STRUT CHANNEL - DOMESTIC

STRUT CHANNEL & ACCESSORIES

CERTIFICATION | TECHNICAL DATA

DOMESTIC PRODUCT
Proudly made in the USA

FOR INSTALL SUPPORT
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FOR SPECIFICATION SUPPORT
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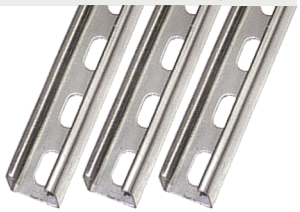
FOR CUSTOMER SUPPORT
888.859.6060

STRUT CHANNEL - DOMESTIC

STRUT CHANNEL & ACCESSORIES



Allfasteners Strut is made from a pre-galvanized steel sheet - available in hot dip galvanized, green powder coated and pre-galvanized finish. The strut channel is then cold formed into a C-Shape profile and slots are punched.

KEY BENEFITS

- Simple, quick installation
- Easy accurate cuts without additional measuring tools
- Customizable length per application requirements
- Clean, pre-galvanized G90 finish can easily be painted
- High quality steel
- Rust resistance

SPECIFICATIONS

- C-profile channel with slotted holes
- Pre-Galvanized Steel as well as other finishes
- 10ft. & 20ft. In-stock
- Complies with AISI S100-2016

COUNTRY OF ORIGIN

Pre-galvanized, hot-dip galvanized (HDG), and green-coated options are manufactured in the USA. Stainless steel options are available and detailed on a separate TDS via import.

MATERIAL SPECIFICATIONS

TABLE 1: MATERIAL SPECIFICATIONS

MATERIAL	**Carbon Steel:** Channel is formed from high quality, structural grade carbon steel and has been manufactured in accordance with ASTM A1003 specification Grade 50, with strength increase from cold forming.
FINISH	**Pre-Galvanized:** A hot dip mill galvanized G90 coating is produced by continuously passing the steel through a bath of molten zinc in accordance with ASTM A653. This coating is applied to steel master coils prior to slotting and fabrication. Pre-galvanized steel is not recommended for outdoor, unprotected use. It is suitable for extended exposure in dry mildly corrosive environments. **Hot-Dip Galvanized (After Fabrication):** The finished channel is completely immersed in a bath of molten zinc, resulting in the complete coating of all surfaces of the product, including edges and welds. Channel that is hot dip galvanized has a total coating weight of 3.0 ounces of zinc per square foot (1.5 ounces per side) in accordance with ASTM A123 specification. This coating provides superior results for prolonged outdoor exposure applications. **Green Powder Coated:** Channel is coated after fabrication with a polyester powder finish. This coating provides a high quality appearance as well as surface durability. Once the channel is pre-treated and cleaned through a bonderite process, the coating is applied using an electro-static spray process. The channel then proceeds through a baking process which results in a chemical bond between the channel and the polyester powder finish.

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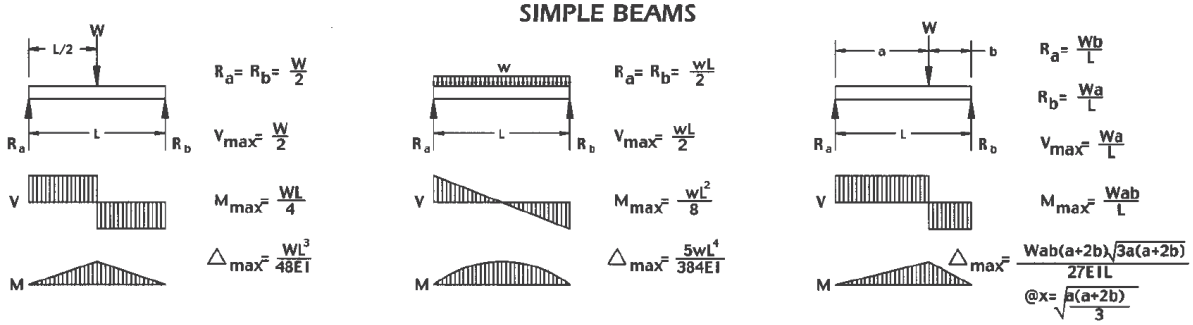
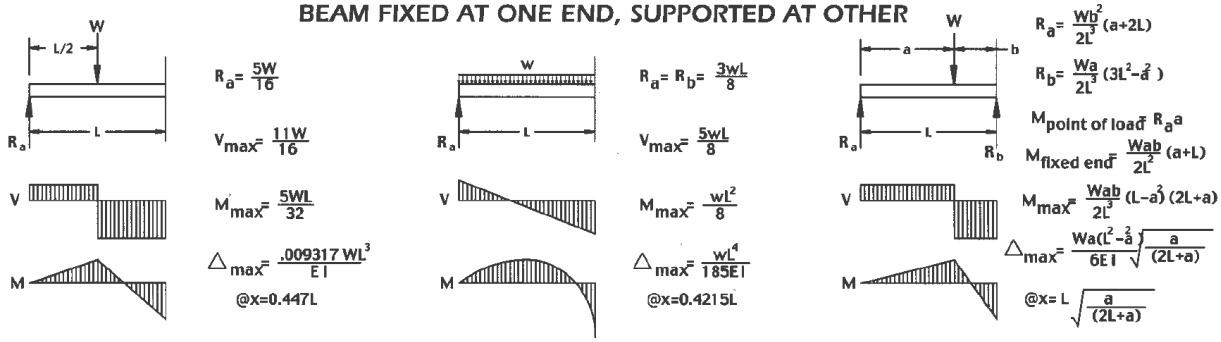
COMMON BEAM LOADING FORMULAS

