

# Stainless Steel Bar Stock Shipped from Inventory

Eagle furnishes a full line of stainless steel bar stock in rounds, squares and flats.



## Ordering Your Bar Stock

Bar is ordinarily ordered by its nominal diameter. The convenient Bar Stock Selection Guide at the right (pages 16–19) shows nominal sizes and provides convenient weight data.

However, for centerless grinding purposes when tolerances are tight, bar stock is generally ordered “oversize” to allow for sufficient material removal.

For example, if grinding 1/4" and 1/2" stock were required, 1/4" oversize and 1/2" oversize would be specified.

## Stainless Steel Hollow Bar

Hollow bar is a significant breakthrough in materials availability. The production of parts where a starting tubular shape is more economical than bar stock

can now be effected. The reason for this is that Hollow Bar is available to the bar specifications called for on blueprints. Availability includes AMS, QQ-S and MIL-S grades, as well as ASTM A-511 (for mechanical tubing).

In general, whenever 30% or more material by weight is to be removed from the center of a solid bar, the use of Hollow Bar provides a saving. See table 1-4 below.

## Ordering Hollow Bar Stock

Hollow bar stock ordering data can be found in the “Fractional Stainless Steel Tubing Selection Guides” on pages 12 and 13. Keep in mind that hollow bar is manufactured to O.D and wall specifications only – and that the I.D. is theoretical.

Table 1-3 Hollow Bar Tolerances	
Rounds	O.D., Inches
All Sizes 1-1/8 through 3" O.D.	±.005
Standard Sizes 3" O.D. through 3-1/2 O.D.	±.010
Standard Sizes over 3-1/2 O.D.	±.015
Non-standard Sizes over 3" O.D.	±.031
Hexagons	O.D., Inches
1-1/8 O.D. to 2" O.D. exclusive	+.000 / -.006
2" O.D. to 3" O.D. inclusive	+.000 / -.008
Over 3" O.D.	Refer to Eagle
Wall Thickness	
.125" to .250" exclusive	±12/5% of nominal wall
.250" and over	±10% of nominal wall

Table 1-4 Comparison of Hollow Bar and Solid Bar Costs by Size	
Nominal Bar Size, Inches	Maximum Tube Wall Competitive with Solid Bar, Inches
1	.125
1-1/4	.188
1-1/2	.313
1-3/4	.375
2	.437
2-1/4	.500
2-1/2	.563
2-3/4	.625
3	.688
3-1/4	.750
3-1/2	.813
3-3/4	.875
4-1/4	.937
4-1/2	1.000
5	1.125

