



# ANGLES—BAR SIZE

ASTM A36  
ASTM M1020

Size In.	Weight Per Foot Lbs.	In Lengths Up To Feet
$\frac{1}{2} \times \frac{1}{2} \times \frac{1}{8}$	.38	20
$\frac{5}{8} \times \frac{5}{8} \times \frac{1}{8}$	.48	20
$\frac{3}{4} \times \frac{3}{4} \times \frac{1}{8}$	.59	20
$\times \frac{3}{16}$	.84	20
$\frac{7}{8} \times \frac{7}{8} \times \frac{1}{8}$	.70	20
$1 \times \frac{5}{8} \times \frac{1}{8}$	.64	20
$1 \times \frac{3}{4} \times \frac{1}{8}$	.70	20
$1 \times 1 \times \frac{1}{8}$	.80	40
$\times \frac{3}{16}$	1.16	40
$\times \frac{1}{4}$	1.49	40
$1\frac{1}{4} \times 1\frac{1}{4} \times \frac{1}{8}$	1.01	40
$\times \frac{3}{16}$	1.48	40
$\times \frac{1}{4}$	1.92	40
$1\frac{3}{8} \times \frac{7}{8} \times \frac{1}{8}$	.91	20
$\times \frac{3}{16}$	1.32	20
$1\frac{1}{2} \times 1\frac{1}{4} \times \frac{3}{16}$	1.64	20
$1\frac{1}{2} \times 1\frac{1}{2} \times \frac{1}{8}$	1.23	40
$\times \frac{3}{16}$	1.80	40
$\times \frac{1}{4}$	2.34	40
$1\frac{3}{4} \times 1\frac{1}{4} \times \frac{1}{8}$	1.23	40
$\times \frac{3}{16}$	1.80	40
$\times \frac{1}{4}$	2.34	40
$1\frac{3}{4} \times 1\frac{3}{4} \times \frac{1}{8}$	1.44	40
$\times \frac{3}{16}$	2.12	40
$\times \frac{1}{4}$	2.77	40
$2 \times 1\frac{1}{4} \times \frac{3}{16}$	1.96	20
$\times \frac{1}{4}$	2.55	20
$2 \times 1\frac{1}{2} \times \frac{1}{8}$	1.44	40
$\times \frac{3}{16}$	2.12	40
$\times \frac{1}{4}$	2.77	40
$2 \times 2 \times \frac{1}{8}$	1.65	40
$\times \frac{3}{16}$	2.44	40
$\times \frac{1}{4}$	3.19	40
$\times \frac{5}{16}$	3.92	40
$\times \frac{3}{8}$	4.70	40
$2\frac{1}{4} \times 1\frac{1}{2} \times \frac{3}{16}$	2.28	40
$2\frac{1}{2} \times 1\frac{1}{2} \times \frac{3}{16}$	2.44	40
$\times \frac{1}{4}$	3.19	40
$\times \frac{5}{16}$	3.92	40
$2\frac{1}{2} \times 2 \times \frac{3}{16}$	2.75	40
$\times \frac{1}{4}$	3.62	40
$\times \frac{5}{16}$	4.50	40
$\times \frac{3}{8}$	5.30	40
$2\frac{1}{2} \times 2\frac{1}{2} \times \frac{3}{16}$	3.07	40
$\times \frac{1}{4}$	4.10	40
$\times \frac{5}{16}$	5.00	40
$\times \frac{3}{8}$	5.90	40
$\times \frac{1}{2}$	7.70	40

# CHANNELS—BAR SIZE

ASTM A36

Size In.	Weight Per Foot Lbs.	In Lengths Up To Feet
$\frac{3}{4} \times \frac{3}{8} \times \frac{1}{8}$	.56	20
$\frac{7}{8} \times \frac{3}{8} \times \frac{1}{8}$	.65	20
$1 \times \frac{3}{8} \times \frac{1}{8}$	.68	20
$1 \times \frac{1}{2} \times \frac{1}{8}$	.83	20
$1\frac{1}{4} \times \frac{1}{2} \times \frac{1}{8}$	1.01	20
$1\frac{1}{2} \times \frac{1}{2} \times \frac{1}{8}$	1.12	20
$1\frac{1}{2} \times \frac{9}{16} \times \frac{3}{16}$	1.44	20
$1\frac{1}{2} \times \frac{3}{4} \times \frac{1}{8}$	1.17	20
$1\frac{1}{2} \times 1\frac{1}{2} \times \frac{3}{16}$	2.65	20
$1\frac{3}{4} \times \frac{1}{2} \times \frac{3}{16}$	1.55	20
$2 \times \frac{1}{2} \times \frac{1}{8}$	1.33	20
$2 \times \frac{9}{16} \times \frac{3}{16}$	1.76	20
$2 \times \frac{5}{8} \times \frac{1}{4}$	2.18	20
$2 \times 1 \times \frac{1}{8}$	1.78	20
$2 \times 1 \times \frac{3}{16}$	2.32	20
$2\frac{1}{2} \times \frac{5}{8} \times \frac{3}{16}$	2.27	20

# TEES—BAR SIZE

Web x Stem x Thickness In. In. In.	Weight Up To Lbs.	In Lengths Up To Feet
$\frac{3}{4} \times \frac{3}{4} \times \frac{1}{8}$	.60	20
$1 \times 1 \times \frac{1}{8}$	.81	20
$\times 1 \times \frac{3}{16}$	1.20	20
$1\frac{1}{4} \times 1\frac{1}{4} \times \frac{1}{8}$	1.09	20
$\times \frac{3}{16}$	1.55	20
$1\frac{1}{2} \times 1\frac{1}{2} \times \frac{3}{16}$	1.90	20
$\times \frac{1}{4}$	2.43	20
$1\frac{3}{4} \times 1\frac{3}{4} \times \frac{3}{16}$	2.26	20
$\times \frac{1}{4}$	2.90	20
$2 \times 1\frac{1}{2} \times \frac{1}{4}$	3.10	20
$2 \times 2 \times \frac{1}{4}$	3.62	20
$\times \frac{5}{16}$	4.30	20
$2\frac{1}{4} \times 2\frac{1}{4} \times \frac{1}{4}$	4.10	20
$\times \frac{5}{16}$	5.50	20
$\times \frac{3}{8}$	6.40	20

