

SPECIFICATIONS FOR CARBON STEEL BARS

HOT ROLLED

MERCHANT BAR QUALITY

A group of commodity steel shapes that consist of rounds, squares, flats, strips, angles and channels, which fabricators, steel service centers and manufacturers cut, bend and shape into products. Merchant products require more specialized processing than reinforcing bar.

M1020

A low carbon, general purpose, merchant quality steel. Suitable for forming and welding.

M1044

Medium carbon bars that are used where greater strength is required. Due to higher carbon content this grade is easily heat treatable but does not weld easily.

ASTM – A588

This specification covers high strength low alloy bars and is primarily intended for use in bridges and buildings where strength and corrosion resistance is a factor.

ASTM – A615

ASTM A615 rebar is most commonly used in low-stress and less-demanding applications and makes an economical choice in situations where a tremendous level of tensile strength is not necessarily needed. Its strength and performance characteristics are grade-dependent, and A614 rebar is available in a full range of standard sizes and grades 40, 60, 75 and 80.

SPECIFICATIONS FOR CARBON STEEL BARS

COLD FINISHED

LOW CARBON

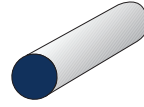
1018 - A low carbon steel with a medium manganese content. Has good hardening properties, fair machinability and is excellent for cold bending and forming operations. Readily brazed and welded. Suitable for shafting and for applications that do not require the greater strength of high carbon and alloy steels. Conforms to ASTM A-108 and AMS 5069. (Not applicable to bars under 2^{15/16"} and sizes lighter than 29.34 lbs per foot.)

GROUND & POLISHED SHAFTING

Extreme size accuracy, straightness and concentricity to minimize wear in high speed applications. **Turned**, ground & polished bars can be machined unsymmetrically, as in key-seating, with minimum distortion because cold drawing strains are not developed. **Drawn**, ground & polished bars combine the strength advantages of cold drawn stock with extra accuracy and lustrous finish. Conforms to ASTM A-108 and QQ-S-637.



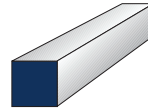
Hot Rolled Rounds



Standard Length 20'

Estimated Weight lbs.			Estimated Weight lbs.		
Size in Inches	Per Foot	20 ft. Bar	Size in Inches	Per Foot	20 ft. Bar
1/4	0.167	3.34	1 1/2	6.013	120.26
5/16	0.261	5.22	1 5/8	7.05	141.00
3/8	0.376	7.52	1 3/4	8.18	163.60
7/16	0.511	10.22	1 7/8	9.39	187.80
1/2	0.668	13.36	2	10.68	213.60
9/16	0.845	16.9	2 1/8	12.06	241.20
5/8	1.043	20.86	2 1/4	13.53	270.60
0.680	1.26	25.2	2 3/8	15.06	301.20
3/4	1.502	30.04	2 1/2	16.7	334.00
25/32	1.63	32.6	2 5/8	18.4	368.00
7/8	2.045	40.9	2 3/4	20.2	404.00
29/32	2.19	43.8	2 7/8	22.07	441.40
1	2.67	53.4	3	24.05	481.00
1 1/8	3.38	67.58	3 1/2	32.71	654.20
1.145	3.5	70	4	42.73	854.60
1 1/4	4.17	83.46	5	66.76	1335.20
1 3/8	5.05	101	6	96.13	1922.60

Hot Rolled Squares

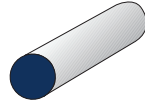


Standard Length 20'

Estimated Weight lbs.			Estimated Weight lbs.		
Size in Inches	Per Foot	20 ft. Bar	Size in Inches	Per Foot	20 ft. Bar
3/8	0.479	9.56	1 1/4	5.32	106.30
1/2	0.85	17	1 3/8	6.44	128.60
5/8	1.33	26.56	1 1/2	7.66	153.00
3/4	1.91	38.26	1 3/4	10.42	208.20
7/8	2.61	52.06	2	13.62	272.00
1	3.4	68	2 1/4	17.23	344.20
1 1/8	4.31	86.06	2 1/2	21.28	425.00

