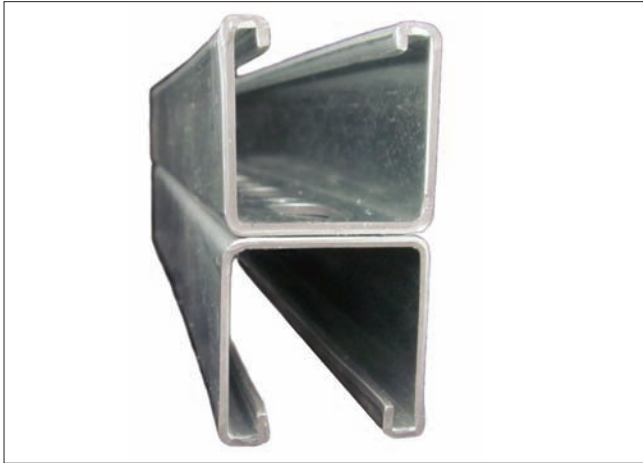


Back-To-Back Strut Channel



Product Data Sheet



Features

Alternative method to trapeze angles
Meets SMACNA- refer to SMACNA table 5-4 in the 2005 3rd Edition for load requirements
Meets MFMA-4
Union Made

Description

Elgen Strut Channel is used primarily as a trapeze hanger for commercial construction products. Elgen Strut Channel can also be used for fabrication purposes when structural formed steel is needed.

Optional Construction

Stainless Steel 304
Stainless Steel 316
Aluminum (Type 3003-H14)
PCD
Galvanneal (Paint Grip)

Standard Construction

Material

Structural Grade 33 - G-60 steel

Slotted Holes

2" apart on center & measure 9/16" x 1 1/8"

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

See attached charts

Packaging

Size	GA	Lengths	Bundle (FT)	Weight (LBS)
6-1/2"	14	20 FT	400	1260
3-1/4"	14	20 FT	400	1680
3-1/4"	12	20 FT	400	2100
4-7/8"	12	20 FT	400	1360

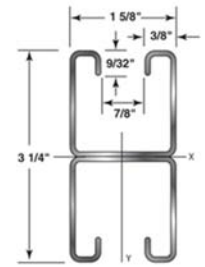
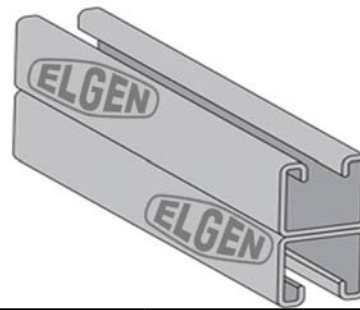
Guarantee

All Elgen products are guaranteed by Elgen Manufacturing against defective material.

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Load Bearing Calculation Table

SECTION ELEMENTS				
Item #	Description	Wt./Ft. LBS.	Area of Section Sq.In.	
EG0815	3-1/4" X 1-5/8" - 12 GAUGE - WT./100 FT. - 386#	3.86	1.104	



DEFINITIONS	
I	Moment of Inertia
S	Section Modules
r	Radius of Gyration

X-X AXIS		
I in.4	S in3	r in.
0.95	0.584	0.925

Y-Y AXIS		
I in.4	S in3	r in.
0.474	0.6	0.66

STATIC BEAM LOAD (X-X AXIS)							
UNIFORM LOAD AT DEFLECTION							
SPAN / UNBREACHED HEIGHT (IN.)	MAX ALLOWABLE UNIFORM LOAD (LBS)	DEFLECTION AT UNIFORM LOAD(LBS)	SPAN/180 DEFLECTION (LBS)	SPAN/240 DEFLECTION (LBS)	SPAN/360 DEFLECTION (LBS)	WEIGHT OF CHANNEL (LBS)	Lateral Bracing Reduct. Factor
12	3,500.70	0.01	3,500.70	3,500.70	3,500.70	3.90	1.00
18	3,500.70	0.02	3,500.70	3,500.70	3,500.70	5.80	1.00
24	3,500.70	0.03	3,500.70	3,500.70	3,500.70	7.80	1.00
30	3,500.70	0.05	3,500.70	3,500.70	3,500.70	9.70	1.00
36	3,260.65	0.07	3,260.65	3,260.65	3,260.65	11.60	1.00
42	2,790.56	0.10	2,790.56	2,790.56	2,790.56	13.60	1.00
48	2,440.49	0.13	2,440.49	2,440.49	2,440.49	15.50	1.00
60	1,950.39	0.20	1,950.39	1,950.39	1,660.33	19.40	0.96
72	1,630.33	0.28	1,630.33	1,630.33	1,150.23	23.30	0.92
84	1,400.28	0.39	1,400.28	1,270.25	840.17	27.21	0.89
96	1,220.24	0.50	1,220.24	970.19	650.13	31.01	0.85
108	1,090.22	0.64	1,020.20	770.15	510.10	34.91	0.81
120	980.20	0.79	830.17	620.12	410.08	38.81	0.77
144	810.16	1.13	570.11	430.09	290.06	46.61	0.70
168	700.14	1.54	420.08	320.06	210.04	54.31	0.62
180	650.13	1.77	370.07	280.06	180.04	58.21	0.59
192	610.12	2.01	320.06	240.05	160.03	62.11	0.55
216	540.11	2.55	260.05	190.04	130.03	69.81	0.49
240	490.10	3.15	210.04	160.03	100.02	77.62	0.44

