



HOT AND COLD BAR SHAPES

ANGLES-BAR SIZE**ASTM A36
ASTM M1020**

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

CHANNELS—BAR SIZE**ASTM A36**

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

TEES—BAR SIZE

Web x Stem x Thickness In. In. In.	Weight Up To Lbs.	In Lengths Feet
$\frac{3}{4}$ x $\frac{3}{4}$ x $\frac{1}{8}$	.60	20
1 x 1 x $\frac{1}{8}$	.81	20
1 x 1 x $\frac{3}{16}$	1.20	20
1 $\frac{1}{4}$ x 1 $\frac{1}{4}$ x $\frac{1}{8}$	1.09	20
1 $\frac{1}{4}$ x 1 $\frac{1}{4}$ x $\frac{3}{16}$	1.55	20
1 $\frac{1}{2}$ x 1 $\frac{1}{2}$ x $\frac{3}{16}$	1.90	20
1 $\frac{1}{2}$ x 1 $\frac{1}{2}$ x $\frac{1}{4}$	2.43	20
1 $\frac{3}{4}$ x 1 $\frac{3}{4}$ x $\frac{3}{16}$	2.26	20
1 $\frac{3}{4}$ x 1 $\frac{3}{4}$ x $\frac{1}{4}$	2.90	20
2 x 1 $\frac{1}{2}$ x $\frac{1}{4}$	3.10	20
2 x 2 x $\frac{1}{4}$	3.62	20
2 x 2 x $\frac{3}{16}$	4.30	20
2 $\frac{1}{4}$ x 2 $\frac{1}{4}$ x $\frac{1}{4}$	4.10	20
2 $\frac{1}{4}$ x 2 $\frac{1}{4}$ x $\frac{3}{16}$	5.50	20
2 $\frac{1}{4}$ x 2 $\frac{1}{4}$ x $\frac{1}{8}$	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 ½	2.376	20/23
2½x ⅝	3.713	20/23

REINFORCING BARS (DEFORMED)