**STRUCTURAL TEES AVAILABLE UPON REQUEST**

# HOT ROLLED HALF ROUNDS

Low Carbon

Merchant Quality M1020-A36

Size In.	Weight Per Foot Lbs.	Lengths Feet
½	.3338	20/23
⅝	.5215	20/23
¾	.7515	20/23
⅞	1.0222	20/23
1	1.3352	20/23
1¼	2.0862	20/23
1½	3.0041	20/23
1¾	4.0890	20/23
2	5.3407	20/23
2½	8.3449	20/23
3	12.0165	20/23

# HOT ROLLED HALF OVALS

Low Carbon

Merchant Quality M1020-A36

Size In.	Weight Per Foot Lbs.	Lengths Feet
1 x ¼	.594	20/23
1¼x ⅝	.928	20/23
1½x ¾	1.337	20/23
1¾x ⅞	1.819	20/23
2 x 1½	2.376	20/23
2½x ⅝	3.713	

# REINFORCING BARS (DEFORMED)

ASTM A615

GRADES 40 & 60

Size In.	Weight Size No.	In Lengths Per Foot Lbs.	Up To Feet
⅜	3	.376	40
½	4	.688	40
⅝	5	1.043	40
¾	6	1.502	40
⅞	7	2.044	40
1	8	2.670	40
1⅛	9	3.400	40
1¼	10	4.303	40
1⅜	11	5.313	40