COLUMN LOADING DATA					
MAX COLUMN LOAD APPLIED AT C.G.					
SPAN / UNBREACHED HEIGHT (IN.)	MAX ALLOWABLE LOAD AT SLOT FACE (LBS)	k= .65 (LBS)	k=0.80 (LBS)	k=1.0 (LBS)	k=1.2 (LBS)
12	6,641.33	25,545.11	25,435.09	25,245.05	25,025.00
18	6,581.32	25,275.05	25,025.00	24,614.92	24,124.82
24	6,511.30	24,894.98	24,464.89	23,754.75	22,924.58
30	6,411.28	24,424.88	23,754.75	22,694.54	21,464.29
36	6,301.26	23,854.77	22,924.58	21,464.29	19,803.96
42	6,171.23	23,194.64	21,974.39	20,094.02	18,013.60
48	6,031.21	22,464.49	20,934.19	18,623.72	16,143.23
60	5,691.14	20,794.16	18,623.72	15,513.10	12,412.48
72	5,311.06	18,923.78	16,143.23	12,412.48	8,991.80
84	4,890.98	16,923.38	13,632.73	9,511.90	6,601.32
96	4,450.89	14,882.98	11,222.24	7,281.46	5,061.01
108	3,980.80	12,862.57	8,991.80	5,751.15	3,990.80
120	3,560.71	10,932.19	7,281.46	4,660.93	NR
144	2,870.57	7,661.53	5,061.01	NR	NR
168	NR	5,631.13	NR	NR	NR
180	NR	4,900.98	NR	NR	NR
192	NR	4,310.86	NR	NR	NR
216	NR	NR	NR	NR	NR
240	NR	NR	NR	NR	NR

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. If load is concentrated at the center of the span, multiply load from the table by 0.5 and corresponding deflection by 0.8.
3. The above chart shows beam capacities for strut without holes. For strut with holes, multiply by 0.88

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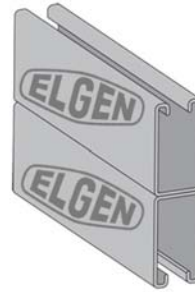
Load Bearing Calculation Table

SECTION ELEMENTS			
Item #	Description	Wt./Ft. LBS.	Area of Section Sq. In.
EG0849-B-SOL	6-1/2" X 1-5/8" - 12 Gauge - wt./100 ft. - 624#	6.24	1.773