*Hot dipped galvanized sizes available from stock

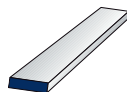
Cold Finished Round Bar



Size (Inches)	Weight Per Linear Ft.	Weight Per 20 ft. Piece
3/16	0.094	1.88
1/4	0.167	3.34
5/16	0.261	5.22
3/8	0.376	7.52
7/16	0.511	10.22
1/2	0.668	13.36
9/16	0.845	16.90
5/8	1.043	20.86
11/16	1.262	25.24
3/4	1.500	30.00
13/16	1.763	35.26
7/8	2.044	40.88
15/16	2.347	46.94
1	2.670	53.40
1 1/16	3.015	60.30
1 1/8	3.380	67.60
1 3/16	3.766	75.32
1 1/4	4.172	83.44
1 5/16	4.600	92.00
1 3/8	5.049	100.98
1 7/16	5.518	110.36
1 1/2	6.008	120.16
1 9/16	6.519	130.38
1 5/8	7.051	141.02
1 11/16	7.604	152.08
1 3/4	8.178	163.56
1 13/16	8.773	175.46
1 7/8	9.388	187.76
1 15/16	10.024	200.48
2	10.681	213.62
2 1/8	12.058	241.16
2 3/16	12.778	255.56
2 1/4	13.519	270.38
2 5/16	14.280	285.60
2 3/8	15.060	301.20
2 7/16	15.870	317.40
2 1/2	16.690	333.80
2 5/8	18.400	368.00
2 11/16	19.290	385.80
2 3/4	20.190	403.80
2 7/8	22.070	441.40
2 15/16	23.042	460.84

Hot Rolled Strip

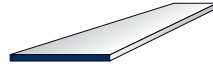
Standard Length 20'



Estimated Weight lbs.				Estimated Weight lbs.				
Size in Inches		Per Foot	20 Ft Bar	Size in Inches		Per Foot	20 Ft. Bar	
1/8 x	1/2	0.213	4.26	3/16 x	2 3/4	1.75	35.00	
	5/8	0.266	5.32		3	1.92	38.40	
	3/4	0.319	6.38		4	2.55	51.00	
	1	0.425	8.50		5	3.19	63.80	
	1 1/8	0.478	9.56		6	3.83	76.60	
	1 1/4	0.531	10.62		7	4.47	89.40	
	1 1/2	0.638	12.76		8	5.1	102.00	
	1 3/4	0.744	14.88		10	6.38	127.60	
	2	0.850	17.00		12	7.66	153.20	
	2 1/2	1.060	21.20					
	3	1.280	25.60		1/4 x	1/2	0.43	8.60
	4	1.700	34.00			5/8	0.531	10.62
	5	2.130	42.60	3/4		0.638	12.76	
	6	2.550	51.00	1		0.85	17.00	
7	2.980	59.60	1 1/8	0.956		19.12		
8	3.400	68.00	1 1/4	1.063		21.26		
10	4.250	85.00	1 1/2	1.28		25.60		
12	5.100	102.00	1 3/4	1.488		29.76		
			2	1.7		34.00		
			2 1/2	2.13		42.60		
3/16 x	1/2	0.319	6.38	2 3/4	2.34	46.80		
	5/8	0.398	7.96	3	2.55	51.00		
	3/4	0.478	9.56	4	3.4	68.00		
	1	0.638	12.76	5	4.25	85.00		
	1 1/8	0.717	14.34	6	5.1	102.00		
	1 1/4	0.797	15.94	7	5.95	119.00		
	1 1/2	0.956	19.12	8	6.8	136.00		
	1 3/4	1.12	22.40	10	8.5	170.00		
	2	1.28	25.60	12	10.2	204.00		
	2 1/2	1.60	32.00					