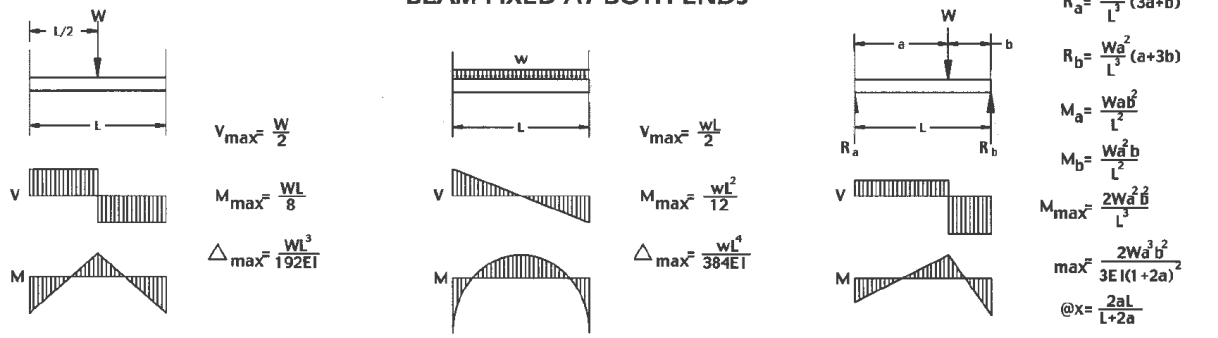
SIMPLE BEAMS



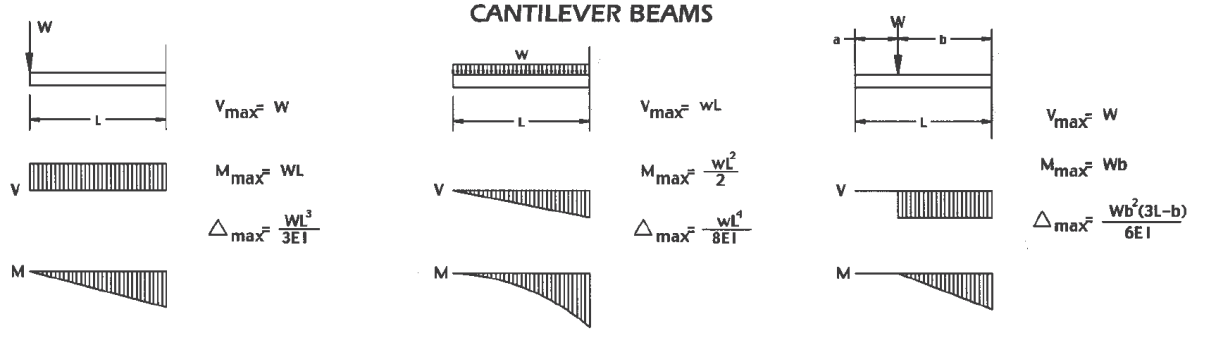
BEAM FIXED AT ONE END, SUPPORTED AT OTHER



BEAM FIXED AT BOTH ENDS



CANTILEVER BEAMS



R- Reaction
M-Moment
W-Concentrated Load

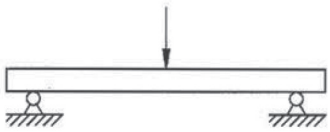
w-Uniform Load (Weight/Unit Length)
V-Shear
L-Length

△-Deflection
E-Modulus of Elasticity
I-Moment of Inertia

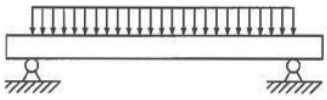
FUNDAMENTALS OF DESIGN

TYPES OF BEAM LOADING

Point Load - A point load is concentrated at a single point along the beam's span (in reality, the load is concentrated over a very small length of the beam).