ASTM A615

GRADES 40 & 60

Size In.	Weight Size No.	In Lengths Per Foot Lbs.	Up To Feet
¾	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
1½	9	3.400	40
1¼	10	4.303	40
1¾	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
$\frac{1}{16}$	0.013	0.010	0.0039	0.0031	$\frac{3}{16}$	31.91	25.07	9.379	7.366
$\frac{1}{8}$	0.053	0.042	0.0156	0.0123	$\frac{1}{4}$	33.23	26.10	9.766	7.670
$\frac{3}{16}$	0.120	0.094	0.0352	0.0276	$\frac{5}{16}$	34.57	27.15	10.160	7.980
$\frac{1}{2}$	0.213	0.167	0.0625	0.0491	$\frac{3}{8}$	35.94	28.23	10.563	8.296
$\frac{5}{16}$	0.332	0.261	0.0977	0.0767	$\frac{7}{16}$	37.34	29.32	10.973	8.618
$\frac{3}{8}$	0.479	0.376	0.1406	0.1105	$\frac{1}{2}$	38.76	30.44	11.391	8.946
$\frac{7}{16}$	0.651	0.512	0.1914	0.1503	$\frac{9}{16}$	40.21	31.58	11.816	9.281
$\frac{1}{2}$	0.851	0.668	0.2500	0.1963	$\frac{1}{2}$	41.68	32.74	12.250	9.621
$\frac{5}{8}$	1.077	0.846	0.3164	0.2485	$\frac{5}{8}$	43.19	33.92	12.691	9.968
$\frac{3}{4}$	1.329	1.044	0.3906	0.3068	$\frac{3}{4}$	44.71	35.12	13.141	10.321
$\frac{7}{8}$	1.608	1.263	0.4727	0.3712	$\frac{7}{8}$	46.27	36.34	13.598	10.680
$\frac{1}{4}$	1.914	1.503	0.5625	0.4418	$\frac{1}{4}$	47.85	37.58	14.063	11.045
$\frac{13}{16}$	2.246	1.764	0.6602	0.5185	$\frac{13}{16}$	49.46	38.85	14.535	11.416
$\frac{1}{2}$	2.605	2.046	0.7656	0.6013	$\frac{1}{2}$	51.09	40.13	15.016	11.793
$\frac{15}{16}$	2.991	2.349	0.8789	0.6903	$\frac{15}{16}$	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
$\frac{1}{16}$	3.841	3.017	1.1289	0.8866	$\frac{1}{16}$	56.16	44.11	16.504	12.962
$\frac{1}{8}$	4.307	3.382	1.2656	0.9940	$\frac{1}{8}$	57.90	45.47	17.016	13.364
$\frac{3}{16}$	4.798	3.769	1.4102	1.1075	$\frac{3}{16}$	59.67	46.86	17.535	13.772
$\frac{1}{4}$	5.317	4.176	1.5625	1.2272	$\frac{1}{4}$	61.46	48.27	18.063	14.186
$\frac{5}{16}$	5.862	4.604	1.7227	1.3530	$\frac{5}{16}$	63.28	49.70	18.598	14.607
$\frac{3}{8}$	6.433	5.053	1.8906	1.4849	$\frac{3}{8}$	65.13	51.15	19.141	15.033
$\frac{7}{16}$	7.032	5.523	2.0664	1.6230	$\frac{7}{16}$	67.01	52.63	19.691	15.466
$\frac{1}{2}$	7.656	6.013	2.2500	1.7671	$\frac{1}{2}$	68.91	54.12	20.250	15.904
$\frac{5}{8}$	8.308	6.525	2.4414	1.9175	$\frac{5}{8}$	70.83	55.63	20.816	16.349
$\frac{3}{4}$	8.985	7.057	2.6406	2.0739	$\frac{3}{4}$	72.79	47.17	21.391	16.800
$\frac{7}{8}$	9.690	7.610	2.8477	2.2365	$\frac{7}{8}$	74.77	58.72	21.973	17.257
$\frac{1}{4}$	10.421	8.185	3.0625	2.4053	$\frac{1}{4}$	76.78	60.30	22.563	17.721
$\frac{13}{16}$	11.179	8.780	3.2852	2.5802	$\frac{13}{16}$	78.81	61.90	23.160	18.190
$\frac{1}{2}$	11.963	9.396	3.5156	2.7612	$\frac{1}{2}$	80.87	63.51	23.766	18.665
$\frac{15}{16}$	12.774	10.032	3.7539	2.9483	$\frac{15}{16}$	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
$\frac{1}{16}$	14.475	11.369	4.2539	3.3410	$\frac{1}{16}$	87.21	68.49	25.629	20.129
$\frac{1}{8}$	15.366	12.068	4.5156	3.5466	$\frac{1}{8}$	89.38	70.20	26.266	20.629
$\frac{3}{16}$	16.283	12.788	4.7852	3.7583	$\frac{3}{16}$	91.57	71.92	26.910	21.135
$\frac{1}{4}$	17.227	13.530	5.0625	3.9761	$\frac{1}{4}$	93.79	73.66	27.563	21.648
$\frac{5}{16}$	18.197	14.292	5.3477	4.2000	$\frac{5}{16}$	96.04	75.43	28.223	22.166
$\frac{3}{8}$	19.194	15.075	5.6406	4.4301	$\frac{3}{8}$	98.31	77.21	28.891	22.691
$\frac{7}{16}$	20.217	15.879	5.9414	4.6664	$\frac{7}{16}$	100.61	79.02	29.566	23.221
$\frac{1}{2}$	21.267	16.703	6.2500	4.9087	$\frac{1}{2}$	102.93	80.84	30.250	23.758
$\frac{5}{8}$	22.344	17.549	6.5664	5.1572	$\frac{5}{8}$	105.29	82.69	30.941	24.301
$\frac{3}{4}$	23.447	18.415	6.8906	5.4119	$\frac{3}{4}$	107.67	84.56	31.641	24.850
$\frac{7}{8}$	24.577	19.303	7.2227	5.6727	$\frac{7}{8}$	110.07	86.45	32.348	25.406
$\frac{1}{4}$	25.734	20.211	7.5625	5.9396	$\frac{1}{4}$	112.50	88.36	33.063	25.967
$\frac{13}{16}$	26.917	21.140	7.9102	6.2126	$\frac{13}{16}$	114.96	90.29	33.785	26.535
$\frac{1}{2}$	28.126	22.090	8.2656	6.4918	$\frac{1}{2}$	117.45	92.24	34.516	27.109
$\frac{15}{16}$	29.362	23.061	8.6289	6.7771	$\frac{15}{16}$	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