# HOT ROLLED

## SQUARE AND ROUND BARS

### Weight and area M1020—A-36—C-1045

Size Inches	Weight Lb. per Foot		Area Square Inches		Size Inches	Weight Lb. per Foot		Area Square Inches	
	■	●	□	○		■	●	□	○
0					3	30.63	24.05	9.000	7.069
1/16	0.013	0.010	0.0039	0.0031	1/16	31.91	25.07	9.379	7.366
1/8	0.053	0.042	0.0156	0.0123	1/8	33.23	26.10	9.766	7.670
3/16	0.120	0.094	0.0352	0.0276	3/16	34.57	27.15	10.160	7.980
1/4	0.213	0.167	0.0625	0.0491	1/4	35.94	28.23	10.563	8.296
5/16	0.332	0.261	0.0977	0.0767	5/16	37.34	29.32	10.973	8.618
3/8	0.479	0.376	0.1406	0.1105	3/8	38.76	30.44	11.391	8.946
7/16	0.651	0.512	0.1914	0.1503	7/16	40.21	31.58	11.816	9.281
1/2	0.851	0.668	0.2500	0.1963	1/2	41.68	32.74	12.250	9.621
9/16	1.077	0.846	0.3164	0.2485	9/16	43.19	33.92	12.691	9.968
5/8	1.329	1.044	0.3906	0.3068	5/8	44.71	35.12	13.141	10.321
11/16	1.608	1.263	0.4727	0.3712	11/16	46.27	36.34	13.598	10.680
3/4	1.914	1.503	0.5625	0.4418	3/4	47.85	37.58	14.063	11.045
13/16	2.246	1.764	0.6602	0.5185	13/16	49.46	38.85	14.535	11.416
7/8	2.605	2.046	0.7656	0.6013	7/8	51.09	40.13	15.016	11.793
15/16	2.991	2.349	0.8789	0.6903	15/16	52.76	41.43	15.504	12.177
1	3.403	2.673	1.0000	0.7854	4	54.44	42.76	16.000	12.566
1/16	3.841	3.017	1.1289	0.8866	1/16	56.16	44.11	16.504	12.962
1/8	4.307	3.382	1.2656	0.9940	1/8	57.90	45.47	17.016	13.364
3/16	4.798	3.769	1.4102	1.1075	3/16	59.67	46.86	17.535	13.772
1/4	5.317	4.176	1.5625	1.2272	1/4	61.46	48.27	18.063	14.186
5/16	5.862	4.604	1.7227	1.3530	5/16	63.28	49.70	18.598	14.607
3/8	6.433	5.053	1.8906	1.4849	3/8	65.13	51.15	19.141	15.033
7/16	7.032	5.523	2.0664	1.6230	7/16	67.01	52.63	19.691	15.466
1/2	7.656	6.013	2.2500	1.7671	1/2	68.91	54.12	20.250	15.904
9/16	8.308	6.525	2.4414	1.9175	9/16	70.83	55.63	20.816	16.349
5/8	8.985	7.057	2.6406	2.0739	5/8	72.79	47.17	21.391	16.800
11/16	9.690	7.610	2.8477	2.2365	11/16	74.77	58.72	21.973	17.257
3/4	10.421	8.185	3.0625	2.4053	3/4	76.78	60.30	22.563	17.721
13/16	11.179	8.780	3.2852	2.5802	13/16	78.81	61.90	23.160	18.190
7/8	11.963	9.396	3.5156	2.7612	7/8	80.87	63.51	23.766	18.665
15/16	12.774	10.032	3.7539	2.9483	15/16	82.96	65.15	24.379	19.147
2	13.611	10.690	4.0000	3.1416	5	85.07	66.81	25.00	19.635
1/16	14.475	11.369	4.2539	3.3410	1/16	87.21	68.49	25.629	20.129
1/8	15.366	12.068	4.5156	3.5466	1/8	89.38	70.20	26.266	20.629
3/16	16.283	12.788	4.7852	3.7583	3/16	91.57	71.92	26.910	21.135
1/4	17.227	13.530	5.0625	3.9761	1/4	93.79	73.66	27.563	21.648
5/16	18.197	14.292	5.3477	4.2000	5/16	96.04	75.43	28.223	22.166
3/8	19.194	15.075	5.6406	4.4301	3/8	98.31	77.21	28.891	22.691
7/16	20.217	15.879	5.9414	4.6664	7/16	100.61	79.02	29.566	23.221
1/2	21.267	16.703	6.2500	4.9087	1/2	102.93	80.84	30.250	23.758
9/16	22.344	17.549	6.5664	5.1572	9/16	105.29	82.69	30.941	24.301
5/8	23.447	18.415	6.8906	5.4119	5/8	107.67	84.56	31.641	24.850
11/16	24.577	19.303	7.2227	5.6727	11/16	110.07	86.45	32.348	25.406
3/4	25.734	20.211	7.5625	5.9396	3/4	112.50	88.36	33.063	25.967
13/16	26.917	21.140	7.9102	6.2126	13/16	114.96	90.29	33.785	26.535
7/8	28.126	22.090	8.2656	6.4918	7/8	117.45	92.24	34.516	27.109
15/16	29.362	23.061	8.6289	6.7771	15/16	119.96	94.22	35.254	27.688
3	30.625	24.053	9.0000	7.0686	6	122.50	96.21	36.000	28.274
6	122.50	96.21	36.000	28.274	9	275.63	216.48	81.000	63.617
1/16	125.07	98.23	36.754	28.866	1/16	279.47	219.49	82.129	64.504
1/8	127.66	100.26	37.516	29.465	1/8	283.33	222.53	83.266	65.397
3/16	130.28	102.32	38.285	30.069	3/16	287.23	225.59	84.410	66.296
1/4	132.92	104.40	39.063	30.680	1/4	291.15	228.67	85.563	67.201
5/16	135.59	106.49	39.848	31.296	5/16	295.10	231.77	86.723	68.112
3/8	138.29	108.61	40.641	31.919	3/8	299.07	234.89	87.891	69.029
7/16	141.02	110.75	41.441	32.548	7/16	303.07	238.03	89.066	69.953
1/2	143.77	112.91	42.250	33.183	1/2	307.10	241.20	90.250	70.882
9/16	146.55	115.10	43.066	33.824	9/16	311.15	244.38	91.441	71.818
5/8	149.35	117.30	43.891	34.472	5/8	315.24	247.59	92.641	72.760
11/16	152.18	119.52	44.723	35.125	11/16	319.34	250.81	93.848	73.708
3/4	155.04	121.77	45.563	35.785	3/4	323.48	254.06	95.063	74.662
13/16	157.92	124.03	46.410	36.450	13/16	327.64	257.33	96.285	75.622
7/8	160.83	126.32	47.266	37.122	7/8	331.82	260.61	97.516	76.589
15/16	163.77	128.63	48.129	37.800	15/16	336.04	263.92	98.754	77.561
7	166.74	130.95	49.000	38.485	10	340.28	267.25	100.000	78.540
1/16	169.73	133.30	49.879	39.175	1/16	344.54	270.60	101.254	79.525
1/8	172.74	135.67	50.766	39.871	1/8	348.84	273.98	102.516	80.516
3/16	175.79	138.06	51.660	40.574	3/16	353.16	277.37	103.785	81.513
1/4	178.86	140.48	52.563	41.282	1/4	357.50	280.78	105.063	82.516
5/16	181.96	142.91	53.473	41.997	5/16	361.88	284.22	106.348	83.525
3/8	185.08	145.36	54.391	42.718	3/8	366.28	287.67	107.641	84.541
7/16	188.23	147.84	55.316	43.445	7/16	370.70	291.15	108.941	85.562
1/2	191.41	150.33	56.250	44.179	1/2	375.16	294.65	110.250	86.590
9/16	194.61	152.85	47.191	44.918	9/16	379.64	298.17	111.566	87.624
5/8	197.84	155.38	58.141	45.664	5/8	384.14	301.70	112.891	88.664
11/16	201.10	157.94	59.098	46.415	11/16	388.67	305.26	114.223	89.710
3/4	204.38	160.52	60.063	47.173	3/4	393.23	308.84	115.563	90.763
13/16	207.69	163.12	61.035	47.931	13/16	397.82	312.45	116.910	91.821
7/8	211.03	165.74	62.016	48.707	7/8	402.43	316.07	118.266	92.886
15/16	214.39	168.38	63.004	49.483	15/16	407.07	319.71	119.629	93.956
8	217.78	171.04	64.000	50.265	11	411.74	323.38	121.000	95.033
1/16	221.19	173.73	65.004	51.054	1/16	416.43	327.06	122.379	96.116
1/8	224.64	176.43	66.016	51.849	1/8	421.15	330.77	123.766	97.205
3/16	228.11	179.15	67.035	52.649	3/16	425.89	334.49	125.160	98.301
1/4	231.60	181.90	68.063	53.456	1/4	430.66	338.24	126.563	99.402
5/16	235.12	184.67	69.098	54.269	5/16	435.46	342.01	127.973	100.510
3/8	238.67	187.45	70.141	55.088	3/8	440.29	345.80	129.391	101.623
7/16	242.25	190.26	71.191	55.914	7/16	445.14	349.61	130.816	102.743
1/2	245.85	193.09	72.250	56.745	1/2	450.02	353.44	132.250	103.869
9/16	249.48	195.94	73.316	57.583	9/16	454.92	357.30	133.691	105.001
5/8	253.13	198.81	74.391	58.426	5/8	459.85	361.17	135.141	106.139
11/16	256.82	201.70	75.473	59.276	11/16	464.81	365.06	136.598	107.284
3/4	260.53	204.62	76.563	60.132	3/4	469.80	368.98	138.063	108.434
13/16	264.26	207.55	77.660	60.994	13/16	474.81	372.91	139.535	109.591
7/8	268.02	210.50	78.766	61.862	7/8	479.84	376.87	141.016	110.753
15/16	271.81	213.48	79.879	62.737	15/16	484.91	380.85	142.504	111.922
9	275.63	216.48	81.000	63.617	12	490.00	384.85	144.000	113.097