DEFINITIONS	
I	Moment of Inertia
S	Section Modules
r	Radius of Gyration

X-X AXIS		
I in.4	S in3	r in.
6.25	1.922	1.878

Y-Y AXIS		
I in.4	S in3	r in.
0.861	1.1	0.7



STATIC BEAM LOAD (X-X AXIS)							
UNIFORM LOAD AT DEFLECTION							
SPAN / UNBREACHED HEIGHT (IN.)	MAX ALLOWABLE UNIFORM LOAD (LBS)	DEFLECTION AT UNIFORM LOAD(LBS)	SPAN/180 DEFLECTION (LBS)	SPAN/240 DEFLECTION (LBS)	SPAN/360 DEFLECTION (LBS)	WEIGHT OF CHANNEL (LBS)	Lateral Bracing Reduct. Factor
12	6,891.38	0.00	6,891.38	6,891.38	6,891.38	6.30	1.00
18	6,891.38	0.01	6,891.38	6,891.38	6,891.38	9.40	1.00
24	6,891.38	0.02	6,891.38	6,891.38	6,891.38	12.50	1.00
30	6,891.38	0.02	6,891.38	6,891.38	6,891.38	15.70	1.00
36	6,891.38	0.04	6,891.38	6,891.38	6,891.38	18.80	1.00
42	6,891.38	0.05	6,891.38	6,891.38	6,891.38	21.90	1.00
48	6,891.38	0.06	6,891.38	6,891.38	6,891.38	25.01	0.97
60	6,451.29	0.10	6,451.29	6,451.29	6,451.29	31.31	0.90
72	5,371.07	0.14	5,371.07	5,371.07	5,371.07	37.61	0.83
84	4,610.92	0.19	4,610.92	4,610.92	4,610.92	43.81	0.76
96	4,030.81	0.25	4,030.81	4,030.81	4,030.81	50.11	0.68
108	3,580.72	0.32	3,580.72	3,580.72	3,370.67	56.31	0.61
120	3,220.64	0.39	3,220.64	3,220.64	2,730.55	62.61	0.53
144	2,690.54	0.57	2,690.54	2,690.54	1,900.38	75.12	0.42
168	2,300.46	0.77	2,300.46	2,090.42	1,390.28	87.62	0.35
180	2,150.43	0.89	2,150.43	1,820.36	1,210.24	93.92	0.32
192	2,020.40	1.01	2,020.40	1,600.32	1,070.21	100.22	0.30
216	1,790.36	1.27	1,690.34	1,260.25	840.17	112.72	0.26
240	1,610.32	1.57	1,370.27	1,020.20	680.14	125.23	0.23

COLUMN LOADING DATA					
MAX COLUMN LOAD APPLIED AT C.G.					
SPAN / UNBREACHED HEIGHT (IN.)	MAX ALLOWABLE LOAD AT SLOT FACE (LBS)	k=.65 (LBS)	k=0.80 (LBS)	k=1.0 (LBS)	k=1.2 (LBS)
12	10,912.18	41,108.22	40,948.19	40,688.14	40,368.07
18	10,862.17	40,728.14	40,368.07	39,787.96	39,087.82
24	10,782.16	40,188.04	39,567.91	38,557.71	37,367.47
30	10,692.14	39,507.90	38,557.71	37,037.41	35,257.05
36	10,572.11	38,697.74	37,367.47	35,257.05	32,846.57
42	10,442.09	37,757.55	35,997.20	33,266.65	30,206.04
48	10,282.06	36,707.34	34,486.90	31,106.22	27,425.48
60	9,901.98	34,286.86	31,106.22	26,475.29	21,744.35
72	9,441.89	31,546.31	27,425.48	21,744.35	16,373.27
84	8,891.78	28,595.72	23,624.72	17,233.45	12,032.41
96	8,261.65	25,525.10	19,893.98	13,272.65	9,211.84
108	7,551.51	22,444.49	16,373.27	10,482.10	7,281.46
120	6,791.36	19,443.89	13,272.65	8,491.70	NR
144	5,511.10	13,962.79	9,211.84	NR	NR
168	4,520.90	10,252.05	6,771.35	NR	NR
180	NR	8,931.79	NR	NR	NR
192	NR	7,851.57	NR	NR	NR
216	NR	NR	NR	NR	NR
240	NR	NR	NR	NR	NR

NOTES:

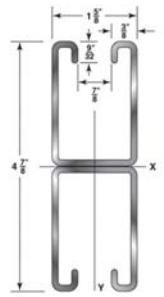
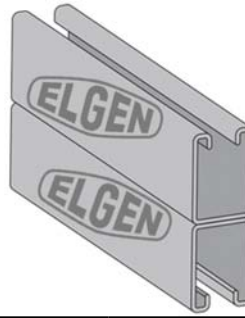
1. The Beam capacities shown above include the weight of the strut beam. The Beam weight must be subtracted from these capacities to arrive at the net beam capacity.
2. Allowable beam loads are based on a uniformly loaded, simply supported beam. If load is concentrated at the center of the span, multiply load from the table by 0.5 and corresponding deflection by 0.8.
3. The above chart shows beam capacities for strut without holes. For strut with holes, multiply by 0.88

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Load Bearing Calculation Table

SECTION ELEMENTS			
Item #	Description	Wt./Ft. LBS.	Area of Section Sq. In.
EG0839-B-SOL	4-7/8" X 1-5/8" - 12 GAUGE - WT./100 FT. - 506#	5.06	1.436



