load (X - X Axis)								Column Loading Data			
	Max Allowable Uniform Load (Lbs)	Deflection at Uniform Load (In)	Uniform Load at Deflection					Max Allowable Load at Slot Face (Lbs)	Max Column Load Applied at C.G.			
			Span/180 Deflection (Lbs)	Span/240 Deflection (Lbs)	Span/360 Deflection (Lbs)	Weight of Channel (Lbs)	Unbreached Height (In)		k=0.65 (Lbs)	k=0.80 (Lbs)	k=1.0 (Lbs)	k=1.2 (Lbs)
12	10,610	0.01	10,610	10,610	10,610	3.1	12	6,170	19,600	19,060	18,210	17,240
18	7,070	0.02	7,070	7,070	7,070	4.7	18	5,950	18,320	17,240	15,630	13,920
24	5,300	0.03	5,300	5,300	5,300	6.3	24	5,650	16,720	15,070	12,770	10,560
30	4,240	0.05	4,240	4,240	4,240	7.8	30	5,270	14,920	12,770	10,030	7,640
36	3,540	0.07	3,540	3,540	3,540	9.4	36	4,840	13,060	10,560	7,640	5,650
42	3,030	0.09	3,030	3,030	3,030	11.0	42	4,360	11,230	8,560	5,910	4,450
48	2,650	0.12	2,650	2,650	2,650	12.5	48	3,860	9,530	6,850	4,790	3,660
60	2,120	0.18	2,120	2,120	1,920	15.7	60	3,100	6,680	4,790	3,450	2,710
72	1,770	0.26	1,770	1,770	1,340	18.8	72	2,570	4,980	3,660	2,710	2,170
84	1,520	0.36	1,520	1,470	980	21.9	84	2,200	3,950	2,960	2,240	1,820
96	1,330	0.47	1,330	1,130	750	25.0	96	1,930	3,270	2,500	1,920	1,580
108	1,180	0.6	1,180	890	590	28.2	108	1,730	2,800	2,170	1,690	1,390
120	1,060	0.74	960	720	480	31.3	120	1,560	2,450	1,920	1,510	**
144	880	1.06	670	500	330	37.6	144	1,320	1,980	1,580	**	**
168	760	1.44	490	370	250	43.8	168	1,150	1,670	1,340	**	**
180	710	1.65	430	320	210	47.0	180	**	1,550	**	**	**
192	660	1.88	380	280	190	50.1	192	**	1,450	**	**	**
216	590	2.38	300	220	150	56.3	216	**	**	**	**	**
240	530	2.94	240	180	120	62.6	240	**	**	**	**	**

Bearing Load may limit load
 ** Not recommended - KL/r exceeds 200.

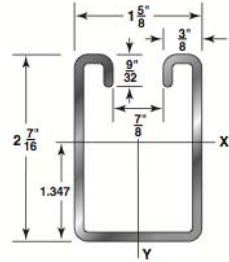
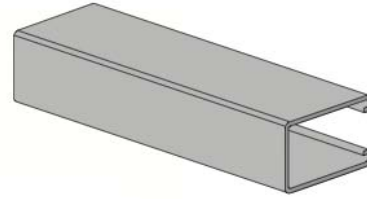
NOTES

- The beam capacities shown above include the weight of the strut beam. The beam weight must be subtracted from these capacities to arrive at the net beam capacity.
- Allowable beam loads are based on a uniformly loaded, simply supported beam. For capacities of a beam loaded at midspan at a single point, multiply the beam capacity by 0.50 and deflection by 0.80.
- The above chart shows beam capacities for strut without holes. For strut with holes, multiply by 0.88



LOAD BEARING CALCULATION TABLE

2-7/16" X 1-5/8" - 12 GAUGE - WT./100 FT. - 254#



Item #	Wt./Ft. Lbs.	Area of Section Sq. In.	X - X Axis			Y - Y Axis		
			I in ⁴	S in ³	r in.	I in ⁴	S in ³	r in.
	2.54	0.72	0.525	0.396	0.854	0.334	0.411	0.681