# CHATHAM STEEL CORPORATION

## HOT ROLLED FLATS

### AND

## UNIVERSAL MILL PLATES

### ASTM A36

Size In.	Weight Per Foot Lbs.	Lengths		
1/4 U.M. Plate	X 3/8	20		
	X 1/2	20		
	X 5/8	20		
	X 3/4	20		
	X 7/8	20		
	X 1	20		
	X 1 1/8	20		
	X 1 1/4	20		
	X 1 3/8	20		
	X 1 1/2	20		
	X 1 3/4	20		
	X 2	20		
	X 2 1/4	20		
	X 2 1/2	20		
	X 2 3/4	20		
	X 3	20		
	X 3 1/4	20		
	X 3 1/2	20		
	X 4	20		
	X 4 1/2	20		
X 5	20			
X 5 1/2	20			
X 6	20			
X 7	20			
X 8	20			
X 9	20			
X 10	20			
X 11	20			
X 12	20			
5/16 U.M. Plate	X 1/2	20		
	X 5/8	20		
	X 3/4	20		
	X 7/8	20		
	X 1	20		
	X 1 1/8	20		
	X 1 1/4	20		
	X 1 1/2	20		
	X 1 3/4	20		
	X 2	20		
	X 2 1/4	20		
	X 2 1/2	20		
	X 2 3/4	20		
	X 3	20		
	X 3 1/2	20		
	X 4	20		
	X 4 1/2	20		
	X 5	20		
	X 5 1/2	20		
	X 6	20		
X 8	20			
3/8 U.M. Plate	X 1/2	20		
	X 5/8	20		
	X 3/4	20		
	X 7/8	20		
	X 1	20		
	X 1 1/8	20		
	X 1 1/4	20		
	X 1 3/8	20		
	X 1 1/2	20		
	X 1 3/4	20		
	X 2	20		
	X 2 1/4	20		
	X 2 1/2	20		
	X 2 3/4	20		
	X 3	20		
	X 3 1/4	20		
	X 3 1/2	20		
	X 4	20		
	X 4 1/2	20		
	X 5	20		
X 5 1/2	20			
X 6	20			
X 7	20			
X 8	20			
X 9	20			
X 10	20			
X 11	20			
X 12	20			
1/2 U.M. Plate	X 5/8	20		
	X 3/4	20		
	X 7/8	20		
	X 1	20		
	X 1 1/8	20		
	X 1 1/4	20		
	X 1 3/8	20		
	X 1 1/2	20		
	X 1 3/4	20		
	X 2	20		
	X 2 1/4	20		
	X 2 1/2	20		
	X 2 3/4	20		
	X 3	20		
	X 3 1/4	20		
	X 3 1/2	20		
	X 4	20		
	X 4 1/2	20		
	X 5	20		
	X 5 1/2	20		
X 6	20			
X 7	20			
X 8	20			
X 9	20			
X 10	20			
X 11	20			
X 12	20			
5/8 U.M. Plate	X 3/4	20		
	X 7/8	20		
	X 1	20		
	X 1 1/8	20		
	X 1 1/4	20		
	X 1 3/8	20		
	X 1 1/2	20		
	X 1 3/4	20		
	X 2	20		
	X 2 1/4	20		
	X 2 1/2	20		
	X 2 3/4	20		
	X 3	20		
	X 3 1/4	20		
	X 3 1/2	20		
	X 4	20		
	X 4 1/2	20		
	X 5	20		
	X 5 1/2	20		
	X 6	20		
X 7	20			
X 8	20			
X 9	20			
X 10	20			
X 11	20			
X 12	20			
3/4 U.M. Plate	X 1	20		
	X 1 1/4	20		
	X 1 1/2	20		
	X 1 3/4	20		
	X 2	20		
	X 2 1/4	20		
	X 2 1/2	20		
	X 2 3/4	20		
	X 3	20		
	X 3 1/4	20		
	X 3 1/2	20		
	X 4	20		
	X 4 1/2	20		
	X 5	20		
	X 5 1/2	20		
	X 6	20		
	X 7	20		
	X 8	20		
	X 9	20		
	X 10	20		
X 11	20			
X 12	20			
7/8 U.M. Plate	X 1	20		
	X 1 1/4	20		
	X 1 1/2	20		
	X 1 3/4	20		
	X 2	20		
	X 2 1/4	20		
	X 2 1/2	20		
	X 3	20		
	X 3 1/2	20		
	X 4	20		
	X 4 1/2	20		
	X 5	20		
	X 6	20		
	1 U.M. Plate	X 1 1/4	20	
		X 1 1/2	20	
		X 1 3/4	20	
		X 2	20	
		X 2 1/4	20	
		X 2 1/2	20	
		X 2 3/4	20	
X 3		20		
X 3 1/4		20		
X 3 1/2		20		
X 4		20		
X 4 1/2		20		
X 5		20		
X 5 1/2		20		
X 6		20		
X 7		20		
X 8		20		
X 10		20		
X 12		20		
1 1/4 U.M. Plate		X 1 3/4	20	
	X 2	20		
	X 2 1/4	20		
	X 2 1/2	20		
	X 2 3/4	20		
	X 3	20		
	X 3 1/4	20		
	X 3 1/2	20		
	X 4	20		
	X 4 1/2	20		
	X 5	20		
	X 6	20		
	X 7	20		
	X 8	20		
	1 1/2 U.M. Plate	X 1 3/4	20	
		X 2	20	
		X 2 1/4	20	
		X 2 1/2	20	
		X 3	20	
		X 3 1/2	20	
X 4		20		
X 4 1/2		20		
X 5		20		
X 6		20		
X 7		20		
X 8		20		
1 3/4 U.M. Plate		X 2	20	
		X 2 1/2	20	
		X 3	20	
		X 3 1/2	20	
		X 4	20	
		X 4 1/2	20	
		X 5	20	
		X 6	20	
	2 U.M. Plate	X 2 1/2	20	
		X 3	20	
		X 3 1/2	20	
		X 4	20	
		X 4 1/2	20	
		X 5	20	
		X 6	20	
		X 7	20	
		X 8	20	
		2 1/4 U.M. Plate	X 2 1/2	20
			X 3	20
			X 3 1/2	20
X 4			20	
X 4 1/2			20	
2 1/2 U.M. Plate			X 3	20
			X 3 1/2	20
			X 4	20
			X 4 1/2	20
			X 5	20
			X 6	20
	3 U.M. Plate		X 3 1/2	20
			X 4	20
			X 5	20
			X 6	20