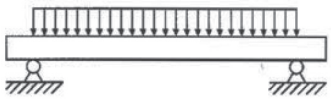


Uniform Load - A uniform load is spread evenly over the length of the beam from support to support.

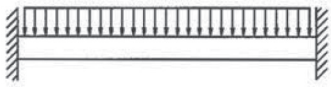


TYPES OF BEAM SUPPORT CONDITIONS

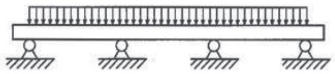
Simple Beam - A simple beam is supported at both ends by non-fixed connections which prevent vertical movement at the support point, but allow the beam to rotate or flex into a normal deflected shape. The majority of bolted metal framing connections closely approximate these conditions. The loading data presented in this TDS is based on simple beam analysis unless otherwise noted.



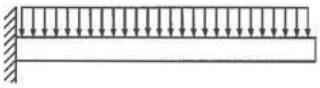
Fixed Beam - A fixed beam has rigid connections at each end that restrict the rotation of the beam and resist the deflection. The increased stiffness provided by this resistance to rotation provides a greater load capacity than that of an equivalent simple beam. A fixed-end beam would result when a channel span is welded to rigid upright supports.



Continuous Beam - A continuous beam rests on more than two supports. The outside spans for a continuous beam will act like simple beams, while the interior spans will behave in a manner similar to fixed beams.



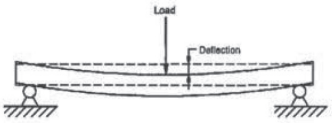
Cantilever Beams - A cantilever beam is supported by a fixed, rigid connection at one end and is totally unsupported at the opposite end. Shelf brackets and many of the strut brackets shown in this TDS are examples of cantilever beams.



LOADING AND DEFLECTION

All beams will deflect or "sag" when a load is applied. The magnitude of the deflection is dependent on the following factors:

(a) The amount of load plus the weight of the beam itself.
(b) The manner in which the load is distributed.
(c) The method by which the beam is supported.
(d) The cross sectional shape of the beam.
(e) The material from which the beam is made.



FUNDAMENTALS OF DESIGN

LOADING AND DEFLECTION (CONT'D)

The stiffness of the beam derived from its cross sectional shape is defined by its "Moment of Inertial" or "I". The greater the "I" value of the beam, the greater its stiffness and the smaller its deflection. "I" values are given for both major axis (X-X and Y-Y). Increasing the height of the strut channel (Y-Y axis) is a straightforward way to increase its stiffness and lower its deflection.

The stiffness of the beam derived from its material composition is defined by its "Modulus of Elasticity" or "E". The greater the "E" value of the beam's material, the stiffer it is, and the smaller the deflection. A material's elasticity does not necessarily relate to its strength but rather its deflection under a given load.

The beam capacities in this TDS includes the weight of the beam itself. Therefore, the strut beam weight must be subtracted from the loading capacities given to provide the net beam capacity.

BEAMS

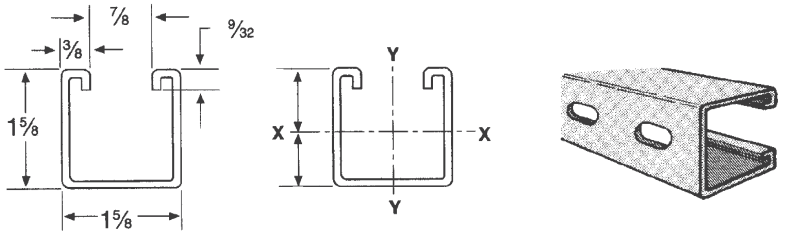
Beams are members which are subjected to loads at right angles (perpendicular) to their length. Most commonly, beams are horizontal and are therefore subjected to vertical loads usually related to gravity, i.e. - a shelf, platform or support for pipe or conduit. Loads cause beams to bend, called deflection. The ultimate consideration when designing a beam structure is whether or not it is strong enough. In other words, will it hold the anticipated load and provide a safety factor for unanticipated loads or other variations in conditions. A beam's ability to support a load is determined by its allowable bending moment and resulting amount of deflection. This load carrying ability is dependent on a number of factors: the amount of load, the type of load, the manner in which the beam is supported and the stiffness of the beam (a function of the beam's shape and the material from which it is made).

