

BRASS, BRONZE & COPPER

8
Brass,
Bronze &
Copper

BRASS

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ROUND BRASS ROD
HIGH SPEED – FREE CUTTING

12' Mill Lengths

SPEC A.S.T.M. B16-360

Machinability Rating – 100%

Size in Inches	Working Decimal Equivalent	Weight Per Lin. Ft.	Weight Per 12' Length
1/16	.0623	.0113	.136
—	.072	.0150	.1800
5/64	.0781	.0177	.212
—	.081	.0188	.226
—	.086	.0214	.257
3/32	.0938	.0254	.305
7/64	.109	.0346	.415
1/8	.125	.0452	.542
9/64	.141	.0572	.686
5/32	.156	.0706	.847
11/64	.172	.0855	1.026
3/16	.188	.102	1.224
13/64	.203	.119	1.428
7/32	.219	.138	1.656
15/64	.234	.159	1.908
1/4	.250	.181	2.172
17/64	.266	.204	2.448
3/32	.281	.229	2.748
19/64	.297	.255	3.060
5/16	.312	.283	3.396
21/64	.328	.312	3.744
11/32	.344	.342	4.104
23/64	.359	.374	4.488
3/8	.375	.407	4.884
25/64	.391	.441	5.292
13/32	.406	.478	5.736
27/64	.422	.515	6.180
7/16	.438	.554	6.648

Cont'd

ROUND BRASS ROD HIGH SPEED – FREE CUTTING

12' Mill Lengths

SPEC A.S.T.M. B16-360

Machinability Rating – 100%

Size in Inches	Working Decimal Equivalent	Weight Per Lin. Ft.	Weight Per 12' Length
$\frac{29}{64}$	.453	.594	7.128
$\frac{15}{32}$	.469	.636	7.632
$\frac{31}{64}$	.484	.679	8.148
$\frac{1}{2}$	.500	.723	8.676
$\frac{17}{32}$	.531	.817	9.804
$\frac{9}{16}$	.562	.915	10.98
$\frac{19}{32}$	.594	1.020	12.24
$\frac{39}{64}$	.609	1.07	12.840
$\frac{5}{8}$	.625	1.13	13.56
$\frac{21}{32}$	.656	1.25	15.00
$\frac{11}{16}$	.688	1.37	16.44
$\frac{45}{64}$	.703	1.43	17.16
$\frac{23}{32}$	.719	1.49	17.88
$\frac{3}{4}$	.750	1.63	19.56
$\frac{25}{32}$	.781	1.77	21.24
$\frac{13}{16}$	.812	1.91	22.92
$\frac{27}{32}$	.844	2.06	24.72
$\frac{7}{8}$	.875	2.22	26.64
$\frac{29}{32}$	.906	2.38	28.56
$\frac{15}{16}$	.938	2.54	30.48
$\frac{31}{32}$	.969	2.72	32.64
1	1.00	2.89	34.68
$1\frac{1}{32}$	1.0312	3.08	36.96
$1\frac{1}{16}$	1.0625	3.27	39.24
$1\frac{5}{64}$	1.0781	3.36	40.32
$1\frac{3}{32}$	1.0938	3.47	41.64
$1\frac{1}{8}$	1.125	3.66	43.92
$1\frac{5}{32}$	1.156	3.86	46.32