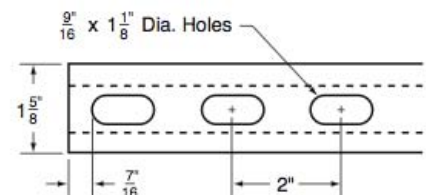
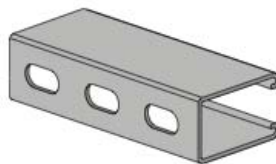
I = Moment of Inertia S = Section Modulus r = Radius of Gyration

Span (in)	Static Beam Load (X - X Axis)								Column Loading Data			
	Max Allowable Uniform Load (Lbs)	Deflection at Uniform Load (In)	Uniform Load at Deflection					Max Allowable Load at Slot Face (Lbs)	Max Column Load Applied at C.G.			
			Span/180 Deflection (Lbs)	Span/240 Deflection (Lbs)	Span/360 Deflection (Lbs)	Weight of Channel (Lbs)	Unbreached Height (In)		k=0.65 (Lbs)	k=0.80 (Lbs)	k=1.0 (Lbs)	k=1.2 (Lbs)
12	6,640	0.01	6,640	6,640	6,640	2.5	12	5,050	15,940	15,530	14,880	14,140
18	4,430	0.02	4,430	4,430	4,430	3.8	18	4,870	14,970	14,140	12,920	11,640
24	3,320	0.04	3,320	3,320	3,320	5.1	24	4,630	13,750	12,500	10,790	9,160
30	2,660	0.06	2,660	2,660	2,660	6.4	30	4,350	12,390	10,790	8,770	7,020
36	2,210	0.09	2,210	2,210	2,210	7.6	36	4,030	11,000	9,160	7,020	5,360
42	1,900	0.12	1,900	1,900	1,870	8.9	42	3,700	9,650	7,680	5,590	4,320
48	1,660	0.15	1,660	1,660	1,430	10.2	48	3,350	8,400	6,390	4,620	3,630
60	1,330	0.24	1,330	1,330	920	12.7	60	2,770	6,240	4,620	3,450	2,770
72	1,110	0.35	1,110	960	640	15.2	72	2,360	4,790	3,630	2,770	2,260
84	950	0.47	940	700	470	17.8	84	2,070	3,890	3,010	2,330	1,910
96	830	0.62	720	540	360	20.3	96	1,850	3,290	2,580	2,020	1,650
108	740	0.78	570	420	280	22.9	108	1,670	2,860	2,260	1,770	1,440
120	660	0.97	460	340	230	25.4	120	1,520	2,530	2,020	1,580	**
144	550	1.39	320	240	160	30.5	144	1,290	2,070	1,650	**	**
168	470	1.89	230	180	120	35.6	168	1,110	1,750	1,380	**	**
180	440	2.17	200	150	100	38.1	180	**	1,620	**	**	**
192	420	2.47	180	130	90	40.6	192	**	1,510	**	**	**
216	370	3.13	140	110	70	45.7	216	**	**	**	**	**
240	330	3.86	110	90	60	50.8	240	**	**	**	**	**

Bearing Load may limit load
 ** Not recommended - KL/r exceeds 200.

NOTES

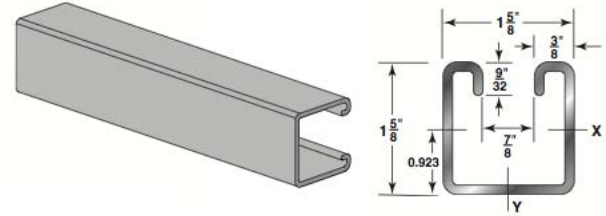
1. The beam capacities shown above include the weight of the strut beam. The beam weight must be subtracted from these capacities to arrive at the net beam capacity.
2. Allowable beam loads are based on a uniformly loaded, simply supported beam. For capacities of a beam loaded at midspan at a single point, multiply the beam capacity by 0.50 and deflection by 0.80.
3. The above chart shows beam capacities for strut without holes. For strut with holes, multiply by 0.88