Hot Rolled Flat Bar

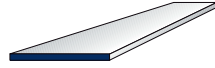
Standard Length 20'



Estimated Weight lbs.				Estimated Weight lbs.			
Size in Inches		Per Foot	20 Ft. Bar	Size in Inches		Per Foot	20 Ft. Bar
1/4 x	3/8	0.319	6.38	5/16 x	2 3/4	2.922	58.44
	1/2	0.430	8.60		3	3.190	63.76
	5/8	0.531	10.62		3 1/2	3.720	74.38
	3/4	0.638	12.76		4	4.250	85.00
	7/8	0.744	14.88		4 1/2	4.780	95.62
	1	0.850	17.00		5	5.310	106.26
	1 1/8	0.956	19.12		5 1/2	5.840	116.80
	1 1/4	1.063	21.26		6	6.380	127.50
	1 3/8	1.170	23.40		7	7.440	148.80
	1 1/2	1.280	25.50		8	8.500	170.00
	1 5/8	1.381	27.62		9	9.600	191.40
	1 3/4	1.488	29.76		10	10.600	212.60
2	1.700	34.00	11	11.700	234.00		
2 1/4	1.913	38.26	12	12.700	255.20		
2 1/2	2.130	42.50	3/8 x	1/2	0.638	12.76	
2 3/4	2.340	46.76		5/8	0.797	15.94	
3	2.550	51.00		3/4	0.956	19.12	
3 1/4	2.763	55.26		7/8	1.116	22.32	
3 1/2	2.980	59.50		1	1.276	25.52	
3 3/4	3.188	63.76		1 1/8	1.434	28.68	
4	3.400	68.00		1 1/4	1.595	31.90	
4 1/2	3.830	76.50		1 3/8	1.753	35.06	
5	4.250	85.00		1 1/2	1.914	38.28	
5 1/2	4.680	93.50		1 5/8	2.072	41.44	
6	5.100	102.00		1 3/4	2.231	44.62	
7	5.950	119.00		2	2.550	51.00	
8	6.800	136.00	2 1/4	2.870	57.38		
9	7.660	153.20	2 1/2	3.190	63.80		
10	8.500	170.20	2 3/4	3.510	70.12		
11	9.360	187.20	3	3.830	76.60		
12	10.200	204.20	3 1/4	4.144	82.88		
5/16 x	1/2	0.531	10.62	3 1/2	4.460	89.26	
	5/8	0.664	13.28	4	5.100	102.00	
	3/4	0.797	15.94	4 1/2	5.742	114.84	
	7/8	0.930	18.60	5	6.380	127.60	
	1	1.060	21.26	5 1/2	7.013	140.26	
	1 1/8	1.195	23.90	6	7.650	153.00	
	1 1/4	1.330	26.56	7	8.930	178.60	
	1 3/8	1.461	29.22	8	10.200	204.00	
	1 1/2	1.590	31.88	9	11.484	229.68	
	1 3/4	1.860	37.18	10	12.760	255.20	
	2	2.130	42.50	11	14.040	280.80	
	2 1/4	2.390	47.82	12	15.310	306.20	
2 1/2	2.660	53.20					

Hot Rolled Flat Bar

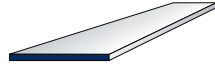
Standard Length 20'