SECTION PROPERTIES

TABLE 2: SECTION PROPERTIES

PART #	1-5/8 X 1-5/8		13/16 X 1-5/8		(2) 1-5/8 X 1-5/8		(2) 13/16 X 1-5/8	
	12 GAUGE	14 GAUGE	12 GAUGE	14 GAUGE	12 GAUGE	14 GAUGE	12 GAUGE	14 GAUGE
Weight / ft. (lbs.)	1.9	1.4	1.3	0.9	3.8	2.7	2.6	2
Gross Area (in^2)	0.552	0.403	0.387	0.287	1.108	0.808	0.777	0.577
Net Area (in^2)	0.495	0.363	0.330	0.247	1.006	0.737	0.676	0.505
X-X Axis Moment of Inertia Ix (in^4)	0.161	0.124	0.027	0.022	0.963	0.730	0.156	0.123
X-X Axis Section Modulus Sx (in^3)	0.195	0.152	0.063	0.053	0.592	0.449	0.192	0.151
X-X Axis Radius of Gyration rx (in)	0.569	0.585	0.285	0.298	0.978	0.996	0.447	0.461
Y-Y Axis Moment of Inertia Iy (in^4)	0.235	0.176	0.139	0.106	0.475	0.356	0.283	0.216
Y-Y Axis Section Modulus Sy (in^3)	0.289	0.217	0.171	0.131	0.584	0.439	0.348	0.266
Y-Y Axis Radius of Gyration ry (in)	0.689	0.697	0.649	0.657	0.655	0.664	0.603	0.613

PRODUCT SPECIFICATIONS



BEAM & COLUMN LOADS - 1-5/8 X 1-5/8, 12 GAUGE

TABLE 3: BEAM LOADING FOR 1-5/8 X 1-5/8, 12 GAUGE STRUT CHANNEL

SPAN (in.)	MAXIMUM ALLOWABLE UNIFORM LOAD (lbs.)	DEFLECTION AT UNIFORM LOAD (in.)	UNIFORM LOADING AT DEFLECTION (lbs.)		
			SPAN/180 (lbs.)	SPAN/240 (lbs.)	SPAN/360 (lbs.)
18	3365	0.05	3365	3365	3117
24	2404	0.09	2404	2404	1753
36	1392	0.18	1392	1169	779
48	904	0.27	876	657	438
60	633	0.38	561	421	280
72	465	0.48	389	292	195
84	357	0.58	286	214	143
96	288	0.70	219	164	109
108	238	0.83	172	129	86
120	201	0.95	140	105	70

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 uniform loaded, simply supported beam. For capacities of a beam loaded at midspan at a single point, multiply the beam capacity by 50% and deflection by 80%.
3. Slots are already accounted for in the beam capacity.
4. The factor of safety is 1.67 for beams per AISI S100-2016.
5. Beam loads are based on a simple, unbraced span. If the span is adequately laterally braced, the beam load carrying capacity can be increased.

TABLE 4: COLUMN LOADING FOR 1-5/8 X 1-5/8, 12 GAUGE STRUT CHANNEL

LENGTH OF SPAN (in.)	MAXIMUM LOAD AT CENTER OF GRAVITY (lbs.)			
	K=0.65	K=0.80	K=1.0	K=1.2
18	14,365	13,348	11,914	10,492
24	12,874	11,434	9,589	7,952
36	9,810	7,952	5,962	4,689
48	7,228	5,462	4,122	3,346
60	5,350	4,122	3,200	2,637
72	4,249	3,346	2,637	2,177
84	3,551	2,835	2,243	1,840
96	3,068	2,464	1,943	1,577
108	2,708	2,177	1,701	KL/r>200
120	2,425	1,943	KL/r>200	KL/r>200
144	1,997	KL/r>200	KL/r>200	KL/r>200

NOTES:

1. Slots are already accounted for in the column capacity.
2. The factor of safety is 1.80 for columns per AISI S100-2016.

BEAM & COLUMN LOADS - 1-5/8 X 1-5/8, 14 GAUGE

TABLE 5: BEAM LOADING FOR 1-5/8 X 1-5/8, 14 GAUGE STRUT CHANNEL

SPAN (in.)	MAXIMUM ALLOWABLE UNIFORM LOAD (lbs.)	DEFLECTION AT UNIFORM LOAD (in.)	UNIFORM LOADING AT DEFLECTION (lbs.)		
			SPAN/180 (lbs.)	SPAN/240 (lbs.)	SPAN/360 (lbs.)
18	2005	0.04	2005	2005	2005
24	1504	0.07	1504	1504	1354
36	992	0.16	992	903	602
48	580	0.23	580	508	338
60	320	0.25	320	320	217
72	238	0.32	238	225	150
84	175	0.37	175	165	110
96	136	0.43	136	127	84
108	110	0.49	109	100	66
120	92	0.57	92	81	54

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 uniform loaded, simply supported beam. For capacities of a beam loaded at midspan at a single point, multiply the beam capacity by 50% and deflection by 80%.
3. Slots are already accounted for in the beam capacity.
4. The factor of safety is 1.67 for beams per AISI S100-2016.
5. Beam loads are based on a simple, unbraced span. If the span is adequately laterally braced, the beam load carrying capacity can be increased.