For 1/8" and 3/16" thicknesses, see "Hot Rolled Strip."

# HOT ROLLED STRIP

## Merchant Quality

Size In.	Weight Per Foot Lbs.	Lengths
$\frac{3}{8}$ X $\frac{1}{8}$	.1594	20
X $\frac{3}{16}$	.2391	20
$\frac{1}{2}$ X 16 GA.	.1105	20
X $\frac{1}{8}$	.2125	20
X $\frac{3}{16}$	.3188	20
$\frac{5}{8}$ X $\frac{1}{8}$	.2656	20
X $\frac{3}{16}$	.3984	20
$\frac{3}{4}$ X 16 GA.	.1658	20
X 14 GA.	.2117	20
X $\frac{1}{8}$	.3188	20
X $\frac{3}{16}$	.4781	20
$\frac{7}{8}$ X $\frac{1}{8}$	.3719	20
X $\frac{3}{16}$	.5578	20
1 X 16 GA.	.2210	20
X 14 GA.	.2822	20
X $\frac{1}{8}$	.4250	20
X $\frac{3}{16}$	.6375	20
$1\frac{1}{8}$ X $\frac{1}{8}$	.4781	20
X $\frac{3}{16}$	.7172	20
$1\frac{1}{4}$ X $\frac{1}{8}$	.5313	20
X $\frac{3}{16}$	.7969	20
$1\frac{3}{8}$ X $\frac{1}{8}$	.5840	20
X $\frac{3}{16}$	.8770	20
$1\frac{1}{2}$ X $\frac{1}{8}$	.638	20
X $\frac{3}{16}$	.956	20
$1\frac{3}{4}$ X $\frac{1}{8}$	.744	20
X $\frac{3}{16}$	1.116	20
2 X $\frac{1}{8}$	.850	20
X $\frac{3}{16}$	1.275	20
$2\frac{1}{4}$ X $\frac{1}{8}$	.956	20
X $\frac{3}{16}$	1.434	20
$2\frac{1}{2}$ X $\frac{1}{8}$	1.063	20
X $\frac{3}{16}$	1.594	20
$2\frac{3}{4}$ X $\frac{1}{8}$	1.169	20
X $\frac{3}{16}$	1.753	20
3 X $\frac{1}{8}$	1.275	20
X $\frac{3}{16}$	1.913	20
$3\frac{1}{4}$ X $\frac{1}{8}$	1.381	20
X $\frac{3}{16}$	2.072	20
$3\frac{1}{2}$ X $\frac{1}{8}$	1.488	20
X $\frac{3}{16}$	2.231	20
4 X $\frac{1}{8}$	1.700	20
X $\frac{3}{16}$	2.550	20
$4\frac{1}{2}$ X $\frac{1}{8}$	1.913	20
X $\frac{3}{16}$	2.869	20
5 X $\frac{1}{8}$	2.125	20
X $\frac{3}{16}$	3.188	20
$5\frac{1}{2}$ X $\frac{1}{8}$	2.338	20
X $\frac{3}{16}$	3.506	20
6 X $\frac{1}{8}$	2.550	20
X $\frac{3}{16}$	3.825	20
7 X $\frac{1}{8}$	2.975	20
X $\frac{3}{16}$	4.463	20
8 X $\frac{1}{8}$	3.400	20
X $\frac{3}{16}$	5.100	20
10X $\frac{1}{8}$	4.250	20
X $\frac{3}{16}$	6.375	20
12X $\frac{1}{8}$	5.100	20
X $\frac{3}{16}$	7.650	20

# COLD FINISHED BARS

## COLD FINISHED ROUNDS A.I.S.I. C1018

Size In.	Weight Per Foot Lbs.	Lengths Up To	Size In.	Weight Per Foot Lbs.	Lengths Up To
1/8	.0417	20	2 5/16	14.2802	20
3/16	.0939	20	2 3/8	15.0625	20
1/4	.1669	20	2 7/16	15.8657	20
5/16	.2608	20	2 1/2	16.6898	20
3/8	.3755	20	2 9/16	17.5347	20
7/16	.5111	20	2 5/8	18.4004	20
1/2	.6676	20	2 11/16	19.2871	20
9/16	.8449	20	2 3/4	20.1946	20
5/8	1.0431	20	2 13/16	21.13	20
11/16	1.2622	20	2 7/8	22.072	20
3/4	1.5021	20	2 15/16	23.042	24
13/16	1.7629	20	3	24.033	24
7/8	2.0445	20	3 1/16	25.045	24
15/16	2.347	20	3 1/8	26.08	24
1	2.6704	20	3 3/16	27.131	24
1 1/16	3.0146	20	3 1/4	28.21	24
1 1/8	3.3797	20	3 3/8	30.42	24
1 3/16	3.7656	20	3 7/16	31.554	24
1 1/4	4.1724	20	3 1/2	32.712	24
1 5/16	4.6001	20	3 11/16	36.31	24
1 3/8	5.0486	20	3 3/4	37.552	24
1 7/16	5.518	20	3 15/16	41.401	24
1 1/2	6.0083	20	4	42.726	24
1 9/16	6.5194	20	4 3/16	46.83	24
1 5/8	7.0514	20	4 1/4	48.23	24
1 11/16	7.6043	20	4 3/8	51.11	24
1 3/4	8.178	20	4 7/16	52.583	24
1 13/16	8.7725	20	4 1/2	54.08	24
1 7/8	9.388	20	4 15/16	65.10	24
1 15/16	10.0243	20	5	66.76	24
2	10.6814	20	5 7/16	78.95	24
2 1/16	11.3595	20	5 15/16	94.14	24
2 1/8	12.0583	20	6	96.14	24
2 3/16	12.7781	20	6 15/16 TGP 1042	128.63	24
2 1/4	13.5187	20	7	130.95	24