DEFINITIONS	
I	Moment of Inertia
S	Section Modules
r	Radius of Gyration

X-X AXIS		
I in.4	S in3	r in.
2.82	1.163	1.402

Y-Y AXIS		
I in.4	S in3	r in.
0.668	0.8	0.68

STATIC BEAM LOAD (X-X AXIS)							
UNIFORM LOAD AT DEFLECTION							
SPAN / UNBREACHED HEIGHT (IN.)	MAX ALLOWABLE UNIFORM LOAD (LBS)	DEFLECTION AT UNIFORM LOAD(LBS)	SPAN/180 DEFLECTION (LBS)	SPAN/240 DEFLECTION (LBS)	SPAN/360 DEFLECTION (LBS)	WEIGHT OF CHANNEL (LBS)	Lateral Bracing Reduct.Factor
12	5,221.04	0.01	5,221.04	5,221.04	5,221.04	5.10	1.00
18	5,221.04	0.01	5,221.04	5,221.04	5,221.04	7.60	1.00
24	5,221.04	0.02	5,221.04	5,221.04	5,221.04	10.20	1.00
30	5,221.04	0.03	5,221.04	5,221.04	5,221.04	12.70	1.00
36	5,221.04	0.05	5,221.04	5,221.04	5,221.04	15.20	1.00
42	5,221.04	0.06	5,221.04	5,221.04	5,221.04	17.80	1.00
48	4,870.97	0.08	4,870.97	4,870.97	4,870.97	20.30	0.98
60	3,900.78	0.13	3,900.78	3,900.78	3,900.78	25.41	0.93
72	3,250.65	0.19	3,250.65	3,250.65	3,250.65	30.51	0.87
84	2,780.56	0.26	2,780.56	2,780.56	2,530.51	35.61	0.81
96	2,440.49	0.34	2,440.49	2,440.49	1,930.39	40.61	0.75
108	2,160.43	0.43	2,160.43	2,160.43	1,530.31	45.71	0.70
120	1,950.39	0.52	1,950.39	1,860.37	1,240.25	50.81	0.64
144	1,620.32	0.76	1,620.32	1,290.26	860.17	61.01	0.53
168	1,390.28	1.03	1,260.25	950.19	630.13	71.11	0.44
180	1,300.26	1.18	1,100.22	830.17	550.11	76.22	0.41
192	1,220.24	1.34	970.19	730.15	480.10	81.32	0.38
216	1,080.22	1.70	760.15	570.11	380.08	91.42	0.34
240	970.19	2.10	620.12	460.09	310.06	101.62	0.30

COLUMN LOADING DATA					
MAX COLUMN LOAD APPLIED AT C.G.					
SPAN / UNBREACHED HEIGHT (IN.)	MAX ALLOWABLE LOAD AT SLOT FACE (LBS)	k= .65 (LBS)	k=0.80 (LBS)	k=1.0 (LBS)	k=1.2 (LBS)
12	8,801.76	33,316.66	33,186.64	32,956.59	32,686.54
18	8,751.75	32,986.60	32,686.54	32,196.44	31,606.32
24	8,681.74	32,536.51	32,006.40	31,156.23	30,146.03
30	8,591.72	31,956.39	31,156.23	29,865.97	28,365.67
36	8,481.70	31,276.25	30,146.03	28,365.67	26,335.27
42	8,351.67	30,476.09	28,985.80	26,685.34	24,124.82
48	8,201.64	29,585.92	27,715.54	24,874.97	21,794.36
60	7,861.57	27,545.51	24,874.97	21,014.20	17,093.42
72	7,441.49	25,245.05	21,794.36	17,093.42	12,672.53
84	6,961.39	22,774.55	18,653.73	13,392.68	9,311.86
96	6,421.28	20,224.04	15,573.11	10,272.05	7,131.43
108	5,821.16	17,673.53	12,672.53	8,111.62	5,631.13
120	5,231.05	15,203.04	10,272.05	6,571.31	NR
144	4,230.85	10,802.16	7,131.43	NR	NR
168	3,470.69	7,931.59	5,241.05	NR	NR
180	NR	6,911.38	NR	NR	NR
192	NR	6,071.21	NR	NR	NR
216	NR	NR	NR	NR	NR
240	NR	NR	NR	NR	NR

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. If load is concentrated at the center of the span, multiply load from the table by 0.5 and corresponding deflection by 0.8.
3. The above chart shows beam capacities for strut without holes. For strut with holes, multiply by 0.88

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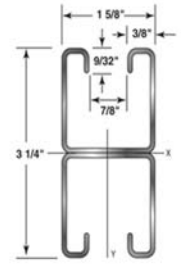
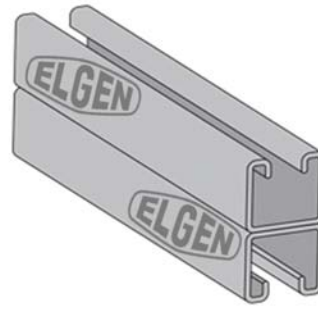
Load Bearing Calculation Table