Estimated Weight lbs.				Estimated Weight lbs.			
Size in Inches		Per Foot	20 Ft. Bar	Size in Inches		Per Foot	20 Ft. Bar
1/2 x	5/8	1.063	21.26	5/8 x	9	19.100	383.00
	3/4	1.275	25.50		10	21.270	425.40
	7/8	1.488	29.76		11	23.400	468.00
	1	1.700	34.00		12	25.520	510.40
	1 1/8	1.913	38.26	3/4 x	7/8	2.231	44.62
	1 1/4	2.130	42.50		1	2.550	51.00
	1 3/8	2.338	46.76		1 1/8	2.870	57.38
	1 1/2	2.550	51.00		1 1/4	3.190	63.76
	1 3/4	2.975	59.50		1 1/2	3.830	76.60
	2	3.400	68.00		1 3/4	4.463	89.26
	2 1/4	3.825	76.50		2	5.100	102.00
	2 1/2	4.250	85.00		2 1/4	5.740	114.80
	2 3/4	4.675	93.50		2 1/2	6.380	127.50
	3	5.100	102.00		2 3/4	7.013	140.26
	3 1/4	5.530	110.60		3	7.650	153.00
	3 1/2	5.955	119.10		3 1/4	8.288	165.76
	4	6.800	136.00	3 1/2	8.932	178.64	
	4 1/2	7.660	153.20	4	10.200	204.00	
	5	8.500	170.00	4 1/2	11.480	229.50	
	5 1/2	9.350	187.00	5	12.750	255.00	
6	10.200	204.00	5 1/2	14.030	280.50		
7	11.910	238.20	6	15.300	306.00		
8	13.610	272.20	7	17.870	357.40		
9	15.320	306.40	8	20.420	408.40		
10	17.000	340.40	9	22.970	459.40		
11	18.720	374.40	10	25.520	510.40		
12	20.420	408.40	11	28.080	561.60		
5/8 x	3/4	1.594	31.88	12	30.630	612.60	
	7/8	1.859	37.18	7/8 x	1	2.980	59.50
	1	2.125	42.50		1 1/4	3.720	74.50
	1 1/8	2.390	47.82		1 1/2	4.470	89.26
	1 1/4	2.660	53.12		1 3/4	5.210	104.12
	1 1/2	3.190	63.76		2	5.950	119.00
	1 3/4	3.719	74.38		2 1/4	6.700	133.88
	2	4.250	85.00		2 1/2	7.450	148.76
	2 1/4	4.780	95.62		2 3/4	8.190	163.62
	2 1/2	5.317	106.34		3	8.925	178.50
	2 3/4	5.844	116.88		3 1/2	10.420	208.26
	3	6.380	127.50		4	11.900	238.00
	3 1/4	6.906	138.12		4 1/2	13.390	267.76
	3 1/2	7.438	148.76	5	14.880	297.50	
	4	8.500	170.00	6	17.850	357.00	
	4 1/2	9.560	191.26	7	20.830	416.50	
	5	10.630	212.60	8	23.800	476.00	
	5 1/2	11.690	233.80	9	26.800	536.00	
	6	12.750	255.00	10	29.790	595.66	
	7	14.900	298.00	11	32.800	655.22	
8	17.010	340.20	12	35.740	714.80		

Hot Rolled Flat Bar

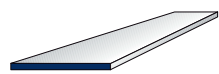
Standard Length 20'