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	
	■	●	□	○		■	●	□	○
6	122.50	96.21	36.000	28.274	9	275.63	216.48	81.000	63.617
5/16	125.07	98.23	36.754	28.866	9/16	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
5/16	146.55	115.10	43.066	33.824	5/16	311.15	244.38	91.441	71.818
3/8	149.35	117.30	43.891	34.472	3/8	315.24	247.59	92.641	72.760
7/16	152.18	119.52	44.723	35.125	7/16	319.34	250.81	93.848	73.708
1/2	155.04	121.77	45.563	35.785	1/2	323.48	254.06	95.063	74.662
5/16	157.92	124.03	46.410	36.450	5/16	327.64	257.33	96.285	75.622
3/8	160.83	126.32	47.266	37.122	3/8	331.82	260.61	97.516	76.589
7/16	163.77	128.63	48.129	37.800	7/16	336.04	263.92	98.754	77.561
1/2	166.74	130.95	49.000	38.485	10	340.28	267.25	100.000	78.540
5/16	169.73	133.30	49.879	39.175	5/16	344.54	270.60	101.254	79.525
3/8	172.74	135.67	50.766	39.871	3/8	348.84	273.98	102.516	80.516
7/16	175.79	138.06	51.660	40.574	7/16	353.16	277.37	103.785	81.513
1/2	178.86	140.48	52.563	41.282	1/2	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
5/16	194.61	152.85	47.191	44.918	5/16	379.64	298.17	111.566	87.624
3/8	197.84	155.38	58.141	45.664	3/8	384.14	301.70	112.891	8.664
7/16	201.10	157.94	59.098	46.415	7/16	388.67	305.26	114.223	89.710
1/2	204.38	160.52	60.063	47.173	1/2	393.23	308.84	115.563	90.763
5/16	207.69	163.12	61.035	47.931	5/16	397.82	312.45	116.910	91.821
3/8	211.03	165.74	62.016	48.707	3/8	402.43	316.07	118.266	92.886
7/16	214.39	168.38	63.004	49.483	7/16	407.07	319.71	119.629	93.956
1/2	217.78	171.04	64.000	50.265	11	411.74	323.38	121.000	95.033
5/16	221.19	173.73	65.004	51.054	5/16	416.43	327.06	122.379	96.116
3/8	224.64	176.43	66.016	51.849	3/8	421.15	330.77	123.766	97.205
7/16	228.11	179.15	67.035	52.649	7/16	425.89	334.49	125.160	98.301
1/2	231.60	181.90	68.063	53.456	1/2	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
5/16	249.48	195.94	73.316	57.583	5/16	454.92	357.30	133.691	105.001
3/8	253.13	198.81	74.391	58.426	3/8	459.85	361.17	135.141	106.139
7/16	256.82	201.70	75.473	59.276	7/16	464.81	365.06	136.598	107.284
1/2	260.53	204.62	76.563	60.132	1/2	469.80	368.98	138.063	108.434
5/16	264.26	207.55	77.660	60.994	5/16	474.81	372.91	139.535	109.591
3/8	268.02	210.50	78.766	61.862	3/8	479.84	376.87	141.016	110.753
7/16	271.81	213.48	79.879	62.737	7/16	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
$\frac{1}{4}$ X $\frac{3}{8}$	.3188	20
X $\frac{1}{2}$	.4250	20
X $\frac{5}{8}$	.5313	20
X $\frac{3}{4}$	.6375	20
X $\frac{7}{8}$	.7438	20
X 1	.8500	20
X $1\frac{1}{8}$	.9563	20
X $1\frac{1}{4}$	1.0625	20
X $1\frac{3}{8}$	1.1690	20
X $1\frac{1}{2}$	1.2750	20
X $1\frac{3}{4}$	1.4880	20
X 2	1.7000	20
X $2\frac{1}{4}$	1.9130	20
X $2\frac{1}{2}$	2.1250	20
X $2\frac{3}{4}$	2.3380	20
X 3	2.5500	20
X $3\frac{1}{4}$	2.7630	20
X $3\frac{1}{2}$	2.9750	20
X $3\frac{3}{4}$	3.1880	20
X 4	3.4000	20
X $4\frac{1}{2}$	3.8250	20
X 5	4.2500	20
X $5\frac{1}{2}$	4.6750	20
X 6	5.1000	20
X 7	5.9500	20
X 8	6.8000	20
U.M. Plate X 9	7.6500	20
X 10	8.5000	20
X 11	9.3500	20
X 12	10.2000	20
$\frac{5}{16}$ X $\frac{1}{2}$	.5313	20
X $\frac{5}{8}$	.6641	20
X $\frac{3}{4}$	.7969	20
X $\frac{7}{8}$	.9297	20
X 1	1.0625	20
X $1\frac{1}{8}$	1.1953	20
X $1\frac{1}{4}$	1.3281	20
X $1\frac{1}{2}$	1.5940	20
X $1\frac{3}{4}$	1.8590	20
X 2	2.1250	20
X $2\frac{1}{4}$	2.3910	20
X $2\frac{1}{2}$	2.6560	20
X $2\frac{3}{4}$	2.9200	20
X 3	3.1880	20
X $3\frac{1}{2}$	3.7190	20
X 4	4.2500	20
X $4\frac{1}{2}$	4.7800	20
X 5	5.3130	20
X $5\frac{1}{2}$	5.8440	20
X 6	6.3750	20
X 8	8.5000	20
$\frac{3}{8}$ X $\frac{1}{2}$	.6372	20

For $\frac{1}{8}$ " and $\frac{3}{16}$ " thicknesses, see "Hot Rolled Strip."
Flat bars can also be furnished GALVANIZED.

(Continued on Next Page)