### SELECTION GUIDE

- 1144** A medium-carbon, high manganese, free-machining steel. The higher manganese content contributes to a better finished surface and hardening characteristics. 30%-40% stronger than C-1018.
- 1144 STRESSPROOF** — Has been annealed to relieve stress and provide an easily machinable bar with better tool life without reducing strength.
- 12L14** The addition of lead to this low-carbon steel provides superior machinability, ductility, impact values, and finished-surface qualities without effecting its mechanical properties.

## COLD FINISHED ROUNDS A.I.S.I. 1144 STRESSPROOF

Size In.	Weight Per Foot Lbs.	Lengths Feet
1/2	.6676	12
5/8	1.0431	12
3/4	1.5021	12
1	2.6704	12
1 1/4	4.1724	12
1 7/16	5.518	12
1 1/2	6.0083	12
1 5/8	7.0514	12
1 15/16	10.0243	12
2	10.6814	12
2 1/8	12.0583	12
2 3/16	12.7781	12
2 7/16	15.8657	12
3 1/4	28.21	12

## COLD FINISHED ROUNDS A.I.S.I. 1144

Size In.	Weight Per Foot Lbs.	Lengths Feet
3/8	.3755	20
7/16	.5111	20
1/2	.6676	20
9/16	.8449	20
5/8	1.0431	20
11/16	1.2622	20
3/4	1.5021	20
13/16	1.7629	20
7/8	2.0445	20
1	2.6704	20
1 1/8	3.3797	20
1 3/8	5.0486	20
1 7/16	5.51820	20
1 1/2	6.0083	20
1 3/4	8.178	20
2	10.6814	20
2 3/16	12.7781	20
2 3/8	15.0625	20
2 7/16	15.879	20
2 1/2	16.6898	20
2 15/16	23.061	20
3	24.033	20
3 1/2	32.74	20
3 3/4	37.55	20
4	42.76	20
4 1/2	54.12	20

## COLD FINISHED ROUNDS A.I.S.I. 12L14

Size In.	Weight Per Foot Lbs.	Lengths Feet
3/4	1.5021	12
7/8	2.0445	12
1	2.6704	12
1 1/8	3.3797	12
1 1/4	4.1724	12
1 7/16	5.518	12
1 1/2	6.0083	12
1 3/4	8.178	12
2	10.6814	12
2 1/16	11.3595	12
2 1/2	16.6898	12

# OTHER AVAILABLE PRODUCTS AND GRADES

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## Bar and Structural

<b>Carbon</b>	1213/15	CD Free Machining
	12L14	CD Free Machining
	1117/11L17	CD,HR
	1137/41	CD,HR
	1144 Stressproof	CF

<b>Alloy</b>	300M	Cr-Ni-Mo-V
	4130	Cr-Mo
	4140/42/45/50/ 41L40/42/41L50	Cr-Mo
	4150	Cr-Mo
	4330M	Cr-Ni-Mo
	4340	Cr-Ni-Mo
	4620	Ni-Mo
	5160	Auto Spring Flat
	52100	C-Cr
	6150	Cr-V
	8620/86L20	Cr-Ni-Mo
	9310	Cr-Ni-Mo
	e.t.d. 150	Elevated Temperature Drawing
	41L45	Cr-Mo Leaded
	Nitriding #3	Cr-Mo-Al



## COLD FINISHED BARS

### COLD FINISHED SQUARES

#### C1018

Size In.	Weight Per Foot Lbs.	Lengths Feet
1/8	.0531	12
3/16	.1195	12
1/4	.2125	12
5/16	.332	12
3/8	.4781	12
7/16	.6508	12
1/2	.85	12
9/16	1.0758	12
5/8	1.3281	12
11/16	1.607	12
3/4	1.9125	12
13/16	2.2445	12
7/8	2.6031	12
15/16	2.9883	12
1	3.40	12
1 1/16	3.838	12
1 1/8	4.303	12
1 1/4	5.313	12
1 5/16	5.857	12
1 3/8	6.428	12
1 1/2	7.65	12
1 5/8	8.978	12
1 3/4	10.413	12
2	13.6	12
2 1/4	17.22	12
2 1/2	21.25	12
3	30.60	12
3 1/2	41.65	12
4	54.40	12
4 1/2	68.85	12

### COLD FINISHED HEXAGONS

Size In.	Weight Per Foot Lbs.	Lengths Feet
1/4	.84	12
5/16	.2875	12
3/8	.4141	12
7/16	.5636	12
1/2	.7361	12
9/16	.9316	12
5/8	1.1502	12
11/16	1.3917	12
3/4	1.6563	12
13/16	1.9438	12
7/8	2.2544	12
15/16	2.5879	12
1	2.9445	12
1 1/16	3.3324	12
1 1/8	3.727	12
1 3/16	4.152	12
1 1/4	4.601	12
1 5/16	5.072	12
1 7/16	6.085	12
1 1/2	6.625	12
1 5/8	7.775	12
1 3/4	9.018	12
2	11.778	12
2 1/2	18.403	12
3	26.5	12