Cont'd

ROUND BRASS ROD
HIGH SPEED – FREE CUTTING

12' Mill Lengths

SPEC A.S.T.M. B16-360

Machinability Rating – 100%

Size in Inches	Working Decimal Equivalent	Weight Per Lin. Ft.	Weight Per 12' Length
1 ³ / ₁₆	1.188	4.08	48.96
1 ¹ / ₄	1.250	4.52	54.24
1 ⁵ / ₁₆	1.312	4.98	59.76
1 ³ / ₈	1.375	5.47	65.64
1 ⁷ / ₁₆	1.438	5.98	71.76
1 ¹ / ₂	1.500	6.51	78.12
1 ¹⁷ / ₃₂	1.531	6.78	81.36
1 ⁹ / ₁₆	1.562	7.06	84.72
1 ⁵ / ₈	1.625	7.64	91.68
1 ¹¹ / ₁₆	1.688	8.24	98.88
1 ³ / ₄	1.750	8.86	106.3
1 ¹³ / ₁₆	1.812	9.51	114.1
1 ⁷ / ₈	1.875	10.17	122.4
1 ¹⁵ / ₁₆	1.938	10.9	130.8
2	2.00	11.6	139.2
2 ¹ / ₁₆	2.0625	12.3	147.6
2 ¹ / ₈	2.125	13.1	157.2
2 ³ / ₁₆	2.188	13.8	165.6
2 ¹ / ₄	2.250	14.6	175.2
2 ⁵ / ₁₆	2.312	15.5	186.0
2 ³ / ₈	2.375	16.3	195.6
2 ⁷ / ₁₆	2.438	17.2	206.4
2 ¹ / ₂	2.500	18.1	217.2
2 ⁵ / ₈	2.625	19.9	238.8
2 ³ / ₄	2.750	21.9	262.8
2 ⁷ / ₈	2.875	23.9	286.8
3	3.000	26.0	312.0
3 ¹ / ₈	3.125	28.3	339.6
3 ¹ / ₄	3.250	30.6	367.2
3 ³ / ₈	3.375	33.0	396

ROUND BRASS ROD
HIGH SPEED – FREE CUTTING

12' Mill Lengths

SPEC A.S.T.M. B16-360

Machinability Rating – 100%

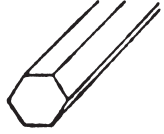
Size in Inches	Working Decimal Equivalent	Weight Per Lin. Ft.	Weight Per 12' Length
3½	3.500	35.4	424.8
3¾	3.750	40.7	488.4
4	4.000	46.3	555.6
4⅛	4.125	49.2	590.4
4¼	4.250	52.3	627.6
4½	4.500	58.6	703.2
4¾	4.750	65.3	783.6
5	5.000	72.3	867.6
5¼	5.250	79.7	956.4
5½	5.500	87.5	1050
6	6.000	104	1248
6½	6.500	122	1464
7	7.000	142	1704
8	8.000	185	2220
9	9.000	233	2796
10	10.000	289	3468

HEXAGON BRASS ROD
HIGH SPEED – FREE CUTTING

12 Foot Mill Lengths

SPEC A.S.T.M. B16-360

Machinability Rating – 100%



Size in Inches	Working Decimal Equivalent	Weight Per Lin. Ft.	Weight Per 12' Length
$\frac{1}{16}$	.0625	.0125	.150
$\frac{3}{32}$	.0938	.0280	.336
$\frac{1}{8}$	.125	.0499	.599
$\frac{5}{32}$	.156	.0779	.935
$\frac{3}{16}$	.188	.112	1.34
$\frac{7}{32}$	.219	.153	1.84
$\frac{15}{64}$	.234	.175	2.10
$\frac{1}{4}$	.250	.199	2.39
$\frac{9}{32}$	.281	.252	3.02
$\frac{5}{16}$	.312	.312	3.74
$\frac{11}{32}$	.344	.377	4.52
$\frac{3}{8}$	.375	.449	5.39
$\frac{13}{32}$	.406	.527	6.32
$\frac{7}{16}$	.438	.611	7.33
$\frac{15}{32}$	.469	.701	8.41
$\frac{1}{2}$	.500	.798	9.58
$\frac{9}{16}$	.562	1.01	12.12
$\frac{19}{32}$	.594	1.13	13.56
$\frac{5}{8}$	.625	1.25	15.00
$\frac{11}{16}$	.688	1.51	18.12
$\frac{23}{32}$	.719	1.65	19.80
$\frac{3}{4}$	.750	1.80	21.60
$\frac{13}{16}$	.812	2.11	25.32
$\frac{7}{8}$.875	2.44	29.28
$\frac{29}{32}$.906	2.62	31.44
$\frac{15}{16}$.938	2.80	33.60
$\frac{31}{32}$.969	2.99	35.88
1	1.000	3.19	38.28