TABLE 6: COLUMN LOADING FOR 1-5/8 X 1-5/8, 14 GAUGE STRUT CHANNEL

LENGTH OF SPAN (in.)	MAXIMUM LOAD AT CENTER OF GRAVITY (lbs.)			
	K=0.65	K=0.80	K=1.0	K=1.2
18	10,599	9,930	8,944	7,914
24	9,610	8,602	7,231	5,935
36	7,400	5,935	4,270	3,195
48	5,339	3,845	2,726	2,107
60	3,751	2,726	1,995	1,581
72	2,830	2,107	1,581	1,274
84	2,267	1,722	1,316	1,071
96	1,894	1,462	1,131	922
108	1,631	1,274	991	KL/r>200
120	1,436	1,131	KL/r>200	KL/r>200
144	1,163	922	KL/r>200	KL/r>200

NOTES:

1. Slots are already accounted for in the column capacity.
2. The factor of safety is 1.80 for columns per AISI S100-2016.

BEAM & COLUMN LOADS - 13/16 X 1-5/8, 12 GAUGE

TABLE 7: BEAM LOADING FOR 13/16 X 1-5/8, 12 GAUGE STRUT CHANNEL

SPAN (in.)	MAXIMUM ALLOWABLE UNIFORM LOAD (lbs.)	DEFLECTION AT UNIFORM LOAD (in.)	UNIFORM LOADING AT DEFLECTION (lbs.)		
			SPAN/180 (lbs.)	SPAN/240 (lbs.)	SPAN/360 (lbs.)
18	1093	0.11	1038	779	519
24	820	0.19	584	438	292
36	530	0.41	259	194	129
48	384	0.70	146	109	73
60	299	1.07	93	70	46
72	244	1.50	64	48	32
84	203	1.99	47	35	23
96	174	2.54	36	27	18
108	151	3.14	28	21	14
120	132	3.77	23	18	12

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 uniform loaded, simply supported beam. For capacities of a beam loaded at midspan at a single point, multiply the beam capacity by 50% and deflection by 80%.
3. Slots are already accounted for in the beam capacity.
4. The factor of safety is 1.67 for beams per AISI S100-2016.
5. Beam loads are based on a simple, unbraced span. If the span is adequately laterally braced, the beam load carrying capacity can be increased.

TABLE 8: COLUMN LOADING FOR 13/16 X 1-5/8, 12 GAUGE STRUT CHANNEL

LENGTH OF SPAN (in.)	MAXIMUM LOAD AT CENTER OF GRAVITY (lbs.)			
	K=0.65	K=0.80	K=1.0	K=1.2
18	10,273	9,610	8,782	8,053
24	9,324	8,527	7,623	6,881
36	7,726	6,881	5,982	5,233
48	6,558	5,721	4,779	3,954
60	5,657	4,779	KL/r>200	KL/r>200
72	4,890	KL/r>200	KL/r>200	KL/r>200
84	4,190	KL/r>200	KL/r>200	KL/r>200
96	KL/r>200	KL/r>200	KL/r>200	KL/r>200
108	KL/r>200	KL/r>200	KL/r>200	KL/r>200
120	KL/r>200	KL/r>200	KL/r>200	KL/r>200
144	KL/r>200	KL/r>200	KL/r>200	KL/r>200

NOTES:
1. Slots are already accounted for in the column capacity.
2. The factor of safety is 1.80 for columns per AISI S100-2016.

BEAM & COLUMN LOADS - 13/16 X 1-5/8, 14 GAUGE

TABLE 9: BEAM LOADING FOR 13/16 X 1-5/8, 14 GAUGE STRUT CHANNEL

SPAN (in.)	MAXIMUM ALLOWABLE UNIFORM LOAD (lbs.)	DEFLECTION AT UNIFORM LOAD (in.)	UNIFORM LOADING AT DEFLECTION (lbs.)		
			SPAN/180 (lbs.)	SPAN/240 (lbs.)	SPAN/360 (lbs.)
18	867	0.10	848	636	424
24	640	0.18	477	358	238
36	389	0.37	212	159	106
48	270	0.60	119	89	59
60	201	0.88	76	57	38
72	158	1.20	52	39	26
84	128	1.55	39	29	19
96	106	1.89	29	22	15
108	90	2.28	23	18	11
120	77	2.68	19	14	10

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 uniform loaded, simply supported beam. For capacities of a beam loaded at midspan at a single point, multiply the beam capacity by 50% and deflection by 80%.
3. Slots are already accounted for in the beam capacity.
4. The factor of safety is 1.67 for beams per AISI S100-2016.
5. Beam loads are based on a simple, unbraced span. If the span is adequately laterally braced, the beam load carrying capacity can be increased.

