

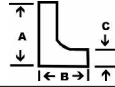
# **McKinnon Metals**

## **STEEL STRUCTURALS**

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**STEEL  
STRUCTURALS**

### CARBON STEEL ANGLES BAR MILL SIZES



ASTM - A36  
CSA, G40.21 44W

A	B	C	Lbs/Ft	A	B	C	Lbs/Ft
1/2 X	1/2 X	1/8	.380	1-3/4 X	1-3/4 X	3/16	2.120
5/8 X	5/8 X	1/8	.480			1/4	2.770
3/4 X	3/4 X	1/8	.590	2 X	1-1/4 X	3/16	1.960
7/8 X	7/8 X	1/8	.700			1/4	2.550
1 X	5/8 X	1/8	.640	2 X	1-1/2 X	1/8	1.440
1 X	3/4 X	1/8	.700			3/16	2.120
1 X	1 X	1/8	.800			1/4	2.770
		3/16	1.160	2 X	2 X	1/8	1.650
		1/4	1.490			3/16	2.440
1-1/8 X	1-1/8 X	1/8	.900			1/4	3.190
1-1/4 X	1-1/4 X	1/8	1.010			5/16	3.920
		3/16	1.480			3/8	4.700
		1/4	1.920	2-1/2 X	1-1/2 X	3/16	2.440
1-3/8 X	7/8 X	1/8	.910			1/4	3.190
		3/16	1.320			5/16	3.920
1-1/2 X	1-1/4 X	3/16	1.640	2-1/2 X	2 X	3/16	2.750
1-1/2 X	1-1/2 X	1/8	1.230			1/4	3.620
		3/16	1.800			5/16	4.500
		1/4	2.340			3/8	5.300
		3/8	3.350	2-1/2 X	2-1/2 X	3/16	3.070
1-3/4 X	1-1/4 X	1/8	1.230			1/4	4.100
		3/16	1.800			5/16	5.000
		1/4	2.340			3/8	5.900
1-3/4 X	1-3/4 X	1/8	1.440			1/2	7.700

### CARBON STEEL ANGLES STRUCTURAL SIZES



ASTM A-36

CSA, G40.21 44W

A	B	C	Lbs/Ft	A	B	C	Lbs/Ft
3	X 2	3/16	3.070	4	X 3-1/2	1/4	6.200
		1/4	4.100			5/16	7.700
		5/16	5.000			3/8	9.100
		3/8	5.900			1/2	11.900
		1/2	7.700	4	X 4	1/4	6.600
3	X 2-1/2	3/16	3.350			5/16	8.200
		1/4	4.500			3/8	9.800
		5/16	5.600			1/2	12.800
		3/8	6.600			5/8	15.700
		1/2	8.500			3/4	18.500
3	X 3	3/16	3.710	5	X 3	1/4	6.600
		1/4	4.900			5/16	8.200
		5/16	6.100			3/8	9.800
		3/8	7.200			1/2	12.800
		1/2	9.400	5	X 3-1/2	1/4	7.000
3-1/2	X 2-1/2	1/4	4.900			5/16	8.700
		5/16	6.100			3/8	10.400
		3/8	7.200			1/2	13.600
		1/2	9.400			5/8	16.800
3-1/2	X 3	1/4	5.400			3/4	19.800
		5/16	6.600	5	X 5	5/16	10.300
		3/8	7.900			3/8	12.300
		1/2	10.200			1/2	16.200
3-1/2	X 3-1/2	1/4	5.800			5/8	20.000
		5/16	7.200			3/4	23.600
		3/8	8.500	6	X 3-1/2	1/4	7.900
		1/2	11.100			5/16	9.800
4	X 3	1/4	5.800			3/8	11.700
		5/16	7.200			1/2	15.300
		3/8	8.500	6	X 4	5/16	10.300
		1/2	11.100			3/8	12.300
						1/2	16.200