HOT ROLLED FLATS AND UNIVERSAL MILL PLATES (Con't)		
Size In.	Weight Per Foot Lbs.	Lengths
X $\frac{5}{8}$	.7969	20
X $\frac{3}{4}$	.9563	20
X $\frac{7}{8}$	1.1156	20
X 1	1.2750	20
X $1\frac{1}{8}$	1.4344	20
X $1\frac{1}{4}$	1.5938	20
X $1\frac{3}{8}$	1.753	20
X $1\frac{1}{2}$	1.913	20
X $1\frac{3}{4}$	2.231	20
X 2	2.550	20
X $2\frac{1}{4}$	2.869	20
X $2\frac{1}{2}$	3.188	20
X $2\frac{3}{4}$	3.506	20
X 3	3.825	20
X $3\frac{1}{4}$	4.144	20
X $3\frac{1}{2}$	4.463	20
X 4	5.100	20
X $4\frac{1}{2}$	5.738	20
X 5	6.375	20
X $5\frac{1}{2}$	7.013	20
X 6	7.650	20
X 7	8.930	20
X 8	10.200	20
U.M. Plate X 9	11.48	20
X 10	12.74	20
X 11	14.03	20
X 12	15.3	20
$\frac{1}{2}$ X $\frac{5}{8}$	1.0625	20
X $\frac{3}{4}$	1.2750	20
X $\frac{7}{8}$	1.4875	20
X 1	1.7000	20
X $1\frac{1}{8}$	1.9125	20
X $1\frac{1}{4}$	2.1250	20
X $1\frac{3}{8}$	2.338	20
X $1\frac{1}{2}$	2.550	20
X $1\frac{3}{4}$	2.975	20
X 2	3.400	20
X $2\frac{1}{4}$	3.825	20
X $2\frac{1}{2}$	4.250	20
X $2\frac{3}{4}$	4.675	20
X 3	5.100	20
X $3\frac{1}{4}$	5.525	20
X $3\frac{1}{2}$	5.950	20
X 4	6.800	20
X $4\frac{1}{2}$	7.650	20
X 5	8.500	20
X $5\frac{1}{2}$	9.350	20
X 6	10.200	20
X 7	11.900	20
X 8	13.600	20
U.M. Plate X 9	15.30	20
X 10	17.00	20
X 11	18.70	20
X 12	20.40	20
$\frac{5}{8}$ X $\frac{3}{4}$	1.5938	20
X $\frac{7}{8}$	1.8600	20
X 1	2.1250	20
X $1\frac{1}{8}$	2.3900	20
X $1\frac{1}{4}$	2.6553	20
X $1\frac{1}{2}$	3.188	20
X $1\frac{3}{4}$	3.719	20
X 2	4.250	20
X $2\frac{1}{4}$	4.781	20

HOT ROLLED FLATS AND UNIVERSAL MILL PLATES (Con't)		
Size In.	Weight Per Foot Lbs.	Lengths
5/8 X	2 1/2	20
	2 3/4	20
	3	20
	3 1/4	20
	3 1/2	20
	4	20
	4 1/2	20
	5	20
	5 1/2	20
	6	20
	7	20
	8	20
	U.M. Plate X 9	20
X 10	20	
X 12	20	
3/4 X	1	20
	1 1/4	20
	1 1/2	20
	1 3/4	20
	2	20
	2 1/4	20
	2 1/2	20
	2 3/4	20
	3	20
	3 1/4	20
	3 1/2	20
	4	20
	4 1/2	20
	5	20
	5 1/2	20
	U.M. Plate X 6	20
	X 7	20
X 8	20	
X 9	20	
X 10	20	
X 11	20	
X 12	20	
7/8 X	1	20
	1 1/4	20
	1 1/2	20
	1 3/4	20
	2	20
	2 1/4	20
	2 1/2	20
	3	20
	3 1/2	20
	4	20
	4 1/2	20
	U.M. Plate X 5	20
X 6	20	
1 X	1 1/4	20
	1 1/2	20
	1 3/4	20
	2	20
	2 1/4	20
	2 1/2	20
	2 3/4	20
	3	20
	3 1/4	20
	3 1/2	20
	4	20
	4 1/2	20
	U.M. Plate X 4	20
	X 5	20

HOT ROLLED FLATS AND UNIVERSAL MILL PLATES (Con't)

Size In.	Weight Per Foot Lbs.	Lengths
X 5 ¹ / ₂	18.700	20
X 6	20.400	20
X 7	23.800	20
X 8	27.200	20
U.M. Plate X 10	34.00	20
X 12	40.80	20
1 ¹ / ₄ X 1 ³ / ₄	7.438	20
X 2	8.500	20
X 2 ¹ / ₄	9.563	20
X 2 ¹ / ₂	10.625	20
X 2 ³ / ₄	11.690	20
X 3	12.750	20
X 3 ¹ / ₄	13.812	20
X 3 ¹ / ₂	14.875	20
X 4	17.000	20
X 4 ¹ / ₂	19.125	20
X 5	21.250	20
X 6	25.500	20
X 7	29.750	20
X 8	34.000	20
1 ¹ / ₂ X 1 ³ / ₄	8.920	20
X 2	10.200	20
X 2 ¹ / ₄	11.476	20
X 2 ¹ / ₂	12.750	20
X 3	15.300	20
X 3 ¹ / ₂	17.850	20
X 4	20.400	20
X 4 ¹ / ₂	22.950	20
X 5	25.500	20
X 6	30.600	20
X 7	35.700	20
X 8	40.800	20
1 ³ / ₄ X 2	11.900	20
X 2 ¹ / ₂	14.875	20
X 3	17.850	20
X 3 ¹ / ₂	20.825	20
X 4	23.800	20
X 4 ¹ / ₂	26.775	20
X 5	29.750	20
X 6	35.700	20
2 X 2 ¹ / ₂	17.000	20
X 3	20.400	20
X 3 ¹ / ₂	23.800	20
X 4	27.200	20
X 4 ¹ / ₂	30.600	20
X 5	34.000	20
X 6	40.800	20
X 7	47.600	20
X 8	54.200	20
2 ¹ / ₄ X 2 ¹ / ₂	19.125	20
X 3	22.950	20
X 3 ¹ / ₂	26.775	20
X 4	30.600	20
X 4 ¹ / ₂	34.425	20
2 ¹ / ₂ X 3	25.500	20
X 3 ¹ / ₂	29.750	20
X 4	34.000	20
X 4 ¹ / ₂	38.250	20
X 5	42.500	20
X 6	51.000	20
3 X 3 ¹ / ₂	35.700	20
X 4	40.800	20
X 5	51.000	20
X 6	61.200	20