LOAD BEARING CALCULATION TABLE



1-5/8" X 1-5/8" - 12 GAUGE - WT./100 FT. - 194#



Item #	Wt./Ft. Lbs.	Area of Section Sq. In.	X-X Axis			Y - Y Axis		
			I in ⁴	S in ³	r in.	I in ⁴	S in ³	r in.
	1.94	0.552	0.188	0.208	0.584	0.236	0.29	0.654

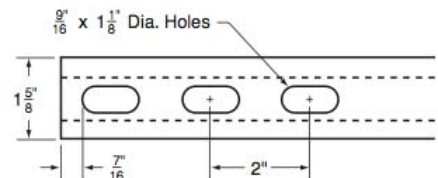
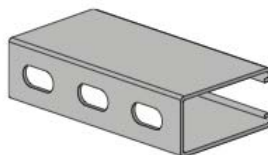
I = Moment of Inertia S = Section Modulus r = Radius of Gyration

Span (in)	Static Beam Load (X - X Axis)								Column Loading Data			
	Max Allowable Uniform Load (Lbs)	Deflection at Uniform Load (in)	Uniform Load at Deflection					Max Allowable Load at Slot Face (Lbs)	Max Column Load Applied at C.G.			
			Span/180 Deflection (Lbs)	Span/240 Deflection (Lbs)	Span/360 Deflection (Lbs)	Weight of Channel (Lbs)	Unbreached Height (in)		k=.65 (Lbs)	k=0.80 (Lbs)	k=1.0 (Lbs)	k=1.2 (Lbs)
12	3,480	0.01	3,480	3,480	3,480	1.9	12	3,850	12,240	11,940	11,480	10,960
18	2,320	0.03	2,320	2,320	2,320	2.9	18	3,710	11,540	10,960	10,130	9,290
24	1,740	0.06	1,740	1,740	1,740	3.9	24	3,530	10,690	9,850	8,740	7,710
30	1,390	0.09	1,390	1,390	1,310	4.9	30	3,330	9,780	8,740	7,470	6,380
36	1,160	0.13	1,160	1,160	910	5.8	36	3,120	8,880	7,710	6,380	5,310
42	990	0.17	990	990	670	6.8	42	2,910	8,020	6,800	5,470	4,430
48	870	0.23	870	770	510	7.8	48	2,710	7,240	6,000	4,690	3,810
60	700	0.35	660	490	330	9.7	60	2,340	5,910	4,690	3,630	2,960
72	580	0.51	460	340	230	11.6	72	2,040	4,840	3,810	2,960	2,400
84	500	0.69	340	250	170	13.6	84	1,800	4,040	3,200	2,480	1,980
96	430	0.90	260	190	130	15.5	96	1,600	3,480	2,750	2,110	1,670
108	390	1.14	200	150	100	17.5	108	1,440	.,050	2,400	1,820	**
120	350	1.41	160	120	80	19.4	120	1,290	2,700	2,110	**	**
144	290	2.03	110	90	60	23.3	144	1,060	2,180	1,670	**	**
168	250	2.77	80	60	40	27.2	168	**	1,790	**	**	**
180	230	3.18	70	50	40	29.1	180	**	**	**	**	**
192	220	3.61	60	50	NR	31	192	**	**	**	**	**
216	190	4.57	50	40	NR	34.9	216	**	**	**	**	**
240	170	5.65	40	NR	NR	38.8	240	**	**	**	**	**

Bearing Load may limit load
 ** Not recommended - KL/r exceeds 200.