**CARBON STEEL ANGLES  
STRUCTURAL SIZES**

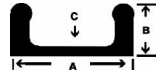


**ASTM A-36  
CSA, G40.21 44W**

A	B	C	Lbs/Ft	A	B	C	Lbs/Ft
6 X	4 X	5/8	20.000	8 X	4 X	1/2	19.600
		3/4	23.600			3/4	28.700
6 X	6 X	5/16	12.500	8 X	6 X	1/2	23.000
		3/8	14.900			3/4	33.800
		1/2	19.600			1	44.200
		5/8	24.200	8 X	8 X	1/2	26.400
		3/4	28.700			5/8	32.700
		1	37.400			3/4	38.900
7 X	4 X	3/8	13.600			1	51.000
		1/2	17.900	9 X	4 X	1/2	21.30*
		3/4	26.200				

\* Not a rolled section, cut from channel.

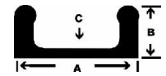
### CARBON STEEL CHANNELS BAR MILL SIZES



ASTM A-36  
CSA, G40.21 44W

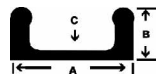
A Depth	B Flange	C Web Thickness	Lbs/Ft	A Depth	B Flange	C Web Thickness	Lbs/Ft
3/4	3/8	1/8	<b>.550</b>	1-1/2	3/4	1/8	<b>1.170</b>
1	3/8	1/8	<b>.680</b>	2	1/2	1/8	<b>1.430</b>
1	1/2	1/8	<b>.840</b>	2	9/16	3/16	<b>1.860</b>
1-1/8	9/16	3/16	<b>1.160</b>	2	5/8	1/4	<b>2.280</b>
1-1/4	1/2	1/8	<b>.990</b>	2	1	1/8	<b>1.590</b>
1-1/2	1/2	1/8	<b>1.120</b>	2	1	3/16	<b>2.320</b>
1-1/2	9/16	3/16	<b>1.440</b>	2-1/2	5/8	3/16	<b>2.270</b>

### CARBON STEEL CHANNELS SHIP AND CAR SIZES



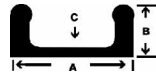
ASTM A-36  
CSA, G40.21 44W

A Depth	Lbs/Ft	C Web Thickness	B Flange Width	A Depth	Lbs/Ft	C Web Thickness	B Flange Width
3"	<b>7.1</b>	.313	1.938	10"	<b>33.6</b>	.575	4.100
4"	<b>13.8</b>	.500	2.500	10"	<b>41.1</b>	.796	4.321
6"	<b>12.0</b>	.313	2.500	12"	<b>32.9</b>	.500	3.500
	<b>15.3</b>	.340	3.500		<b>35.0</b>	.467	3.767
	<b>16.3</b>	.375	3.000		<b>45.0</b>	.712	4.012
	<b>18.0</b>	.375	3.500		<b>50.0</b>	.835	4.135
7"	<b>19.1</b>	.350	3.450	13"	<b>31.8</b>	.375	4.000
	<b>22.7</b>	.500	3.600		<b>35.0</b>	.447	4.072
8"	<b>18.7</b>	.350	2.975		<b>40.0</b>	.560	4.185
	<b>20.0</b>	.400	3.025		<b>50.0</b>	.787	4.412
	<b>21.4</b>	.375	3.450	18"	<b>42.7</b>	.450	3.950
	<b>22.8</b>	.425	3.500		<b>45.8</b>	.500	4.000
9"	<b>25.4</b>	.450	3.500		<b>51.9</b>	.600	4.100
10"	<b>21.9</b>	.325	3.450		<b>58.0</b>	.700	4.200
	<b>28.5</b>	.425	3.950				