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

HOT ROLLED STRIP

Merchant Quality

Size In.	Weight Per Foot Lbs.	Lengths
⅜ X ⅜	.1594	20
X ⅜	.2391	20
½ X 16 GA.	.1105	20
x ⅜	.2125	20
x ⅜	.3188	20
⅝ x ⅜	.2656	20
X ⅜	.3984	20
¾ X 16 GA.	.1658	20
x 14 GA.	.2117	20
x ⅜	.3188	20
x ⅜	.4781	20
⅞ x ⅜	.3719	20
x ⅜	.5578	20
1 x 16 GA.	.2210	20
x 14 GA.	.2822	20
x ⅜	.4250	20
x ⅜	.6375	20
1½x ⅜	.4781	20
x ⅜	.7172	20
1¼x ⅜	.5313	20
x ⅜	.7969	20
1⅝x ⅜	.5840	20
x ⅜	.8770	20
1½x ⅜	.638	20
x ⅜	.956	20
1¾x ⅜	.744	20
x ⅜	1.116	20
2 x ⅜	.850	20
x ⅜	1.275	20
2¼x ⅜	.956	20
x ⅜	1.434	20
2½x ⅜	1.063	20
x ⅜	1.594	20
2⅝x ⅜	1.169	20
x ⅜	1.753	20
3 x ⅜	1.275	20
x ⅜	1.913	20
3¼x ⅜	1.381	20
x ⅜	2.072	20
3½x ⅜	1.488	20
x ⅜	2.231	20
4 x ⅜	1.700	20
x ⅜	2.550	20
4½x ⅜	1.913	20
x ⅜	2.869	20
5 x ⅜	2.125	20
x ⅜	3.188	20
5½x ⅜	2.338	20
x ⅜	3.506	20
6 x ⅜	2.550	20
x ⅜	3.825	20
7 x ⅜	2.975	20
x ⅜	4.463	20
8 x ⅜	3.400	20
x ⅜	5.100	20
10x ⅜	4.250	20
x ⅜	6.375	20
12x ⅜	5.100	20
x ⅜	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
$\frac{1}{8}$	.0417	20	$2\frac{5}{8}$	14.2802	20
$\frac{3}{16}$	.0939	20	$2\frac{7}{8}$	15.0625	20
$\frac{1}{4}$	.1669	20	$2\frac{7}{8}$	15.8657	20
$\frac{5}{16}$	.2608	20	$2\frac{1}{2}$	16.6898	20
$\frac{3}{8}$	.3755	20	$2\frac{3}{8}$	17.5347	20
$\frac{7}{16}$	.5111	20	$2\frac{5}{8}$	18.4004	20
$\frac{1}{2}$	.6676	20	$2\frac{11}{16}$	19.2871	20
$\frac{9}{16}$	.8449	20	$2\frac{3}{4}$	20.1946	20
$\frac{5}{8}$	1.0431	20	$2\frac{13}{16}$	21.13	20
$\frac{11}{16}$	1.2622	20	$2\frac{7}{8}$	22.072	20
$\frac{3}{4}$	1.5021	20	$2\frac{15}{16}$	23.042	24
$\frac{13}{16}$	1.7629	20	3	24.033	24
$\frac{7}{8}$	2.0445	20	$3\frac{1}{8}$	25.045	24
$1\frac{1}{16}$	2.347	20	$3\frac{3}{8}$	26.08	24
1	2.6704	20	$3\frac{5}{8}$	27.131	24
$1\frac{1}{16}$	3.0146	20	$3\frac{3}{4}$	28.21	24
$1\frac{1}{8}$	3.3797	20	$3\frac{3}{8}$	30.42	24
$1\frac{3}{16}$	3.7656	20	$3\frac{7}{8}$	31.554	24
$1\frac{1}{4}$	4.1724	20	$3\frac{1}{2}$	32.712	24
$1\frac{5}{16}$	4.6001	20	$3\frac{11}{16}$	36.31	24
$1\frac{3}{8}$	5.0486	20	$3\frac{3}{4}$	37.552	24
$1\frac{7}{16}$	5.518	20	$3\frac{15}{16}$	41.401	24
$1\frac{1}{2}$	6.0083	20	4	42.726	24
$1\frac{9}{16}$	6.5194	20	$4\frac{3}{8}$	46.83	24
$1\frac{5}{8}$	7.0514	20	$4\frac{1}{4}$	48.23	24
$1\frac{11}{16}$	7.6043	20	$4\frac{3}{8}$	51.11	24
$1\frac{3}{4}$	8.178	20	$4\frac{7}{8}$	52.583	24
$1\frac{13}{16}$	8.7725	20	$4\frac{1}{2}$	54.08	24
$1\frac{7}{8}$	9.388	20	$4\frac{15}{16}$	65.10	24
$1\frac{15}{16}$	10.0243	20	5	66.76	24
2	10.6814	20	$5\frac{1}{8}$	78.95	24
$2\frac{1}{16}$	11.3595	20	$5\frac{15}{16}$	94.14	24
$2\frac{1}{8}$	12.0583	20	6	96.14	24
$2\frac{3}{16}$	12.7781	20	$6\frac{15}{16}$ TGP 1042	128.63	24
$2\frac{1}{4}$	13.5187	20	7	130.95	24