# Bar Stock Selection Guide

<b>Round Bar Stock – Stainless Steel • 300 Series • 400 Series</b>											
Size Inches	Estimated Weight, Lbs.		Size Inches	Estimated Weight, Lbs.		Size Inches	Estimated Weight, Lbs.		Size Inches	Estimated Weight, Lbs.	
	Per Foot	12 Ft. Bar		Per Foot	12 Ft. Bar		Per Foot	12 Ft. Bar		Per Foot	12 Ft. Bar
1/16	.010	.120	19/32	.941	11.29	1/2	6.008	72.1	<b>4</b>	42.73	512.8
5/64	.016	.19	5/8	1.043	12.52	1.510	6.21	74.5	4.020	43.15	517.8
3-32	.023	.28	.630	1.060	12.72	1-17/32	6.261	75.1	4.030	43.37	520.4
7/64	.032	.38	.635	1.076	12.91	9/16	6.520	78.2	1/8	45.40	544.8
1/8	.042	.50	.640	1.093	13.12	5/8	7.051	84.6	1/4	48.23	578.7
.130	.045	.54	41/64	1.096	13.15	11/16	7.604	91.3	3/8	21.11	613.3
9/64	.053	.64	21/32	1.150	13.80	3/4	8.178	98.1	7/16	52.58	631.0
5/32	.065	.78	11/16	1.262	15.14	1.770	8.365	100.4	1/2	54.08	648.9
11/64	.079	.95	.6925	1.280	15.37	16/16	8.773	105.3	4.530	54.80	657.5
3/16	.094	1.13	23/32	1.379	16.55	7/8	9.388	112.7	5/8	57.12	685.4
.1925	.099	1.19	3/4	1.502	18.02	15/16	10.02	120.2	3/4	60.25	723.0
.1975	.104	1.25	.755	1.522	18.26	<b>2</b> –	10.68	128.2	7/8	63.48	761.8
13/64	.110	1.32	.760	1.540	18.48	2.020	10.896	130.7	15/16	65.10	781.2
7/32	.128	1.54	49/64	1.565	18.78	1/16	11.36	136.3	<b>5</b> –	66.76	801.1
15/64	.147	1.76	25/32	1.630	19.56	1/8	12.06	144.7	1/8	70.10	841.2
1/4	.167	2.00	13/16	1.763	21.16	3/16	12.78	153.4	1/4	73.60	883.2
.255	.174	2.08	.8175	1.784	21.42	1/4	13.52	162.2	3/8	77.15	925.8
.260	.181	2.17	27/32	1.901	22.81	2.270	13.76	165.1	7/16	78.95	947.4
17/64	.188	2.26	7/8	2.044	24.5	5/16	14.28	171.4	1/2	80.78	969.4
9/32	.211	2.53	.880	2.067	24.8	3/8	15.06	180.7	5/8	84.48	1013.8
19/64	.235	2.82	.885	2.091	25.1	7/16	15.87	190.4	3/4	88.29	1059.0
5/16	.261	3.13	57/64	2.115	25.4	1/2	16.69	200.3	15/16	94.14	1130.0