**CARBON STEEL CHANNELS  
STRUCTURAL SIZES**

**ASTM A-36  
CSA, G40.21 44W**

A	Lbs/Ft □ □	C □	B
3"	4.100	.170	1.410
	5.000	.258	1.498
	6.000	.356	1.596
4"	5.400	.180	1.580
	6.250	.247	1.647
	7.250	.320	1.720
5"	6.700	.190	1.750
	9.000	.325	1.885
6" □	8.200	.200	1.920
	10.500	.314	2.034
	13.000	.437	2.157
7" □	9.800	.210	2.090
	12.250	.314	2.194
	14.750	.419	2.299
8"	11.500	.220	2.260
	13.750	.303	2.343
	18.750	.487	2.527
9"	13.400	.230	2.430
	15.000	.285	2.485
	20.000	.448	2.648
10"	15.300	.240	2.600
	20.000	.379	2.739
	25.000	.526	2.886
12"	30.000	.673	3.033
	20.700	.280	2.940
	25.000	.387	3.047
	30.000	.510	3.170

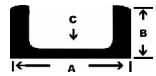
**CARBON STEEL CHANNELS  
STRUCTURAL SIZES**



**ASTM A-36  
CSA, G40.21 44W**

A Depth	Lbs/Ft	C Thickness of Web	B Width of Flange
15" □	33.9	.400	3.400
	40.0	.520	3.520
	50.0	.716	3.716

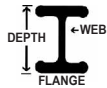
**CARBON STEEL CHANNELS  
STAIR STRINGERS (JUNIOR)**



**ASTM A-36  
CSA, G40.21 44W**

A Depth	Lbs/Ft	C Thickness of Web	B Width of Flange
8"	8.5	.180	1.875
10" □	6.5	.150	1.125
	8.4	.170	1.500
12" □	10.6	.190	1.500

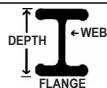
### CARBON STEEL STRUCTURAL WIDE FLANGE/H BEAMS



ASTM A-36  
CSA, G40.21 44W

Depth	Lbs/Ft	Depth <i>d</i> in.	Flange		Web <i>t</i> in.
			Width <i>b</i> in.	Thickness <i>t<sub>f</sub></i> in.	
W4 X	13	4.160	4.060	.345	.280
W5 X	16	5.010	5.000	.360	.240
W6 X	19	5.150	5.030	.430	.270
	9	5.900	3.940	.215	.170
	12	6.030	4.000	.280	.230
	15	5.990	5.990	.260	.230
W8 X	16	6.280	4.030	.405	.260
	20	6.200	6.020	.365	.260
	25	6.380	6.080	.455	.320
	10	7.890	3.940	.205	.170
	13	7.990	4.000	.255	.230
	15	8.110	4.015	.315	.245
	18	8.140	5.250	.330	.230
	21	8.280	5.270	.400	.250
	24	7.930	6.495	.400	.245
	28	8.060	6.535	.465	.285
	31	8.000	7.995	.435	.285
	35	8.120	8.020	.495	.310
	40	8.250	8.070	.560	.360
	48□	8.500	8.110	.685	.400
58	8.750	8.220	.810	.510	
67	9.000	8.280	.935	.570	
W10 X	12	9.870	3.960	.210	.190
	15	9.990	4.000	.270	.230
	17	10.110	4.010	.330	.240
	19	10.240	4.020	.395	.250
	22	10.170	5.750	.360	.240
26	10.330	5.770	.440	.260	