COLD FINISHED ROUNDS

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
½	.6676	12
¾	1.0431	12
¾	1.5021	12
1	2.6704	12
1¼	4.1724	12
1⅝	5.518	12
1½	6.0083	12
1⅞	7.0514	12
1⅞	10.0243	12
2	10.6814	12
2½	12.0583	12
2⅞	12.7781	12
2⅞	15.8657	12
3¼	28.21	12

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

Size In.	Weight Per Foot Lbs.	Lengths Feet
¾	.3755	20
7/16	.5111	20
½	.6676	20
9/16	.8449	20
5/8	1.0431	20
11/16	1.2622	20
¾	1.5021	20
13/16	1.7629	20
7/8	2.0445	20
1	2.6704	20
1½	3.3797	20
1¾	5.0486	20
1⅞	5.51820	20
1½	6.0083	20
1¾	8.178	20
2	10.6814	20
2⅞	12.7781	20
2¾	15.0625	20
2⅞	15.879	20
2½	16.6898	20
2⅞	23.061	20
3	24.033	20
3½	32.74	20
3¾	37.55	20
4	42.76	20
4½	54.12	20

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

Size In.	Weight Per Foot Lbs.	Lengths Feet
¾	1.5021	12
7/8	2.0445	12
1	2.6704	12
1½	3.3797	12
1¼	4.1724	12
1⅞	5.518	12
1½	6.0083	12
1¾	8.178	12
2	10.6814	12
2⅞	11.3595	12
2½	16.6898	12

OTHER AVAILABLE PRODUCTS AND GRADES

Bar and Structural

Carbon	1213/15	CD Free Machining
	12L14	CD Free Machining
	1117/11L17	CD,HR
	1137/41	CD,HR
	1144 Stressproof	CF
Alloy	300M	Cr-Ni-Mo-V
	4130	Cr-Mo
	4140/42/45/50/	Cr-Mo
	41L40/42/41L50	
	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 3/8	5.857	12
1 1/2	6.428	12
1 5/8	7.65	12
1 3/4	8.978	12
2	10.413	12
2 1/4	13.6	12
2 1/2	17.22	12
2 3/4	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
3/8	.2875	12
1/2	.4141	12
5/8	.5636	12
3/4	.7361	12
7/8	.9316	12
1	1.1502	12
1 1/8	1.3917	12
1 1/4	1.6563	12
1 3/8	1.9438	12
1 1/2	2.2544	12
1 5/8	2.5879	12
1 3/4	2.9445	12
2	3.3324	12
2 1/8	3.727	12
2 1/4	4.152	12
2 3/8	4.601	12
2 1/2	5.072	12
2 5/8	6.085	12
2 3/4	6.625	12
3	7.775	12
3 1/4	9.018	12
3 1/2	11.778	12
3 3/4	18.403	12
4	26.5	12

COLD FINISHED BARS					
COLD FINISHED FLATS (C1018)					
Size In.		Weight Per Foot Lbs.	Size In.	Weight Per Foot Lbs.	
1/8 x	5/16	.080	1/8 x	1/2	.425
	1/4	.106		5/8	.531
	3/8	.133		3/4	.638
	1/2	.159		7/8	.744
	5/8	.186		1	.85
	3/4	.213		1 1/8	.95
	7/8	.266		1 1/4	1.06
	1	.319		1 1/2	1.16
	1 1/8	.372		1 3/4	1.27
	1 1/4	.42		2	1.38
	1 1/2	.47		2 1/4	1.48
	1 3/4	.53		2 1/2	1.70
	2	.58		2 3/4	1.91
	2 1/4	.63		3	2.12
	2 1/2	.69		3 1/4	2.33
	2 3/4	.74		3 1/2	2.55
3	.85	4	2.76		
3 1/2	.95	4 1/2	2.97		
4	1.06	5	3.40		
4 1/2	1.16	6	3.82		
5	1.27	8	4.25		
6	1.48	9	5.10		
	1.70	10	6.80		
	1.91	12	8.50		
	2.12		10.20		
	2.55				
3/8 x	1/4	.15	3/8 x	3/8	.39
	5/16	.19		1/2	.46
	3/8	.23		5/8	.53
	1/2	.31		3/4	.66
	5/8	.39		7/8	.79
	3/4	.47		1	.93
	7/8	.55		1 1/8	1.06
	1	.63		1 1/4	1.19
	1 1/8	.71		1 1/2	1.32
	1 1/4	.79		1 3/4	1.59
	1 1/2	.87		2	1.85
	1 3/4	.95		2 1/4	2.12
	2	1.00		2 1/2	2.39
	2 1/4	1.11		3	2.65
	2 1/2	1.27		3 1/2	3.18
	2 3/4	1.43		4	3.71
3	1.59	5	4.25		
3 1/2	1.75	6	5.31		
4	1.91		6.37		
4 1/2	2.23				
5	2.55				
6	2.86				
8	3.18				
12	3.82				
	5.10				
	7.60				
1/4 x	5/16	.266	3/8 x	7/16	.558
	3/8	.319		1/2	.638
	1/2	.372		5/8	.717
				3/4	.797
			7/8	.956	
			1	1.115	
			1 1/8	1.275	
			1 1/4	1.434	
			1 1/2	1.594	
			1 3/4	1.753	