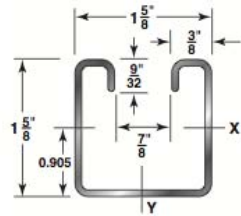
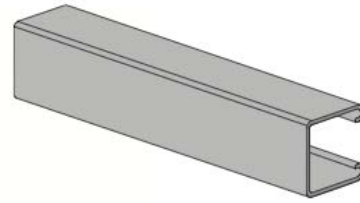
NOTES

- The beam capacities shown above include the weight of the strut beam. The beam weight must be subtracted from these capacities to arrive at the net beam capacity.
- Allowable beam loads are based on a uniformly loaded, simply supported beam. For capacities of a beam loaded at midspan at a single point, multiply the beam capacity by 0.50 and deflection by 0.80.
- The above chart shows beam capacities for strut without holes. For strut with holes, multiply by 0.88



LOAD BEARING CALCULATION TABLE

1-5/8" X 1-5/8" - 14 GAUGE CHANNEL - WT./100 FT. - 145#



Item #	Wt./Ft. Lbs.	Area of Section Sq. In.	X-X Axis			Y - Y Axis		
			I in ⁴	S in ³	r in.	I in ⁴	S in ³	r in.
	1.45	0.416	0.149	0.166	0.598	0.183	0.225	0.663

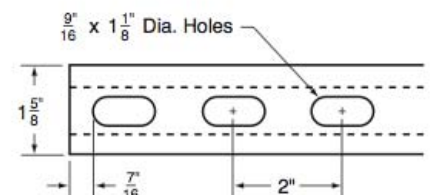
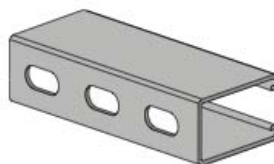
I = Moment of Inertia S = Section Modulus r = Radius of Gyration

Span (in)	Static Beam Load (X - X Axis)							Max Allowable Load at Slot Face (Lbs)	Column Loading Data			
	Max Allowable Uniform Load (Lbs)	Deflection at Uniform Load (in)	Uniform Load at Deflection						Max Column Load Applied at C.G.			
			Span/180 Deflection (Lbs)	Span/240 Deflection (Lbs)	Span/360 Deflection (Lbs)	Weight of Channel (Lbs)	Unbreached Height (in)		k=.65 (Lbs)	k=0.80 (Lbs)	k=1.0 (Lbs)	k=1.2 (Lbs)
12	2,790	0.01	2,790	2,790	2,790	1.5	12	3,050	9,230	9,000	8,640	8,230
18	1,860	0.03	1,860	1,860	1,860	2.2	18	2,930	8,690	8,230	7,550	6,830
24	1,400	0.06	1,400	1,400	1,400	2.9	24	2,770	8,010	7,310	6,350	5,420
30	1,120	0.09	1,120	1,120	1,040	3.6	30	2,590	7,250	6,350	5,200	4,190
36	930	0.13	930	930	720	4.4	36	2,390	6,470	5,420	4,190	3,210
42	800	0.18	800	800	530	5.1	42	2,180	5,770	4,570	3,350	2,580
48	700	0.23	700	610	410	5.8	48	1,980	4,990	3,830	2,760	2,160
62	560	0.36	520	390	260	7.3	60	1,620	3,740	2,760	2,050	1,640
72	470	0.51	360	270	180	8.7	72	1,370	2,860	2,160	1,640	1,330
84	400	0.7	270	200	130	10.2	84	1,190	2,320	1,780	1,370	1,120
96	350	0.91	200	150	100	11.6	96	1,050	1,950	1,520	1,180	960
108	310	1.16	160	120	80	13.1	108	940	1,690	1,330	1,030	**
120	280	1.43	130	100	70	14.5	120	850	1,500	1,180	**	**
144	230	2.06	90	70	50	17.4	144	710	1,220	960	**	**
168	200	2.8	70	50	30	20.3	168	**	1,020	**	**	**
180	190	3.21	60	40	30	21.8	180	**	940	**	**	**
192	170	3.66	50	40	30	23.2	192	**	**	**	**	**
216	160	4.63	40	30	NR	26.1	216	**	**	**	**	**
240	140	5.72	30	NR	NR	29.0	240	**	**	**	**	**

Bearing Load may limit load
 ** Not recommended - KL/r exceeds 200.