.3175	.269	3.29	29/32	2.193	26.3	2.520	16.957	203.5	<b>6</b> –	96.13	1153.5
.3225	.277	3.32	15/16	2.347	28.2	9/16	17.53	210.4	1/8	100.2	1202.4
21/64	.287	3.44	.9425	2.372	28.5	5/8	18.40	220.8	1/4	104.3	1252.0
11/32	.316	3.79	31/32	2.506	30.1	11/16	19.29	231.5	1/2	112.8	1353.8
23/64	.345	4.14	<b>1</b> –	2.670	32.0	3/4	20.20	242.4	3/4	121.7	1460.0
3/8	.376	4.51	1.005	2.696	32.4	2.770	20.49	245.9	7	130.9	1570.8
.380	.386	4.62	1.010	2.723	32.7	13/16	21.12	253.4	1/4	140.4	1684.8
.385	.395	4.74	1/64	2.750	33.0	7/8	22.07	264.8	1/2	150.2	1802.0
25/64	.407	4.88	1.020	2.778	33.3	15/16	23.04	276.5	3/4	160.4	1924.8
13/32	.441	5.29	1/16	3.014	36.2	<b>3</b> –	24.03	288.4	8	170.9	2051.0
27-64	.475	5.70	3/32	3.194	38.3	3.020	24.354	292.3	1/4	182.7	2180.0
7/16	.511	6.13	1/8	3.379	40.6	1/16	25.05	300.6	1/2	192.9	2315.0
.4425	.523	6.42	1.135	3.440	41.3	1/8	26.08	312.9	3/4	204.5	2454.0
.4475	.535	6.42	9/64	3.470	41.6	3/16	27.13	325.6	9	216.3	2596.0
29/64	.548	6.57	1.145	3.50	42.0	1/4	28.21	338.5	1/4	228.5	2741.8
15/32	.587	7.04	5/32	3.570	42.8	3.270	28.55	342.6	1/2	241.0	2892.0
31/64	.626	7.51	3/16	3.766	45.2	5/16	29.30	351.6	3/4	253.8	3045.6
1/2	.668	8.02	1/4	4.173	50.1	3/8	30.42	365.0	10	267.0	3204.0
.505	.680	8.33	1.260	4.240	50.9	7/16	31.55	378.6	1/2	295.2	3542.4
.510	.694	8.33	17/64	4.276	51.3	1/2	32.71	392.5	11	324.0	3888.0
33/64	.710	8.52	1.275	4.34	52.1	3.520	33.09	397.0	1/2	354.0	4248.0
17/32	.754	9.05	9/32	4.384	52.6	3.530	33.27	399.3	12	385.6	4626.7
9/16	.845	10.14	5/16	4.600	55.2	5/8	35.09	421.1	1/2	420.0	5025.0
.5675	.860	10.32	3/8	5.049	60.6	11/16	36.31	435.7	13	451.3	5415.5
.5725	.875	10.50	1.385	5.218	62.6	3/4	7.55	405.6	14	523.3	7512.0
.5775	.891	10.69	13/32	5.279	63.4	3.770	37.95	455.4	15	601.0	7212.0
37/64	.892	10.69	7/16	5.518	66.2	7/8	40.10	481.2	16	684.0	8208.0
						15/16	41.40	496.8			