COLD FINISHED BARS

COLD FINISHED FLATS (Continued)

Size In.	Weight Per Foot Lbs.	Size In.	Weight Per Foot Lbs.
$\frac{3}{8}$ x $1\frac{1}{2}$	1.91	$\frac{3}{8}$ x $1\frac{1}{2}$	2.39
$1\frac{1}{8}$	2.07	$1\frac{1}{8}$	2.65
$1\frac{1}{4}$	2.23	$1\frac{1}{2}$	3.18
2	2.55	$1\frac{3}{4}$	3.71
$2\frac{1}{2}$	2.70	2	4.25
$2\frac{3}{4}$	2.86	$2\frac{1}{4}$	4.78
$2\frac{1}{2}$	3.18	$2\frac{1}{2}$	5.31
$2\frac{3}{4}$	3.50	$2\frac{3}{4}$	5.84
3	3.82	3	6.37
$3\frac{1}{4}$	4.14	$3\frac{1}{2}$	7.43
$3\frac{1}{2}$	4.46	4	8.50
4	5.10	$4\frac{1}{2}$	9.56
$4\frac{1}{2}$	5.73	5	10.62
5	6.37	6	12.75
6	7.65	8	17.00
8	10.20	10	21.25
10	12.75	12	25.50
12	15.30	$\frac{3}{8}$ x $\frac{7}{8}$	2.23
$\frac{3}{8}$ x $\frac{1}{2}$	.744	1	2.55
$\frac{3}{4}$	1.116	$1\frac{1}{8}$	2.86
$\frac{7}{8}$	1.302	$1\frac{1}{4}$	3.18
1	1.48	$1\frac{3}{8}$	3.50
$1\frac{1}{4}$	1.85	$1\frac{1}{2}$	3.82
$1\frac{1}{2}$	2.23	$1\frac{3}{4}$	4.46
$2\frac{1}{2}$	3.71	2	5.10
$\frac{1}{2}$ x $\frac{5}{8}$	.956	$2\frac{1}{4}$	5.73
$\frac{5}{8}$	1.063	$2\frac{1}{2}$	6.37
$\frac{3}{4}$	1.275	$2\frac{3}{4}$	7.01
$\frac{7}{8}$	1.486	3	7.65
1	1.700	$3\frac{1}{2}$	8.92
$1\frac{1}{8}$	1.91	4	10.20
$1\frac{1}{4}$	2.12	$4\frac{1}{2}$	11.47
$1\frac{1}{2}$	2.33	5	12.75
$1\frac{3}{4}$	2.55	$5\frac{1}{2}$	14.02
2	2.76	6	15.30
$2\frac{1}{4}$	2.97	8	20.40
$2\frac{1}{2}$	3.40	10	25.50
$2\frac{3}{4}$	3.82	12	30.60
$2\frac{1}{2}$	4.25	$\frac{3}{8}$ x 1	2.97
$2\frac{3}{4}$	4.67	$1\frac{1}{4}$	3.71
3	5.10	$1\frac{1}{2}$	4.46
$3\frac{1}{2}$	5.95	$1\frac{3}{4}$	5.20
4	6.80	2	5.95
$4\frac{1}{2}$	7.65	$2\frac{1}{2}$	7.43
5	8.50	3	8.92
$5\frac{1}{2}$	9.35	$3\frac{1}{2}$	10.41
6	10.20	4	11.90
8	13.60	6	17.85
10	17.00	1 x $1\frac{1}{8}$	3.82
12	20.40	$1\frac{1}{4}$	4.25
$\frac{3}{8}$ x $\frac{3}{4}$	1.434	$1\frac{1}{2}$	4.67
1	1.913	$1\frac{3}{4}$	5.10
$\frac{3}{8}$ x $\frac{5}{8}$	1.594	2	5.95
$\frac{7}{8}$	1.859	$2\frac{1}{4}$	6.80
1	2.12	$2\frac{1}{2}$	7.65
		$2\frac{3}{4}$	8.50

(Continued Next Page)

COLD FINISHED BARS

COLD FINISHED FLATS (Continued)