TABLE 10: COLUMN LOADING FOR 13/16 X 1-5/8, 14 GAUGE STRUT CHANNEL

LENGTH OF SPAN (in.)	MAXIMUM LOAD AT CENTER OF GRAVITY (lbs.)			
	K=0.65	K=0.80	K=1.0	K=1.2
18	7,528	6,977	6,227	5,510
24	6,727	5,982	5,067	4,285
36	5,175	4,285	3,356	2,723
48	3,945	3,109	2,434	2,023
60	3,054	2,434	KL/r>200	KL/r>200
72	2,499	2,023	KL/r>200	KL/r>200
84	2,134	KL/r>200	KL/r>200	KL/r>200
96	KL/r>200	KL/r>200	KL/r>200	KL/r>200
108	KL/r>200	KL/r>200	KL/r>200	KL/r>200
120	KL/r>200	KL/r>200	KL/r>200	KL/r>200
144	KL/r>200	KL/r>200	KL/r>200	KL/r>200

NOTES:

1. Slots are already accounted for in the column capacity.
2. The factor of safety is 1.80 for columns per AISI S100-2016.

BEAM & COLUMN LOADS - DOUBLE BACK-TO-BACK 1-5/8 X 1-5/8, 12 GAUGE

TABLE 11: BEAM LOADING FOR 1-5/8 X 1-5/8, 12 GAUGE DOUBLE BACK-TO-BACK STRUT CHANNEL

SPAN (in.)	MAXIMUM ALLOWABLE UNIFORM LOAD (lbs.)	DEFLECTION AT UNIFORM LOAD (in.)	UNIFORM LOADING AT DEFLECTION (lbs.)		
			SPAN/180 (lbs.)	SPAN/240 (lbs.)	SPAN/360 (lbs.)
24	7684	0.05	7684	7684	7684
36	5124	0.11	5122	5122	4676
48	3608	0.18	3608	3608	2630
60	2695	0.27	2692	2525	1683
72	2082	0.36	2080	1753	1169
84	1645	0.45	1644	1288	858
96	1320	0.53	1315	986	657
108	1062	0.61	1039	779	519
120	860	0.68	841	631	420
240	200	1.31	206	157	105

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 uniform loaded, simply supported beam. For capacities of a beam loaded at midspan at a single point, multiply the beam capacity by 50% and deflection by 80%.
3. Slots are already accounted for in the beam capacity.
4. The factor of safety is 1.67 for beams per AISI S100-2016.
5. Beam loads are based on a simple, unbraced span. If the span is adequately laterally braced, the beam load carrying capacity can be increased.

TABLE 12: COLUMN LOADING FOR 1-5/8 X 1-5/8, 12 GAUGE DOUBLE BACK-TO-BACK STRUT CHANNEL

LENGTH OF SPAN (in.)	MAXIMUM LOAD AT CENTER OF GRAVITY (lbs.)			
	K=0.65	K=0.80	K=1.0	K=1.2
24	27,147	26,201	24,899	23,640
36	25,061	23,640	21,946	20,540
48	23,045	21,445	19,606	16,386
60	21,324	19,606	15,587	11,776
72	19,944	16,386	11,776	8,189
84	17,392	13,255	8,664	6,017
96	14,798	10,365	6,633	4,607
108	12,322	8,189	5,241	3,640
120	10,048	6,633	4,245	2,948
144	6,978	4,607	2,948	2,047
240	2,512	KL/r>200	KL/r>200	KL/r>200

NOTES:

1. Slots are already accounted for in the column capacity.
2. The factor of safety is 1.80 for columns per AISI S100-2016.