## Bar Stock Selection Guide (continued)

<b>Flat Bar Stock – Stainless Steel • 300 Series • 400 Series</b>												
Size Inches	Estimated Weight, Lbs.		Size Inches	Estimated Weight, Lbs.		Size Inches	Estimated Weight, Lbs.		Size Inches	Estimated Weight, Lbs.		
	Per Foot	12 Ft. Bar		Per Foot	12 Ft. Bar		Per Foot	12 Ft. Bar		Per Foot	12 Ft. Bar	
1/8 x	3/16	.072	.86	3/16 x 6	3.825	45.90	5/16 x 2-3/4	2.930	35.16	7/16 x 3	4.460	53.5
	1/4	.106	1.27		8	5.100		61.20	3		3.188	38.26
5/16	.133	1.60	10	6.380	76.56	3-1/2	3.719	44.63	1/2 x 9/16	.960	11.5	
	3/8	.159		1.91	12		7.660	91.92		4	4.250	51.00
7/16	.186	2.23	1/4 x 5/16	.266	3.19	4-1/2	4.776	57.31	3/4	1.275	15.3	
	1/2	.213		2.56	3/8		.319	3.83		5	6.375	76.50
5/8	.266	3.19	7/16	.372	4.46	6	6.375	76.50	1	1.700	20.4	
	3/4	.319		3.83	1/2		.425	5.10		8	8.500	102.00
7/8	.372	4.46	9/16	.480	5.76	10	10.630	127.50	1-1/4	2.125	25.5	
	1	.425		5.10	5/8		.531	6.37		12	12.750	153.00
1-1/8	.480	5.76	3/4	.628	7.66	3/8 x 7/16	.576	6.91	1-1/2	2.550	30.6	
	1-1/4	.531		6.37	7/8		.744	8.93		1/2	.638	7.07
1-3/8	.588	7.06	1	.850	10.20	9/16	.720	8.64	1-3/4	2.975	35.7	
	1-1/2	.638		7.66	1-1/8		.956	11.47		5/8	.797	9.56
1-5/8	.696	8.35	1-1/4	1.063	12.76	3/4	.956	11.47	2-1/4	3.825	45.9	
	1-3/4	.744		8.93	1-3/8		1.160	13.90		7/8	1.116	13.39
2	.850	10.20	1-1/2	1.275	15.30	1	1.275	15.30	2-3/4	4.675	56.1	
	2-1/4	.956		11.47	1-5/8		1.380	16.56		1-1/8	1.430	17.16
2-1/2	1.063	12.76	1-3/4	1.488	17.86	1-1/4	1.594	19.13	3-1/4	5.524	66.2	
	2-3/4	1.160		13.90	2		1.700	20.40		1-3/8	1.750	21.00
3	1.275	15.30	2-1/4	1.913	22.96	1-1/2	1.913	22.96	4	6.800	81.6	
	3-1/4	1.380		16.56	2-1/2		2.125	25.50		1-5/8	2.080	24.96
3-1/2	1.488	17.86	2-3/4	2.340	28.08	1-3/4	2.231	26.77	5	8.500	102.0	
	4	1.700		20.40	3		2.550	30.60		2	2.550	30.60
4-1/2	1.913	22.96	3-1/4	2.760	33.12	2-1/4	2.869	34.43	6	10.200	122.4	
	5	2.125		25.50	3-1/2		2.975	35.70		2-1/2	3.188	38.26
6	2.550	30.60	4	3.400	40.80	2-3/4	3.500	42.00	7	11.904	142.8	
	3/16 x 1/4	.160		1.92	4-1/2		3.825	45.90		3	3.825	45.90
5/16	.199	2.39	5	4.250	51.00	3-1/4	4.140	49.68	9	15.360	184.3	
	3/8	.239		2.87	5-1/2		4.680	56.20		3-1/2	4.463	53.56
7/16	2.79	3.35	6	5.100	61.20	4	5.100	61.20	12	20.400	244.8	
	1/2	.319		3.83	7		5.950	71.40		4-1/2	5.738	68.86
5/8	.398	4.78	8	6.800	81.60	5	6.375	76.50	3/4	1.440	17.3	
	3/4	.478		5.74	10		8.500	102.00		5-1/2	7.010	84.10
7/8	.558	6.70	12	10.200	122.40	6	7.650	91.80	1-1/4	2.390	28.7	
	1	.638		7.66	14		11.900	142.80		7	8.928	107.10
1-1/8	.717	8.60	5/16 x 3/8	.398	4.78	8	10.200	122.40	2	3.830	46.0	
	1-1/4	.797		9.56	7/16		.460	5.52		10	12.750	153.00
1-3/8	.877	10.52	1/2	.531	6.37	12	15.300	183.60	7/8	1.859	22.3	
	1-1/2	.956		11.47	5/8		.664	7.97		14	17.856	214.30
1-3/4	1.116	13.39	3/4	.797	9.56	7/16 x 1/2	.744	8.93	1-1/8	2.390	28.6	
	2	1.275		15.30	7/8		.930	11.16		5/8	.929	11.15
2-1/4	1.440	17.28	1	1.063	12.76	3/4	1.116	13.39	1-3/8	2.930	35.2	
	2-1/2	1.594		19.13	1-1/8		1.200	14.40		7/8	1.344	16.13
2-3/4	1.750	21.00	1-1/4	1.328	15.94	1	1.488	17.86	1-5/8	3.454	41.5	
	3	1.913		22.96	1-1/2		1.594	19.13		1-1/4	1.859	22.31
3-1/2	2.231	26.77	1-3/4	1.859	22.31	1-1/2	2.231	26.77	2	4.250	51.0	
	4	2.550		30.60	2		2.125	25.50		1-3/4	2.600	31.20
4-1/2	2.870	34.40	2-1/4	2.390	28.65	2	2.975	35.70	2-1/2	5.313	63.8	
	5	3.188		38.26	2-1/2		2.656	31.86		2-1/2	3.720	44.60