Size In.	Weight Per Foot Lbs.	Size In.	Weight Per Foot Lbs.
1 x 2 $\frac{3}{4}$	9.35	1 $\frac{1}{2}$ x 4	20.40
3	10.20	4 $\frac{1}{2}$	22.95
3 $\frac{1}{2}$	11.90	5	25.50
4	13.60	6	30.60
4 $\frac{1}{2}$	15.30	8	40.80
5	17.00	10	51.00
5 $\frac{1}{2}$	18.70	12	61.20
6	20.40		
8	27.20	1 $\frac{1}{2}$ x 2	11.90
10	34.00	2 $\frac{1}{4}$	13.38
12	40.80	2 $\frac{1}{2}$	14.87
		3	17.85
1 $\frac{1}{2}$ x 1 $\frac{1}{4}$	4.78	4	23.80
1 $\frac{1}{2}$	5.73	5	29.75
1 $\frac{3}{4}$	6.69	6	35.70
2	7.65		
2 $\frac{1}{2}$	9.56	2 x 2 $\frac{1}{4}$	15.30
3	11.47	2 $\frac{1}{2}$	17.00
		2 $\frac{3}{4}$	18.70
1 $\frac{1}{2}$ x 1 $\frac{1}{2}$	6.37	3	20.40
1 $\frac{3}{4}$	7.43	3 $\frac{1}{2}$	23.80
2	8.50	4	27.20
2 $\frac{1}{4}$	9.56	4 $\frac{1}{2}$	30.60
2 $\frac{1}{2}$	10.62	5	34.00
3	12.75	6	40.80
3 $\frac{1}{2}$	14.87	8	54.40
4	17.00	10	68.00
4 $\frac{1}{2}$	19.12	12	81.60
5	21.25		
6	25.50	2 $\frac{1}{2}$ x 3	22.95
8	34.00		
10	42.50	2 $\frac{1}{2}$ x 3	25.50
12	51.00	3 $\frac{1}{2}$	29.76
		4	34.00
1 $\frac{1}{2}$ x 1 $\frac{3}{4}$	8.92	5	42.50
2	10.20	6	51.00
2 $\frac{1}{4}$	11.47	8	68.00
2 $\frac{1}{2}$	12.75		
2 $\frac{3}{4}$	14.02	3 x 4	40.80
3	15.30	5	51.00
3 $\frac{1}{2}$	17.85	6	61.20

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	Maximum of Carbon Range
	0.28% or Less Minus	Over 0.28% to 0.55% incl. Minus

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 7½" incl.	0.006"	0.008"

HEXAGONS—Cold Drawn

Up to ⅝" incl.	0.002"	0.003"
Over ⅝" to 1" incl.	0.003"	0.004"
Over 1" to 2½" incl.	0.004"	0.005"
Over 2½" to 3¾" incl.	0.005"	0.006"

SQUARES—Cold Drawn

Up to ⅝" incl.	0.003"	0.004"
Over ⅝" to 1" incl.	0.004"	0.005"
Over 1" to 2½" incl.	0.005"	0.006"
Over 2½" to 4" incl.	0.006"	0.008"

FLATS—Cold Drawn

Width	0.003"	0.004"
Up to ¾" incl.	0.004"	0.005"
Over ¾" to ½" incl.	0.005"	0.006"
Over 1½" to 3" incl.	0.006"	0.008"
Over 3" to 4" incl.	0.008"	0.010"
Over 4" to 6" incl.	0.013"	—
Over 6"		

NOTE: Width governs tolerances for both width and thickness of flats.
Example: If maximum of carbon range is 0.28% or less, a 2" x 1"
flat has both width and thickness tolerance of minus 0.005"

Mechanical Properties

Cold Finished Carbon Steels

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				
1018, 1025 5/8" incl. Over 1/2" to 1 1/2" incl. Over 1 1/2" to 2 incl. Over 2 to 3 incl.	70	60		18	40	143												
	65	55		16	40	131												
	60	50		15	35	121												
	55	45		15	35	111												
1117, 1118 3/4" to 1 1/2" incl. Over 1 1/2" to 2 incl. Over 2 to 3 incl.	75	65		15	40	149												
	70	60		15	40	143	80	70	15	40	163							
	65	55		13	35	131	75	65	15	40	149							
	60	50		12	30	121	70	60	13	35	143							
1035 3/4" to 1 1/2" incl. Over 1 1/2" to 2 incl. Over 2 to 3 incl.	85	75		13	35	170												
	80	70		12	35	163	90	80	13	35	179							
	75	65		12	35	149	85	75	12	35	170							
	70	60		10	30	143	80	70	12	35	163							
1040, 1140 3/4" to 1 1/2" incl. Over 1 1/2" to 2 incl. Over 2 to 3 incl.	90	80		12	35	179												
	85	75		12	35	170	95	85	12	35	187							
	80	70		10	30	163	90	80	12	35	179							
	75	65		10	30	149	85	75	10	30	170							

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% to $\frac{7}{8}$ incl.	95	85	12	35	187	100	90	12	35	197	90	70	15	45	179
Over $\frac{7}{8}$ to $1\frac{1}{8}$ incl.	90	80	11	30	179	95	85	11	30	187	85	70	15	45	170
Over $1\frac{1}{8}$ 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
1050, 1137, 1151															
% to $\frac{7}{8}$ incl.	100	90	11	35	197	105	95	11	35	212	95	75	15	45	187
Over $\frac{7}{8}$ to $1\frac{1}{8}$ incl.	95	85	11	30	187	100	90	11	30	197	90	75	15	40	179
Over $1\frac{1}{8}$ 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
1141															
% to $\frac{7}{8}$ incl.	105	95	11	30	212	110	100	11	30	223	100	80	15	40	197
Over $\frac{7}{8}$ to $1\frac{1}{8}$ incl.	100	90	10	30	197	105	95	10	30	212	95	80	15	40	187
Over $1\frac{1}{8}$ 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
1144															
% to $\frac{7}{8}$ incl.	110	100	10	30	223	115	105	10	30	229	105	85	15	40	212
Over $\frac{7}{8}$ to $1\frac{1}{8}$ incl.	105	95	10	30	212	110	100	10	30	223	100	85	15	40	197
Over $1\frac{1}{8}$ 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