SECTION ELEMENTS			
Item #	Description	Wt./Ft. LBS.	Area of Section Sq.In.
EG0840-BNH	3-1/4" X 1-5/8" - 14 Gauge - wt./100 ft. - 287#	2.87	0.830

DEFINITIONS	
I	Moment of Inertia
S	Section Modules
r	Radius of Gyration

X-X AXIS		
I in.4	S in3	r in.
0.74	0.46	0.944

Y-Y AXIS		
I in.4	S in3	r in.
0.366	0.5	0.66



STATIC BEAM LOAD (X-X AXIS)							
UNIFORM LOAD AT DEFLECTION							
SPAN / UNBREACHED HEIGHT (IN.)	MAX ALLOWABLE UNIFORM LOAD (LBS)	DEFLECTION AT UNIFORM LOAD(LBS)	SPAN/180 DEFLECTION (LBS)	SPAN/240 DEFLECTION (LBS)	SPAN/360 DEFLECTION (LBS)	WEIGHT OF CHANNEL (LBS)	Lateral Bracing Reduct. Factor
12	2,180.44	0.01	2,180.44	2,180.44	2,180.44	2.90	1.00
18	2,180.44	0.02	2,180.44	2,180.44	2,180.44	4.40	1.00
24	2,180.44	0.03	2,180.44	2,180.44	2,180.44	5.80	1.00
30	2,180.44	0.05	2,180.44	2,180.44	2,180.44	7.30	1.00
36	2,180.44	0.07	2,180.44	2,180.44	2,180.44	8.70	1.00
42	2,180.44	0.10	2,180.44	2,180.44	2,180.44	10.20	1.00
48	1,910.38	0.13	1,910.38	1,910.38	1,910.38	11.60	0.98
60	1,530.31	0.20	1,530.31	1,530.31	1,300.26	14.50	0.93
72	1,270.25	0.28	1,270.25	1,270.25	900.18	17.40	0.88
84	1,090.22	0.39	1,090.22	990.20	660.13	20.30	0.82
96	960.19	0.50	960.19	760.15	510.10	23.20	0.76
108	850.17	0.64	800.16	600.12	400.08	26.11	0.71
120	760.15	0.79	650.13	490.10	320.06	29.01	0.65
144	640.13	1.13	450.09	340.07	220.04	34.81	0.54
168	550.11	1.54	330.07	250.05	170.03	40.61	0.45
180	510.10	1.77	290.06	220.04	140.03	43.51	0.42
192	480.10	2.01	250.05	190.04	130.03	46.41	0.39
216	420.08	2.55	200.04	150.03	100.02	52.21	0.35
240	380.08	3.15	160.03	120.02	80.02	58.01	0.31

COLUMN LOADING DATA					
MAX COLUMN LOAD APPLIED AT C.G.					
SPAN / UNBREACHED HEIGHT (IN.)	MAX ALLOWABLE LOAD AT SLOT FACE (LBS)	k=.65 (LBS)	k=0.80 (LBS)	k=1.0 (LBS)	k=1.2 (LBS)
12	5,141.03	19,253.85	19,173.83	19,033.81	18,873.77
18	5,101.02	19,053.81	18,873.77	18,573.71	18,213.64
24	5,041.01	18,783.76	18,463.69	17,943.59	17,323.46
30	4,970.99	18,433.69	17,943.59	17,163.43	16,253.25
36	4,880.98	18,013.60	17,323.46	16,253.25	15,033.01
42	4,780.96	17,533.51	16,633.33	15,243.05	13,702.74
48	4,670.93	16,993.40	15,863.17	14,152.83	12,312.46
60	4,420.88	15,763.15	14,152.83	11,842.37	9,531.91
72	4,120.82	14,372.87	12,312.46	9,531.91	6,961.39
84	3,800.76	12,892.58	10,452.09	7,361.47	5,111.02
96	3,460.69	11,382.28	8,641.73	5,631.13	3,910.78
108	3,100.62	9,871.97	6,961.39	4,450.89	3,090.62
120	2,770.55	8,421.68	5,631.13	3,610.72	NR
144	2,230.45	5,931.19	3,910.78	NR	NR
168	NR	4,350.87	NR	NR	NR
180	NR	3,790.76	NR	NR	NR
192	NR	3,330.67	NR	NR	NR
216	NR	NR	NR	NR	NR
240	NR	NR	NR	NR	NR

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. If load is concentrated at the center of the span, multiply load from the table by 0.5 and corresponding deflection by 0.8.
3. The above chart shows beam capacities for strut without holes. For strut with holes, multiply by 0.88

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