# Bar Stock Selection Guide (continued)

<b>Flat Bar Stock – Stainless Steel • 300 Series • 400 Series</b>											
Size Inches	Estimated Weight, Lbs.		Size Inches	Estimated Weight, Lbs.		Size Inches	Estimated Weight, Lbs.		Size Inches	Estimated Weight, Lbs.	
	Per Foot	12 Ft. Bar		Per Foot	12 Ft. Bar		Per Foot	12 Ft. Bar		Per Foot	12 Ft. Bar
5/8 x 3	6.375	76.5	6-1/2	16.560	198.7	1-5/8	5.235	66.3	6	40.80	489.6
3-1/2	7.438	89.3	7	17.880	214.6	1-3/4	5.950	71.4	7	47.60	571.2
4	8.500	102.0	8	20.400	244.8	2	6.800	81.2	8	54.40	652.8
4-1/2	9.560	114.7	9	22.920	275.0	2-1/4	7.650	92.3	9	61.20	734.4
5	10.630	127.6	10	25.500	306.0	2-1/2	8.500	102.0	2 x 10	68.00	816.0
5-1/2	11.690	140.3	12	30.600	367.2	5-1/2	28.08	337.0	12	81.60	979.2
6	12.750	153.0	14	35.760	429.1	6	30.60	367.2	2-1/4 x 2-1/2	19.07	228.8
7	14.880	178.6	7/8 x 1	2.975	35.7	7	35.70	428.4	3	22.90	274.8
8	17.000	204.0	1-1/8	3.350	40.2	8	40.80	489.6	4	30.60	367.2
9	19.080	229.0	1-1/4	3.719	44.6	10	51.00	612.0	4-1/2	34.42	413.0
10	21.250	255.0	1-3/8	4.090	49.0	12	61.20	734.4	5	38.28	459.4
12	25.500	306.0	1-1/2	4.463	53.6	1-3/4 x 2	11.90	142.8	6	45.80	549.6
3/4 x 7/8	2.230	26.8	1-3/4	5.206	62.5	2-1/4	13.44	161.3	2-1/2 x 3	25.50	306.0
1	2.550	30.6	2	5.950	71.4	2-1/2	14.88	178.6	3-1/2	29.75	357.0
1-1/8	2.880	34.6	2-1/4	6.696	80.4	2-3/4	16.32	195.8	4	34.00	408.0
1-1/4	3.188	38.3	2-1/2	7.438	89.3	3	17.85	214.2	4-1/2	38.25	459.0
1-3/8	3.500	42.0	2-3/4	8.180	98.2	3-1/2	20.88	250.6	5	42.50	510.0
1-1/2	3.825	45.9	3	8.925	107.0	4	29.76	357.2	6	51.00	612.0
1-5/8	4.140	49.7	7/8 x 3-1/2	10.410	124.9	5	29.76	357.2	8	68.00	816.0
1-3/4	4.463	53.6	4	11.900	142.8	6	35.70	428.4	12	102.00	1224.0
2	5.100	61.2	4-1/2	13.440	161.3	8	47.60	571.0	3 x 3-1/2	35.76	429.1
2-1/4	5.738	68.9	5	14.880	178.6	10	59.52	714.2	4	40.80	489.6
2-1/2	6.375	76.6	6	17.850	214.2	12	71.40	856.8	4-1/2	45.90	551.0
2-3/4	7.000	84.0	7	20.880	250.6	2 x 2-1/4	15.36	184.3	5	51.00	612.0
3	7.650	91.8	8	23.800	285.6	2-1/2	17.00	204.0	6	61.20	734.4
3-1/4	8.290	99.5	10	29.750	357.0	2-3/4	18.72	224.6	8	81.60	979.2
3-1/2	8.925	107.0	12	35.700	428.4	3	20.40	244.8	3-1/2 x 4	47.60	571.0
4	10.200	122.4	14	41.760	501.1	3-1/2	23.80	285.6	5	59.50	714.0
4-1/2	11.470	137.6	1 x 1-1/8	3.828	46.0	4	27.20	326.0	6	71.40	857.0
5	12.750	153.0	1-1/4	4.250	51.0	4-1/2	30.60	367.0	4 x 5	68.04	816.5
5-1/2	14.040	168.5	1-3/8	4.680	56.2	5	34.00	408.0	6	81.60	979.2
6	15.300	186.3	1-1/2	5.100	61.2	5-1/2	37.44	449.3	8	108.84	1306.1

<b>Square Bar Stock – Stainless Steel • 300 Series • 400 Series</b>											
Size Inches	Estimated Weight, Lbs.		Size Inches	Estimated Weight, Lbs.		Size Inches	Estimated Weight, Lbs.		Size Inches	Estimated Weight, Lbs.	
	Per Foot	12 Ft. Bar		Per Foot	12 Ft. Bar		Per Foot	12 Ft. Bar		Per Foot	12 Ft. Bar
1/8	.053	.640	11/16	1.607	19.280	1 5/16	5.857	70.28	2 1/2	21.25	255.0
5/32	.083	.996	3/4	1.913	22.960	1 3/8	6.428	77.14	2 3/4	25.71	308.5
3/16	.120	1.440	13/16	2.245	26.940	1 1/2	7.650	91.80	3	30.60	367.2
1/4	.213	2.560	7/8	2.603	31.240	1 5/8	8.980	107.70	3 1/2	41.65	500.0
5/16	.332	3.980	15/16	2.988	35.856	1 3/4	10.410	124.90	4	54.40	652.8
3/8	.478	5.740	1	3.400	40.80	1 7/8	11.950	143.40	4 1/2	68.85	826.2
7/16	.651	7.810	1/16	3.840	46.08	2	13.600	163.20	5	85.00	1020.0
1/2	.850	10.200	1 1/8	4.303	51.64	2 1/8	15.350	184.20	5 1/2	102.90	1234.0
9/16	1.076	12.910	1 3/16	4.795	57.54	2 1/4	17.21	206.60	6	122.40	1469.0
5/8	1.328	15.940	1 1/4	5.313	63.76	2 3/8	19.18	230.20			