

SPECIFICATIONS FOR STRUCTURAL STEEL SHAPES

ASTM – A36 - Standard Specification for Carbon Structural Steel.

This specification covers shapes of structural quality for use in riveted, bolted, or welded construction of bridges and buildings, and for general structural purposes.

ASTM – A572 - Standard Specification for High-Strength Low-Alloy Structural Steel.

This specification covers five grades of high-strength low-alloy shapes intended for riveted, bolted, or welded construction of bridges, or for other construction applications.

ASTM – A588 - Standard Specification for High-Strength Low-Alloy Structural Steel.

This specification covers shapes for welded, riveted, or bolted construction but intended primarily for use in welded bridges and buildings where savings in weight or added durability is important. The atmospheric corrosion resistance of this steel in most environments is substantially better than that of carbon steels with or without copper addition.

ASTM – A709 - Standard Specification for Carbon and High Strength Low-Alloy Shapes.

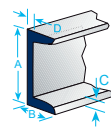
This specification covers shapes, and bars intended for use in bridges. Seven grades are available in four yield strengths.

ASTM – A992 - Standard Specification for Steel for Structural Shapes For Use in Building Framing.

This specification covers rolled shapes for use in building framing or bridges, or for general structural purposes.

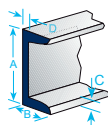


Standard Channels

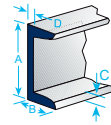


Section Number	Weighth Per Ft. Pound	Depth of Section Inch	Flange		Web Thickness Inch
			Width Inch	Thickness Inch	
			Inch	Inch	Inch
3	3.5	3	1.376	0.273	0.125
	4.1	3	1.410	0.273	0.170
	5	3	1.498	0.273	0.258
	6	3	1.596	0.273	0.356
4	4.5	4	1.585	0.149	0.163
	5.4	4	1.580	0.296	0.184
	7.25	4	1.721	0.296	0.321
5	6.7	5	1.750	0.320	0.190
	9	5	1.885	0.320	0.325
6	8.2	6	1.920	0.343	0.200
	10.5	6	2.034	0.343	0.314
	13	6	2.157	0.343	0.437
7	9.8	7	2.090	0.366	0.210
	12.25	7	2.194	0.366	0.303
	14.75	7	2.299	0.366	0.487
8	11.5	8	2.260	0.390	0.220
	13.75	8	2.343	0.390	0.303
	18.75	8	2.527	0.390	0.487
9	13.4	9	2.433	0.413	0.233
	15	9	2.485	0.413	0.285
	20	9	2.648	0.413	0.448
10	15.3	10	2.600	0.436	0.240
	20	10	2.739	0.436	0.379
	25	10	2.886	0.436	0.523
	30	10	3.033	0.436	0.673
12	20.7	12	2.942	0.501	0.282
	25	12	3.047	0.501	0.387
	30	12	3.170	0.501	0.510
15	33.9	15	3.400	0.650	0.400
	40	15	3.520	0.650	0.520
	50	15	3.716	0.650	0.716

MC Channels



Section Number	Weight Per Ft. Pound	Depth of Section Inch	Flange		Web Thickness Inch
			Width Inch	Thickness Inch	
			Inch	Inch	Inch
3	7.1	2.93	1.940	0.351	0.312
4	13.8	4	2.500	0.500	0.500
6	12	6	2.497	0.375	0.310
	15.1	6	2.941	0.475	0.316
	15.3	6	3.500	0.475	0.375
	16.3	6	3.000	0.475	0.379
	18	6	3.504	0.475	0.379
7	19.1	7	3.452	0.500	0.352
	22.7	7	3.603	0.500	0.503
8	8.5	8	1.874	0.311	0.179
	18.7	8	2.978	0.500	0.353
	20	8	3.025	0.500	0.400
	21.4	8	3.450	0.525	0.375
	22.8	8	3.502	0.525	0.427
9	23.9	9	3.450	0.550	0.400
	25.4	9	3.500	0.550	0.450
10	6.5	10	1.170	0.202	0.152
	8.4	10	1.500	0.280	0.170
	22	10	3.315	0.575	0.290
	25	10	3.405	0.575	0.380
	28.5	10	3.950	0.575	0.425
	33.6	10	4.100	0.575	0.575
	41.1	10	4.321	0.575	0.796
12	10.6	12	1.500	0.309	0.190
	14.3	12	2.125	0.313	0.250
	31	12	3.670	0.700	0.370
	35	12	3.767	0.700	0.465
	40	12	3.890	0.700	0.590
	45	12	4.012	0.700	0.712
	50	12	4.135	0.700	0.835
13	31.8	13	4.000	0.610	0.375
	35	13	4.072	0.610	0.447
	40	13	4.185	0.610	0.560
	50	13	4.412	0.610	0.787
18	42.7	18	3.950	0.625	0.450
	45.8	18	4.000	0.625	0.500
	51.9	18	4.125	0.625	0.600
	58	18	4.200	0.625	0.700