### COLD FINISHED FLATS

#### (C1018)

Size In.	Weight Per Foot Lbs.	Size In.	Weight Per Foot Lbs.
1/8 x 3/16	.080	1/4 x 1/2	.425
1/4	.106	3/8	.531
5/16	.133	1/2	.638
3/8	.159	5/8	.744
7/16	.186	1	.85
1/2	.213	1 1/8	.95
5/8	.266	1 1/4	1.06
3/4	.319	1 3/8	1.16
7/8	.372	1 1/2	1.27
1	.42	1 5/8	1.38
1 1/8	.47	1 3/4	1.48
1 1/4	.53	2	1.70
1 3/8	.58	2 1/4	1.91
1 1/2	.63	2 1/2	2.12
1 5/8	.69	2 3/4	2.33
1 3/4	.74	3	2.55
2	.85	3 1/4	2.76
2 1/4	.95	3 1/2	2.97
2 1/2	1.06	4	3.40
2 3/4	1.16	4 1/2	3.82
3	1.27	5	4.25
3 1/2	1.48	6	5.10
4	1.70	8	6.80
4 1/2	1.91	9	7.77
5	2.12	10	8.50
6	2.55	12	10.20
3/16 x 1/4	.15	5/16 x 3/8	.39
5/16	.19	7/16	.46
3/8	.23	1/2	.53
1/2	.31	5/8	.66
5/8	.39	3/4	.79
3/4	.47	7/8	.93
7/8	.55	1	1.06
1	.63	1 1/8	1.19
1 1/8	.71	1 1/4	1.32
1 1/4	.79	1 1/2	1.59
1 3/8	.87	1 3/4	1.85
1 1/2	.95	2	2.12
1 5/8	1.00	2 1/4	2.39
1 3/4	1.11	2 1/2	2.65
2	1.27	3	3.18
2 1/4	1.43	3 1/2	3.71
2 1/2	1.59	4	4.25
2 3/4	1.75	5	5.31
3	1.91	6	6.37
3 1/2	2.23	3/8 x 7/16	.558
4	2.55	1/2	.638
4 1/2	2.86	5/8	.717
5	3.18	3/4	.797
6	3.82	7/8	1.115
8	5.10	1	1.275
12	7.60	1 1/8	1.434
1/4 x 5/16	.266	1 1/4	1.594
3/8	.319	1 3/8	1.753
7/16	.372	5/8 x 1 1/8	2.39
1 1/2	1.91	1 1/4	2.65
1 5/8	2.07	1 1/2	3.18
1 3/4	2.23	1 3/4	3.71
2	2.55	2	4.25
2 1/8	2.70	2 1/4	4.78
2 1/4	2.86	2 1/2	5.31
2 1/2	3.18	2 3/4	5.84
2 3/4	3.50	3	6.37
3	3.82	3 1/2	7.43
3 1/4	4.14	4	8.50
3 1/2	4.46	4 1/2	9.56
4	5.10	5	10.62
4 1/2	5.73	6	12.75
5	6.37	8	17.00
6	7.65	10	21.25
8	10.20	12	25.50
10	12.75	3/8 x 7/8	2.23
12	15.30	1	2.55
7/16 x 1/2	.744	1 1/8	2.86
3/8	1.116	1 1/4	3.18
7/16	1.302	1 1/2	3.50
1	1.48	1 3/4	3.82
1 1/4	1.85	2	4.46
1 1/2	2.23	2 1/4	5.10
2 1/2	3.71	2 1/2	5.73
1/2 x 5/16	.956	2 3/4	6.37
5/16	1.063	3	7.01
3/8	1.275	3 1/2	7.65
7/16	1.486	4	8.92
1	1.700	4 1/2	10.20
1 1/8	1.91	5	11.47
1 1/4	2.12	5 1/2	12.75
1 3/8	2.33	6	14.02
1 1/2	2.55	8	15.30
1 5/8	2.76	10	20.40
1 3/4	2.97	12	25.50
2	3.40	7/8 x 1	2.97
2 1/4	3.82	1 1/4	3.71
2 1/2	4.25	1 1/2	4.46
2 3/4	4.67	1 3/4	5.20
3	5.10	2	5.95
3 1/2	5.95	2 1/4	7.43
4	6.80	3	8.92
4 1/2	7.65	3 1/2	10.41
5	8.50	4	11.90
5 1/2	9.35	6	17.85
6	10.20	1 x 1 1/8	3.82
8	13.60	1 1/4	4.25
10	17.00	1 1/2	4.67
12	20.40	1 3/4	5.10
3/16 x 3/4	1.434	2	5.95
1	1.913	2 1/4	6.80
5/8 x 3/4	1.594	2 1/2	7.65
7/8	1.859	2 3/4	8.50
1	2.12		

## THE ADVANTAGES OF COLD FINISHED BARS

There are four primary advantages of Cold Finished Bars:

- 1) **FINISH**—The finish is smooth and shiny, and free of scale. It is polished further and straightened. **Applications:** small shafts, pins, studs, nuts, etc.
- 2) **SIZE AND CONCENTRICITY**—The tolerance of Cold Finished bars is held much closer than is possible with a Hot Rolled finish. **Applications:** master shafts, washing machine shafts, threaded parts, etc.
- 3) **MECHANICAL PROPERTIES**—The tensile strength of Cold Finished Bars is perhaps 20% more than Hot Rolled Bars, and the yield increases perhaps 50% or more.
- 4) **MACHINABILITY**—Cold Finished steel machines faster, with less waste, reducing cost of parts.