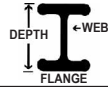
### CARBON STEEL STRUCTURAL WIDE FLANGE/H BEAMS



ASTM A-36  
CSA, G40.21 44W

Depth	Lbs/Ft	Depth d in.	Flange		Web t in.
			Width b in.	Thickness t f in.	
W10 X	26	10.330	5.770	.440	.260
	30	10.470	5.810	.510	.300
	33	9.730	7.960	.435	.290
	39	9.920	7.985	.530	.315
	45	10.100	8.020	.620	.350
	49	9.980	10.000	.560	.340
	54	10.090	10.030	.615	.370
	60	10.220	10.080	.680	.420
	68	10.400	10.130	.770	.470
	77	10.600	10.190	.870	.530
	88	10.840	10.265	.990	.605
W12 X	100	11.100	10.340	1.120	.680
	112	11.360	10.415	1.250	.755
	14	11.910	3.970	.225	.200
	16	11.990	3.990	.265	.220
	19	12.160	4.005	.350	.235
	22	12.310	4.030	.425	.260
	26	12.220	6.490	.380	.230
	30	12.340	6.520	.440	.260
	35	12.500	6.560	.520	.300
	40	11.940	8.005	.515	.295
	45	12.060	8.045	.575	.335
	50	12.190	8.080	.640	.370
	53	12.060	9.995	.575	.345
	58	12.190	10.010	.640	.360
	65	12.120	12.000	.605	.390
	72	12.250	12.040	.670	.430
	79	12.380	12.080	.735	.470

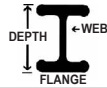
### CARBON STEEL STRUCTURAL WIDE FLANGE/H BEAMS



ASTM A-36  
CSA, G40.21 44W

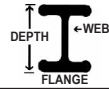
Depth	Lbs/Ft	Depth <i>d</i> in.	Flange		Web <i>t</i> in.
			Width <i>b</i> in.	Thickness <i>t<sub>f</sub></i> in.	
W12 X	87	12.530	12.125	.810	.515
	96	12.710	12.160	.900	.550
	106	12.890	12.220	.990	.610
	120	13.120	12.320	1.105	.710
	136	13.410	12.400	1.250	.790
W14 X	22	13.740	5.000	.335	.230
	26	13.910	5.025	.420	.255
	30	13.840	6.730	.385	.270
	34	13.980	6.745	.455	.285
	38	14.100	6.770	.515	.310
	43	13.660	7.995	.530	.305
	48	13.790	8.030	.595	.340
	53	13.920	8.060	.660	.370
	61	13.890	9.995	.645	.375
	68	14.040	10.035	.720	.415
	74	14.170	10.070	.785	.450
	82	14.310	10.130	.855	.510
	90	14.020	14.520	.710	.440
99	14.160	14.565	.780	.485	
109	14.320	14.605	.860	.525	
W16 X	26	15.690	5.500	.345	.250
	31	15.880	5.525	.440	.275
	36	15.860	6.985	.430	.295
	40	16.010	6.995	.505	.305
	45	16.130	7.035	.565	.345
	50	16.260	7.070	.630	.380
	57	16.430	7.120	.715	.430

**CARBON STEEL STRUCTURAL  
WIDE FLANGE/H BEAMS**



**ASTM A-36  
CSA, G40.21 44W**

Depth	Lbs/Ft	Depth <i>d</i> in.	Flange		Web <i>t</i> in.
			Width <i>b</i> in.	Thickness <i>t<sub>f</sub></i> in.	
W16 X	67	16.330	10.235	.665	.395
	77	16.520	10.295	.760	.455
	89	16.750	10.365	.875	.525
	100	16.970	10.425	.985	.585
W18 X	35	17.700	6.000	.425	.300
	40	17.900	6.015	.525	.315
	46	18.060	6.060	.605	.360
	50	17.990	7.495	.570	.355
	55	18.110	7.530	.630	.390
	60	18.240	7.555	.695	.415
	65	18.350	7.590	.750	.450
	71	18.470	7.635	.810	.495
	76	18.210	11.035	.680	.425
	86	18.390	11.090	.770	.480
	97	18.590	11.145	.870	.535
	106	18.730	11.200	.940	.590
W21 X	119	18.970	11.265	1.060	.655
	44	20.660	6.500	.450	.350
	50	20.830	6.530	.535	.380
	57	21.060	6.555	.650	.405
	62	20.990	8.240	.615	.400
	68	21.130	8.270	.685	.430
	73	21.240	8.295	.740	.455
	83	21.430	8.355	.835	.515
	101	21.360	12.290	.800	.500
	111	21.510	12.340	.875	.550
132	21.830	12.440	1.035	.650	