Bar Channels

A		B	C	
Size in Inches			Estimated lbs.	
Section Depth	Flange Width	Web Thickness	Per Ft.	Per 20' Length
1/2	1/4	1/8	0.28	5.60
3/4	5/16	1/8	0.50	10.00
3/4	3/8	1/8	0.56	11.20
7/8	3/8	1/8	0.65	13.00
7/8	7/16	1/8	0.69	13.80
1	3/8	1/8	0.68	13.60
1	1/2	1/8	0.84	16.80
1 1/8	9/16	1/8	1.16	23.20
1 1/4	1/2	1/8	1.01	20.20
1 1/2	1/2	1/8	1.12	22.40
1 1/2	3/4	1/8	1.17	23.40
2	1/2	1/8	1.43	28.60
2	1	1/8	1.78	35.60
1 1/2	9/16	3/16	1.44	28.80
1 3/4	1/2	3/16	1.55	31.00
2	9/16	3/16	1.86	37.20
2	1	3/16	2.32	46.40
2 1/2	5/8	3/16	2.27	45.40
2	5/8	1/4	2.28	45.60

Expanded Metal



Standard Expanded Metal

Style Designation	Weight Per 100 Sq. Ft.	Diamond Size Inches	Overall Thickness Inches	Standard Sheet Size	
				Width	Length
1/4" No. 18	117	0.26 x 1	0.125	4'	8'
1/2" No. 20	43	0.5 x 1.12	0.134	4'	8' & 10'
1/2" No. 18	70	0.5 x 1.2	0.161	4' & 6'	8' & 10'
1/2" No. 16	87	0.5 x 1.2	0.159	4' & 6'	8' & 10'
1/2" No. 13	146	0.5 x 1.2	0.199	4' & 6"	8'
3/4" No. 16	54	0.923 x 2	0.183	4' & 6"	8' & 10'
3/4" No. 13	80	0.88 x 2	0.185	4' & 6'	8' & 10'
3/4" No. 10	119	0.889 x 2	0.277	4'	8'
3/4" No. 9	180	0.857 x 2	0.29	4' & 6'	8' & 10'
1" No. 16	47	1.01 x 2.4	0.196	4'	8'
1 1/2" No. 16	40	1.35 x 3	0.21	4'	8'
1 1/2" No. 13	60	1.35 x 3	0.213	4' & 6'	8' & 10'
1 1/2" No. 10	79	1.33 x 3	0.248	4' & 6'	8' & 10'
1 1/2" No. 9	119	1.33 x 3	0.289	4' & 6'	8' & 10'
1 1/2" No. 6	250	1.33 x 3	0.385	6'	12'