## COLD FINISHED CARBON STEEL BARS

Size	Maximum of Carbon Range 0.28% or Less Minus	Maximum of Carbon Range Over 0.28% to 0.55% incl. Minus
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### ROUNDS—Cold Drawn or Turned

#### and Polished

Up to 1" incl.	0.002"	0.003"
Over 1" to 2" incl.	0.003"	0.004"
Over 2" to 4" incl.	0.004"	0.005"
Over 4" to 6" incl.	0.005"	0.006"
Over 6" to 7 1/4" incl.	0.006"	0.008"

### HEXAGONS—Cold Drawn

Up to 5/16" incl.	0.002"	0.003"
Over 5/16" to 1" incl.	0.003"	0.004"
Over 1" to 2 1/2" incl.	0.004"	0.005"
Over 2 1/2" to 3 3/8" incl.	0.005"	0.006"

### SQUARES—Cold Drawn

Up to 5/16" incl.	0.003"	0.004"
Over 5/16" to 1" incl.	0.004"	0.005"
Over 1" to 2 1/2" incl.	0.005"	0.006"
Over 2 1/2" to 4" incl.	0.006"	0.008"

### FLATS—Cold Drawn

Width	0.003"	0.004"
Up to 3/4		



# Cold Finished Carbon Steels

## EXPECTED MINIMUM MECHANICAL PROPERTIES, CONVENTIONAL PRACTICE

### ROUNDS, SQUARES AND HEXAGONS

A.I.S.I. Grade Size, Inch	AS COLD DRAWN					COLD DRAWN FOLLOWED BY LOW TEMPERATURE STRESS RELIEF					COLD DRAWN FOLLOWED BY HIGH TEMPERATURE STRESS RELIEF				
	Strength		Elongation in 2" %	Reduction of Area %	BHN	Strength		Elongation in 2" %	Reduction of Area %	BHN	Strength		Elongation in 2" %	Reduction of Area %	BHN
	Tensile 1000 psi	Yield 1000 psi				Tensile 1000 psi	Yield 1000 psi				Tensile 1000 psi	Yield 1000 psi			
	<b>1018, 1025</b>														
5/8 7/8 incl.	70	60	18	40	143						65	45	20	45	131
Over 7/8 to 1 1/4 incl.	65	55	16	40	131						60	45	20	45	121
Over 1 1/4 to 2 incl.	60	50	15	35	121						55	45	16	40	111
Over 2 to 3 incl.	55	45	15	35	111						50	40	15	40	101
<b>1117, 1118</b>															
5/8 to 7/8 incl.	75	65	15	40	149	80	70	15	40	163	70	50	18	45	143
Over 7/8 to 1 1/4 incl.	70	60	15	40	143	75	65	15	40	149	65	50	16	45	131
Over 1 1/4 to 2 incl.	65	55	13	35	131	70	60	13	35	143	60	50	15	40	121
Over 2 to 3 incl.	60	50	12	30	121	65	55	12	35	131	55	45	15	40	111
<b>1035</b>															
5/8 to 7/8 incl.	85	75	13	35	170	90	80	13	35	179	80	60	16	45	163
Over 7/8 to 1 1/4 incl.	80	70	12	35	163	85	75	12	35	170	75	60	15	45	149
Over 1 1/4 to 2 incl.	75	65	12	35	149	80	70	12	35	163	70	60	15	40	143
Over 2 to 3 incl.	70	60	10	30	143	75	65	10	30	149	65	55	12	35	131
<b>1040, 1140</b>															
5/8 to 7/8 incl.	90	80	12	35	179	95	85	12	35	187	85	65	15	45	170
Over 7/8 to 1 1/4 incl.	85	75	12	35	170	90	80	12	35	179	80	65	15	45	163
Over 1 1/4 to 2 incl.	80	70	10	30	163	85	75	10	30	170	75	60	15	40	149
Over 2 to 3 incl.	75	65	10	30	149	80	70	10	30	163	70	55	12	35	143
5/8 to 7/8 incl.	95	85	12	35	187	100	90	12	35	197	90	70	15	45	179
Over 7/8 to 1 1/4 incl.	90	80	11	30	179	95	85	11	30	187	85	70	15	45	170
Over 1 1/4 to 2 incl.	85	75	10	30	170	90	80	10	30	179	80	65	15	40	163
Over 2 to 3 incl.	80	70	10	30	163	85	75	10	25	170	75	60	12	35	149
<b>1050, 1137, 1151</b>															
5/8 to 7/8 incl.	100	90	11	35	197	105	95	11	35	212	95	75	15	45	187
Over 7/8 to 1 1/4 incl.	95	85	11	30	187	100	90	11	30	197	90	75	15	40	179
Over 1 1/4 to 2 incl.	90	80	10	30	179	95	85	10	30	187	85	70	15	40	170
Over 2 to 3 incl.	85	75	10	30	170	90	80	10	25	179	80	65	12	35	163
<b>1141</b>															
5/8 to 7/8 incl.	105	95	11	30	212	110	100	11	30	223	100	80	15	40	197
Over 7/8 to 1 1/4 incl.	100	90	10	30	197	105	95	10	30	212	95	80	15	40	187
Over 1 1/4 to 2 incl.	95	85	10	30	187	100	90	10	25	197	90	75	15	40	179
Over 2 to 3 incl.	90	80	10	20	179	95	85	10	20	187	85	70	12	30	170
<b>1144</b>															
5/8 to 7/8 incl.	110	100	10	30	223	115	105	10	30	229	105	85	15	40	212
Over 7/8 to 1 1/4 incl.	105	95	10	30	212	110	100	10	30	223	100	85	15	40	197
Over 1 1/4 to 2 incl.	100	90	10	25	197	105	95	10	25	212	95	80	15	35	187
Over 2 to 3 incl.	95	85	10	20	187	100	90	10	20	197	90	75	12	30	179