NOTES

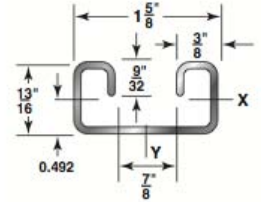
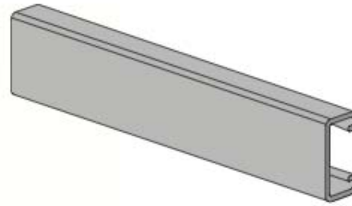
- The beam capacities shown above include the weight of the strut beam. The beam weight must be subtracted from these capacities to arrive at the net beam capacity.
- Allowable beam loads are based on a uniformly loaded, simply supported beam. For capacities of a beam loaded at midspan at a single point, multiply the beam capacity by 0.50 and deflection by 0.80.
- The above chart shows beam capacities for strut without holes. For strut with holes, multiply by 0.88



LOAD BEARING CALCULATION TABLE



13/16" X 1-5/8" - 12 GAUGE - WT./100 FT. - 135#



Item #	Wt./Ft. Lbs.	Area of Section Sq. In.	X-X Axis			Y - Y Axis		
			I in ⁴	S in ³	r in.	I in ⁴	S in ³	r in.
	1.37	0.384	0.032	0.067	0.289	0.139	0.171	0.602

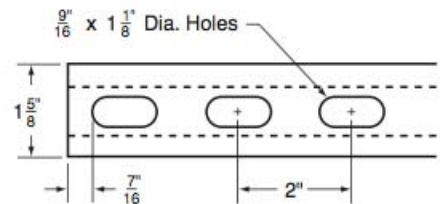
I = Moment of Inertia S = Section Modulus r = Radius of Gyration

Span (in)	Static Beam Load (X - X Axis)								Column Loading Data			
	Max Allowable Uniform Load (Lbs)	Deflection at Uniform Load (In)	Uniform Load at Deflection					Max Allowable Load at Slot Face (Lbs)	Max Column Load Applied at C.G.			
			Span/180 Deflection (Lbs)	Span/240 Deflection (Lbs)	Span/360 Deflection (Lbs)	Weight of Channel (Lbs)	Unbreached Height (In)		k=.65 (Lbs)	k=0.80 (Lbs)	k=1.0 (Lbs)	k=1.2 (Lbs)
12	1,130	0.03	1,130	1,130	1,130	1.4	12	2,410	8,480	8,280	7,990	7,710
18	750	0.06	750	750	620	2.1	18	2,270	8,030	7,710	7,090	6,390
24	560	0.11	560	520	350	2.7	24	2,090	7,510	6,860	5,900	4,910
30	450	0.17	450	340	220	3.4	30	1,880	6,800	5,900	4,670	3,500
36	380	0.24	310	230	160	4.1	36	1,680	6,030	4,910	3,500	2,430
42	320	0.33	230	170	110	4.8	42	1,470	5,220	3,950	2,570	1,790
48	280	0.43	170	130	90	5.5	48	1,280	4,430	3,080	1,970	1,370
60	230	0.67	110	80	60	6.9	60	970	2,980	1,970	**	**
72	190	0.97	80	60	40	8.2	72	760	2,070	1,370	**	**
84	160	1.32	60	40	30	9.6	84	**	1,520	**	**	**
96	140	1.72	40	30	20	11	96	**	**	**	**	**
108	130	2.18	30	30	20	12.4	108	**	**	**	**	**
120	110	2.69	30	20	NR	13.7	120	**	**	**	**	**
144	90	3.88	20	NR	NR	16.5	144	**	**	**	**	**
168	80	5.28	NR	NR	NR	19.2	168	**	**	**	**	**
180	80	6.06	NR	NR	NR	20.6	180	**	**	**	**	**
192	70	6.89	NR	NR	NR	22.0	192	**	**	**	**	**
216	60	8.72	NR	NR	NR	24.7	216	**	**	**	**	**
240	60	10.77	NR	NR	NR	27.5	240	**	**	**	**	**

Bearing Load may limit load
 ** Not recommended - KL/r exceeds 200.