Flattened Expanded Metal

Style Designation	Weight Per 100 Sq. Ft.	Diamond Size Inches	Overall Thickness Inches	Standard Sheet Size	
				Width	Length
1/4" No.20-22	87	0.26 x 1.03	0.031	4'	8'
1/4" No.18-20	113	0.26 x 1.03	0.042	4'	8'
1/2" No.20-22	41	0.500 x 1.25	0.032	3' & 4'	8'
1/2" No.18-20	66	0.500 x 1.26	0.038	3' & 4'	8' & 10'
1/2" No.16-18	82	0.500 x 1.26	0.050	3' & 4'	8' & 10'
1/2" No.13-15	138	0.500 x 1.26	0.070	3' & 4'	8'
3/4" No.16-18	51	0.923 x 2.10	0.048	3' & 4'	8' & 10'
3/4" No.14-16	68	0.923 x 2.10	0.063	3' & 4'	8'
3/4" No.13-15	76	0.923 x 2.10	0.070	3' & 4'	8' & 10'
3/4" No. 9-11	171	0.857 x 2.10	0.110	3' & 4'	8' & 10'
1" No.16-18	46	1.09 x 2.56	0.048	3' & 4'	8'
1 1/2" No.16(1t)18	29	1.33 x 3.20	0.048	3' & 4'	8'
1 1/2" No.14-16	53	1.33 x 3.20	0.063	3' & 4'	8'
1 1/2" No.13-15	57	1.33 x 3.20	0.070	3' & 4'	8' & 10'
1 1/2" No. 9-11	113	1.33 x 3.20	0.106	3' & 4'	8' & 10'

Grating & Flooring Products

Expanded Metal Grating

Style Designation (wt. per sq. ft.)		Diamond Size a x b Inches	Overall Thickness in In.	Standard Sheet Size	
				Length (SWD)	Width (LWD)
3	lb.	1.33 x 5.33	1/2	4' & 6'	5', 8' & 10'
3.14	lb.	2.00 x 6.0	9/16	4' & 6'	10'
4	lb.	1.333 x 5.333	5/8	4', 5' & 6'	8'
4.27	lb.	1.412 x 4.0	5/8	4' & 6'	8'
5	lb.	1.333 x 5.333	5/8	4'	5', 8' & 10'
6.25	lb.	1.412 x 5.33	47/64	4' & 6'	8'
7	lb.	1.333 x 5.333	3/4	4'	4'2" & 8'4"

Carbon Steel Gratings

Standard or Serrated

Stock Widths 24" & 36", Lengths 20' & 24'

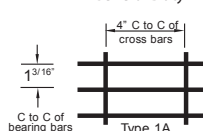
Weight in Pounds per Sq. Ft.

Bearing Bars	Cross Bars	Type 1A	Type 1B
3/4 x 1/8	1/4	3.99	4.63
3/4 x 3/16	1/4	5.67	6.31
1 x 1/8	1/4	5.15	5.79
1 x 3/16	1/4	7.35	7.99
1 1/4 x 1/8	1/4	6.20	6.84
1 1/4 x 3/16	1/4	9.03	9.67
1 1/2 x 1/8	1/4	7.35	7.99
1 1/2 x 3/16	5/16	10.94	11.80
1 3/4 x 3/16	5/16	12.62	13.48
2 x 3/16	5/16	14.30	15.16
2 1/4 x 3/16	5/16	15.87	16.74
2 1/2 x 3/16	5/16	17.55	18.42

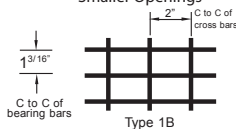
Weight in Pounds per Sq. Ft.

Bearing Bars	Cross Bars	Type 2A	Type 2B
3/4 x 1/8	1/4	4.95	5.59
3/4 x 3/16	1/4	7.11	7.75
1 x 1/8	1/4	6.44	7.08
1 x 3/16	1/4	9.27	9.91
1 1/4 x 1/8	1/4	7.79	8.43
1 1/4 x 3/16	1/4	11.43	12.07
1 1/2 x 1/8	1/4	9.27	9.91
1 1/2 x 3/16	5/16	13.82	14.68
1 3/4 x 3/16	5/16	15.98	16.84
2 x 3/16	5/16	18.14	19.00
2 1/4 x 3/16	5/16	20.16	21.03
2 1/2 x 3/16	5/16	22.23	23.19

General Duty

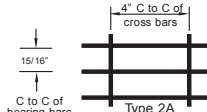


Smaller Openings



(Standard with Close Cross Bars)

Heavier Loads



(Close Space)

Heaviest Loads