Estimated Weight lbs.				Estimated Weight lbs.			
Size in Inches		Per Foot	20 Ft. Bar	Size in Inches		Per Foot	20 Ft. Bar
1 x	1 1/4	4.250	85.00	1 1/4 x	9	38.250	765.00
	1 1/2	5.100	102.00		10	42.540	850.80
	1 3/4	5.950	119.00		11	46.794	935.88
	2	6.800	136.00		12	51.050	1021.00
	2 1/4	7.650	153.00	1 1/2 x	2	10.200	204.00
	2 1/2	8.500	170.00		2 1/2	12.750	255.00
	2 3/4	9.350	187.00		3	15.314	306.28
	3	10.200	204.00		3 1/2	17.850	357.00
	3 1/4	11.900	238.00		4	20.400	408.00
	4	13.600	272.00		4 1/2	22.950	459.00
	4 1/2	15.310	306.20		5	25.500	510.00
	5	17.000	340.00		6	30.628	612.56
5 1/2	18.700	374.00	7	35.700	714.00		
6	20.420	408.40	8	40.830	816.60		
7	23.800	476.00	9	45.950	919.00		
8	27.200	544.00	10	51.000	1021.16		
9	30.630	612.60	11	56.152	1123.04		
10	34.020	680.40	12	61.258	1225.16		
11	37.440	748.80	1 3/4 x	2	11.900	238.00	
12	40.830	816.60		2 1/2	14.875	297.50	
1 1/8 x	2	7.650		153.00	3	17.850	357.00
	3	11.475		229.50	3 1/2	20.825	416.50
	4	15.300		306.00	4	23.822	476.44
	5	19.100		382.50	4 1/2	26.775	535.50
	6	22.950		459.00	5	29.800	595.00
	7	26.780		535.50	6	35.700	714.00
	8	30.630	612.60	7	41.700	833.00	
	9	34.450	689.24	8	47.600	952.00	
	10	38.300	765.82	9	53.600	1072.04	
	11	42.110	842.40	10	59.556	1191.12	
	12	45.900	919.00	11	65.500	1310.28	
	1 1/4 x	1 1/2	6.375	127.50	12	71.500	1429.40
1 3/4		7.440	148.80	2 x	2 1/2	17.000	340.00
2		8.500	170.00		3	20.420	408.40
2 1/4		9.563	191.26		3 1/2	23.800	476.00
2 1/2		10.630	212.60		4	27.225	544.50
2 3/4		11.688	233.76		4 1/2	30.600	612.00
3		12.750	255.00		5	34.000	680.00
3 1/2		14.880	297.60		6	40.830	816.60
4		17.000	340.00		7	47.600	952.00
4 1/2		19.125	382.50		8	54.450	1089.00
5		21.250	425.00		9	61.200	1225.20
5 1/2		23.375	467.50		10	68.100	1361.32
6	25.500	510.00	11		74.900	1497.46	
7	29.750	595.00	12	81.700	1633.60		
8	34.000	680.00					

Hot Rolled Flat Bar

Standard Length 20'

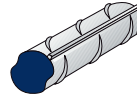


Estimated Weight lbs.				Estimated Weight lbs.			
Size in Inches		Per Foot	20 Ft. Bar	Size in Inches		Per Foot	20 Ft. Bar
2 1/2 x	3	25.500	510.00	3 x	4	40.800	816.00
	3 1/2	29.750	595.00		4 1/2	45.900	918.00
	4	34.032	680.64		5	51.000	1020.00
	4 1/2	38.250	765.00		6	61.200	1224.00
	5	42.500	850.00		7	71.500	1428.00
	6	51.000	1020.00		8	81.700	1632.00
	7	59.500	1190.00		9	91.900	1837.80
	8	68.100	1360.00		10	102.100	2042.00
	9	76.560	1531.50		11	112.300	2246.20
	10	85.010	1701.66		12	122.500	2450.40
	11	93.600	1871.82				
	12	102.100	2042.00				



Reinforcing Bars

Standard Length 20'



Bar Sizes		Weight	Nominal Dimensions in Inches	
No.	Inches	Pounds Per Foot	Diameter Inches	Area Sq Inches
#3	3/8 Rd.	0.376	0.375	0.11
#4	1/2 Rd.	0.668	0.500	0.20
#5	5/8 Rd.	1.043	0.625	0.31
#6	3/4 Rd.	1.502	0.750	0.44
#7	7/8 Rd.	2.044	0.785	0.60
#8	1 Rd.	2.670	1.000	0.79
#9	1 1/8 Rd.	3.400	1.125	1.00
#10	1 1/4 Rd.	4.303	1.250	1.27
#11	1 3/8 Rd.	5.313	1.375	1.56
#14	1 5/8 Rd.	7.650	1.693	2.25
#18	2 1/4 Rd.	13.600	2.257	4.00

The bar numbers are based on the number of 1/8 inches included in the nominal diameter of the bar.

A615 - Grade 40 & 60