**CARBON STEEL STRUCTURAL  
WIDE FLANGE/H BEAMS**

**ASTM A-36  
CSA, G40.21 44W**

Depth	Lbs/Ft	Depth <i>d</i> in.	Flange		Web <i>t</i> in.
			Width <i>b</i> in.	Thickness <i>t<sub>f</sub></i> in.	
W21 X	147	22.060	12.510	1.150	.720
W24 X	55	23.570	7.005	.505	.395
	62	23.740	7.040	.590	.430
	68	23.730	8.965	.585	.415
	76	23.920	8.990	.680	.440
	84	24.100	9.020	.770	.470
	94	24.310	9.065	.875	.515
	104	24.060	12.750	.750	.500
	117	24.260	12.800	.850	.550
	131	24.480	12.855	.960	.605
W27 X	146	24.740	12.900	1.090	.650
	84	26.710	9.960	.640	.460
	94	26.920	9.990	.745	.490
	102	27.090	10.015	.830	.515
	114	27.290	10.070	.930	.570
	146	27.380	13.965	.975	.605
W30 X	108	29.830	10.475	.760	.545
	116	30.010	10.495	.850	.565
	124	30.170	10.515	.930	.585
	132	30.310	10.545	1.000	.615
	173	30.440	14.985	1.065	.655
	211	30.940	15.105	1.315	.775
W33 X	118	32.860	11.480	.740	.550
	130	33.090	11.510	.855	.580
	201	33.680	15.745	1.150	.715
W36 X	135	35.550	11.950	.790	.600
	150	35.850	11.975	.940	.625

**CARBON STEEL STRUCTURAL  
STANDARD S BEAMS**

**ASTM A-36  
CSA, G40.21 44W**

A Depth	Lbs/Ft	C Thickness of Web	B Width of Flange
3"	5.70	.170	2.330
	7.50	.349	2.509
4"	7.70	.190	2.660
	9.50	.326	2.796
5"	10.00	.210	3.000
	14.75	.494	3.284
6"	12.50	.230	3.330
	17.25	.465	3.565
7"	15.30	.250	3.660
	18.40	.270	4.000
8"	23.00	.441	4.171
	25.40	.310	4.660
10"	35.00	.594	4.944
	31.80	.350	5.000
12"	35.00	.428	5.078
	40.80	.460	5.250
15"	50.00	.687	5.477
	42.90	.410	5.500
18"	50.00	.550	5.640
	54.70	.460	6.000
20"	70.00	.711	6.251
	66.00	.505	6.255
24"	75.00	.635	6.385
	86.00	.660	7.060
□	96.00	.800	7.200
	80.00	.500	7.000
□	90.00	.625	7.125
	100.00	.745	7.245
□	106.00	.620	7.870
	121.00	.800	8.050

**CARBON STEEL STRUCTURAL  
JUNIOR BEAMS**



**ASTM A-36  
CSA, G40.21 44W**

A Depth	Lbs/Ft	C Thickness of Web	B Width of Flange
6"	4.4	.114	1.840
8"	6.5	.135	2.280
10"	9.0	.155	2.690
12"	11.8	.175	3.060

**CARBON STEEL STRUCTURAL  
TEES - BAR SIZES**

**ASTM A-36  
CSA, G40.21 44W**

Flange in Inches (A)	Stem in Inches (B)	Stem Thickness in Inches (C)	Lbs/Ft
1-1/2	1-1/2	3/16	<b>1.900</b>
1-1/2	1-1/2	1/4	<b>2.430</b>
1-3/4	1-3/4	3/16	<b>2.160</b>
2	2	1/4	<b>3.620</b>
2-1/2	2-1/2	1/4	<b>4.600</b>