BEAM & COLUMN LOADS - DOUBLE BACK-TO-BACK 1-5/8 X 1-5/8, 14 GAUGE

TABLE 13: BEAM LOADING FOR 1-5/8 X 1-5/8, 14 GAUGE DOUBLE BACK-TO-BACK STRUT CHANNEL

SPAN (in.)	MAXIMUM ALLOWABLE UNIFORM LOAD (lbs.)	DEFLECTION AT UNIFORM LOAD (in.)	UNIFORM LOADING AT DEFLECTION (lbs.)		
			SPAN/180 (lbs.)	SPAN/240 (lbs.)	SPAN/360 (lbs.)
24	4912	0.04	4912	4912	4912
36	3274	0.09	3274	3274	3274
48	2456	0.16	2456	2456	1994
60	1837	0.24	1837	1837	1276
72	1381	0.31	1381	1329	886
84	1052	0.38	1052	977	651
96	804	0.43	804	748	498
108	615	0.47	615	591	394
120	486	0.51	486	479	319
240	110	0.91	110	110	80

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 uniform loaded, simply supported beam. For capacities of a beam loaded at midspan at a single point, multiply the beam capacity by 50% and deflection by 80%.
3. Slots are already accounted for in the beam capacity.
4. The factor of safety is 1.67 for beams per AISI S100-2016.
5. Beam loads are based on a simple, unbraced span. If the span is adequately laterally braced, the beam load carrying capacity can be increased.

TABLE 14: COLUMN LOADING FOR 1-5/8 X 1-5/8, 14 GAUGE DOUBLE BACK-TO-BACK STRUT CHANNEL

LENGTH OF SPAN (in.)	MAXIMUM LOAD AT CENTER OF GRAVITY (lbs.)			
	K=0.65	K=0.80	K=1.0	K=1.2
24	19,692	19,003	17,982	16,903
36	18,114	16,903	15,289	13,787
48	16,358	14,772	12,880	11,314
60	14,645	12,880	10,974	8,835
72	13,099	11,314	8,835	6,173
84	11,767	9,892	6,531	4,535
96	10,653	7,813	5,000	3,472
108	9,226	6,173	3,951	2744
120	7,574	5,000	3200	2222
144	5,260	3472	2222	1543
240	1,894	1250	KL/r>200	KL/r>200

NOTES:

1. Slots are already accounted for in the column capacity.
2. The factor of safety is 1.80 for columns per AISI S100-2016.

BEAM & COLUMN LOADS - DOUBLE BACK-TO-BACK 13/16 X 1-5/8, 12 GAUGE

TABLE 15: BEAM LOADING FOR 13/16 X 1-5/8, 12 GAUGE DOUBLE BACK-TO-BACK STRUT CHANNEL

SPAN (in.)	MAXIMUM ALLOWABLE UNIFORM LOAD (lbs.)	DEFLECTION AT UNIFORM LOAD (in.)	UNIFORM LOADING AT DEFLECTION (lbs.)		
			SPAN/180 (lbs.)	SPAN/240 (lbs.)	SPAN/360 (lbs.)
24	2479	0.10	2479	2479	1700
36	1652	0.22	1511	1511	755
48	1239	0.39	850	850	425
60	965	0.59	544	544	272
72	779	0.83	378	378	189
84	646	1.09	277	277	138
96	547	1.37	212	212	106
108	469	1.68	168	168	83
120	408	2.00	136	136	68
240	132	5.14	34	34	18

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 uniform loaded, simply supported beam. For capacities of a beam loaded at midspan at a single point, multiply the beam capacity by 50% and deflection by 80%.
3. Slots are already accounted for in the beam capacity.
4. The factor of safety is 1.67 for beams per AISI S100-2016.
5. Beam loads are based on a simple, unbraced span. If the span is adequately laterally braced, the beam load carrying capacity can be increased.

TABLE 16: COLUMN LOADING FOR 13/16 X 1-5/8, 12 GAUGE DOUBLE BACK-TO-BACK STRUT CHANNEL

LENGTH OF SPAN (in.)	MAXIMUM LOAD AT CENTER OF GRAVITY (lbs.)			
	K=0.65	K=0.80	K=1.0	K=1.2
24	18,111	17,538	16,187	14,675
36	16,367	14,675	12,250	9,823
48	13,879	11,431	8,291	5,782
60	11,228	8,292	5,329	3,700
72	8,665	5,782	3,700	2,570
84	6,435	4,248	2,719	1,888
96	4,927	3,252	2,081	1,445
108	3,893	2,570	1,645	KL/r>200
120	3,153	2,081	1,332	KL/r>200
144	2,189	1,445	KL/r>200	KL/r>200
240	KL/r>200	KL/r>200	KL/r>200	KL/r>200

NOTES:

1. Slots are already accounted for in the column capacity.
2. The factor of safety is 1.80 for columns per AISI S100-2016.