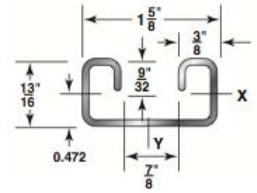
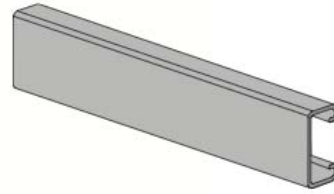
NOTES

- The beam capacities shown above include the weight of the strut beam. The beam weight must be subtracted from these capacities to arrive at the net beam capacity.
- Allowable beam loads are based on a uniformly loaded, simply supported beam. For capacities of a beam loaded at midspan at a single point, multiply the beam capacity by 0.50 and deflection by 0.80.
- The above chart shows beam capacities for strut without holes. For strut with holes, multiply by 0.88



LOAD BEARING CALCULATION TABLE

13/16" X 1-5/8" - 14 GAUGE - WT./100 FT. - 103#



Item #	Wt./Ft. Lbs.	Area of Section Sq. In.	X-X Axis			Y - Y Axis		
			I in ⁴	S in ³	r in.	I in ⁴	S in ³	r in.
	1.03	0.294	0.027	0.058	0.303	0.11	0.135	0.612

I = Moment of Inertia S = Section Modulus r = Radius of Gyration

Span (in)	Static Beam Load (X - X Axis)								Column Loading Data			
	Max Allowable Uniform Load (Lbs)	Deflection at Uniform Load (in)	Uniform Load at Deflection					Max Allowable Load at Slot Face (Lbs)	Max Column Load Applied at C.G.			
			Span/180 Deflection (Lbs)	Span/240 Deflection (Lbs)	Span/360 Deflection (Lbs)	Weight of Channel (Lbs)	Unbreached Height (in)		k=.65 (Lbs)	k=0.80 (Lbs)	k=1.0 (Lbs)	k=1.2 (Lbs)
12	970	0.03	970	970	970	1	12	1,010	6,500	6,340	6,090	5,820
18	640	0.06	640	640	520	1.5	18	1,890	6,120	5,820	5,410	5,010
24	480	0.11	480	440	300	2.1	24	1,740	5,690	5,270	4,700	3,980
30	390	0.17	380	280	190	2.6	30	1,590	5,240	4,700	3,800	2,930
36	320	0.25	260	200	130	3.1	36	1,420	4,790	3,980	2,930	2,050
42	280	0.33	190	140	100	3.6	42	1,250	4,200	3,270	2,170	1,510
48	240	0.44	150	110	70	4.1	48	1,090	3,620	2,600	1,660	1,150
60	190	0.68	90	70	50	5.2	60	830	2,520	1,660	1,060	**
72	160	0.98	70	50	30	6.2	72	650	1,750	1,150	**	**
84	140	1.34	50	40	20	7.2	84	**	1,280	**	**	**
96	120	1.75	40	30	20	8.2	96	**	**	**	**	**
108	110	2.21	30	20	10	9.3	108	**	**	**	**	**
120	100	2.73	20	20	NR	10.3	120	**	**	**	**	**
144	80	3.93	20	NR	NR	12.4	144	**	**	**	**	**
168	70	5.34	NR	NR	NR	14.4	168	**	**	**	**	**
180	60	6.13	NR	NR	NR	15.5	180	**	**	**	**	**
192	60	6.98	NR	NR	NR	16.5	192	**	**	**	**	**
216	50	8.83	NR	NR	NR	18.5	216	**	**	**	**	**
240	50	10.91	NR	NR	NR	20.6	240	**	**	**	**	**

Bearing Load may limit load
 ** Not recommended - KL/r exceeds 200.

NOTES

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- Allowable beam loads are based on a uniformly loaded, simply supported beam. For capacities of a beam loaded at midspan at a single point, multiply the beam capacity by 0.50 and deflection by 0.80.
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