BEAM & COLUMN LOADS - DOUBLE BACK-TO-BACK 13/16 X 1-5/8, 14 GAUGE

TABLE 17: BEAM LOADING FOR 13/16 X 1-5/8, 14 GAUGE DOUBLE BACK-TO-BACK STRUT CHANNEL

SPAN (in.)	MAXIMUM ALLOWABLE UNIFORM LOAD (lbs.)	DEFLECTION AT UNIFORM LOAD (in.)	UNIFORM LOADING AT DEFLECTION (lbs.)		
			SPAN/180 (lbs.)	SPAN/240 (lbs.)	SPAN/360 (lbs.)
24	1808	0.10	1808	1808	1339
36	1205	0.20	1190	892	595
48	888	0.40	669	502	334
60	678	0.50	428	321	214
72	538	0.70	297	223	148
84	440	0.90	218	163	109
96	364	1.20	167	125	84
108	307	1.40	132	99	65
120	262	1.60	107	80	54
240	70	3.50	26	20	14

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 uniform loaded, simply supported beam. For capacities of a beam loaded at midspan at a single point, multiply the beam capacity by 50% and deflection by 80%.
3. Slots are already accounted for in the beam capacity.
4. The factor of safety is 1.67 for beams per AISI S100-2016.
5. Beam loads are based on a simple, unbraced span. If the span is adequately laterally braced, the beam load carrying capacity can be increased.

TABLE 18: COLUMN LOADING FOR 13/16 X 1-5/8, 14 GAUGE DOUBLE BACK-TO-BACK STRUT CHANNEL

LENGTH OF SPAN (in.)	MAXIMUM LOAD AT CENTER OF GRAVITY (lbs.)			
	K=0.65	K=0.80	K=1.0	K=1.2
24	13,200	12,630	11,900	10,990
36	11,987	10,990	9,310	7,601
48	10,442	8,737	6,505	4,593
60	8,594	6,505	4,232	2,938
72	6,774	4,593	2,939	2,041
84	5,111	3,374	2,159	1,499
96	3,913	2,583	1,653	1,148
108	3,091	2,041	1,306	KL/r>200
120	2,504	1,653	1,058	KL/r>200
144	1,739	1,148	KL/r>200	KL/r>200
240	KL/r>200	KL/r>200	KL/r>200	KL/r>200

NOTES:

1. Slots are already accounted for in the column capacity.
2. The factor of safety is 1.80 for columns per AISI S100-2016.

ORDERING INFORMATION

TABLE 19: PRE-GALVANIZED, SHORT SLOT

PART #	SIZE (D X W X L)	GAUGE	QTY/PALLET
6SCG131610-USA	13/16 x 1-5/8 x 10ft	14ga	50 / Pallet
6SCG131620-USA	13/16 x 1-5/8 x 20ft	14ga	50 / Pallet
6SCG15810-USA	1-5/8 x 1-5/8 x 10ft	12ga	50 / Pallet
6SCG15810-14GA-USA	1-5/8 x 1-5/8 x 10ft	14ga	50 / Pallet
6SCG15820-USA	1-5/8 x 1-5/8 x 20ft	12ga	25 / Pallet

TABLE 20: GREEN POWDER COATED, SHORT SLOT

PART #	SIZE (D X W X L)	GAUGE	QTY/PALLET
6SCGR131610-USA	13/16 x 1-5/8 x 10ft	14ga	50 / Pallet
6SCGR15810-USA	1-5/8 x 1-5/8 x 10ft	12ga	50 / Pallet

TABLE 21: DOUBLE BACK-TO-BACK, SPOT WELDED, PRE-GALVANIZED, SHORT SLOT

PART #	SIZE (D X W X L)	GAUGE	QTY/PALLET
6SCDB131620-USA	13/16 x 1-5/8 x 10ft	14ga	25 / Pallet
6SCDB15810-USA	1-5/8 x 1-5/8 x 10ft	12ga	25 / Pallet
6SCDB15820-USA	1-5/8 x 1-5/8 x 20ft	12ga	20 / Pallet

TABLE 22: HOT DIP GALVANIZED, SHORT SLOT

PART #	SIZE (D X W X L)	GAUGE	QTY/PALLET
6SCHG131610-USA	13/16 x 1-5/8 x 10ft	14ga	50 / Pallet
6SCHG15810-USA	1-5/8 x 1-5/8 x 10ft	12ga	50 / Pallet
6SCHG15820-USA	1-5/8 x 1-5/8 x 20ft	12ga	50 / Pallet

TABLE 23: DOUBLE BACK-TO-BACK, SPOT WELDED, HOT DIP GALVANIZED SHORT SLOT

PART #	SIZE (D X W X L)	GAUGE	QTY/PALLET
6SCDBG15810-USA	1-5/8 x 1-5/8 x 10ft	12ga	25 / Pallet
6SCDBG15820-USA	1-5/8 x 1-5/8 x 20ft	12ga	20 / Pallet