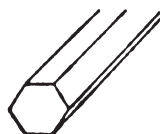
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HEXAGON BRASS ROD HIGH SPEED – FREE CUTTING

12 Foot Mill Lengths

SPEC A.S.T.M. B16-360

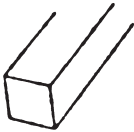
Machinability Rating – 100%



Size in Inches	Working Decimal Equivalent	Weight Per Lin. Ft.	Weight Per 12' Length
1 $\frac{1}{16}$	1.0625	3.60	43.20
1 $\frac{1}{8}$	1.125	4.04	48.48
1 $\frac{3}{16}$	1.188	4.50	54.00
1 $\frac{1}{4}$	1.250	4.99	59.88
1 $\frac{5}{16}$	1.312	5.50	66.00
1 $\frac{3}{8}$	1.375	6.03	72.36
1 $\frac{7}{16}$	1.438	6.59	79.08
1 $\frac{1}{2}$	1.500	7.18	86.16
1 $\frac{9}{16}$	1.562	7.79	93.48
1 $\frac{5}{8}$	1.625	8.43	101.2
1 $\frac{11}{16}$	1.688	9.09	109.1
1 $\frac{3}{4}$	1.750	9.77	117.2
1 $\frac{13}{16}$	1.812	10.5	126.0
1 $\frac{7}{8}$	1.875	11.2	134.4
1 $\frac{15}{16}$	1.938	12.0	144.0
2	2.000	12.8	153.6
2 $\frac{1}{8}$	2.125	14.4	172.8
2 $\frac{1}{4}$	2.250	16.2	194.4
2 $\frac{3}{8}$	2.375	18.0	216.0
2 $\frac{1}{2}$	2.500	19.9	238.8
2 $\frac{5}{8}$	2.625	22.0	264.0
2 $\frac{3}{4}$	2.750	24.1	289.2
2 $\frac{7}{8}$	2.875	26.4	316.8
3	3.000	28.7	344.4
3 $\frac{1}{8}$	3.125	31.2	374.4
3 $\frac{1}{4}$	3.250	33.7	404.4
3 $\frac{1}{2}$	3.500	39.1	469.2
3 $\frac{3}{4}$	3.750	44.9	538.8
4	4.000	51.1	613.2

SQUARE BRASS ROD HIGH SPEED – FREE CUTTING

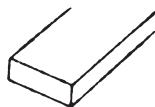
12 Foot Mill Lengths
SPEC A.S.T.M. B16-360
Machinability Rating – 100%



Size in Inches	Working Decimal Equivalent	Weight Per Lin. Ft.	Weight Per 12' Length
$\frac{3}{32}$	.0938	.0324	.387
$\frac{1}{8}$	.125	.0576	.691
$\frac{5}{32}$	.156	.0899	1.078
$\frac{3}{16}$	.188	.130	1.560
$\frac{7}{32}$	.219	.176	2.112
$\frac{1}{4}$	.250	.230	2.760
$\frac{9}{32}$	.281	.291	3.492
$\frac{5}{16}$	.312	.360	4.320
$\frac{11}{32}$	.344	.435	6.220
$\frac{3}{8}$	.375	.518	6.216
$\frac{13}{32}$	.406	.608	7.296
$\frac{7}{16}$	.438	.705	8.460
$\frac{29}{64}$	.453	.756	9.072
$\frac{1}{2}$	.500	.921	11.05
$\frac{9}{16}$	.562	1.17	14.04
$\frac{5}{8}$	.625	1.44	17.28
$\frac{11}{16}$	.688	1.74	20.88
$\frac{3}{4}$	.750	2.07	24.84
$\frac{13}{16}$	.812	2.43	29.16
$\frac{7}{8}$	.875	2.82	33.84
$\frac{15}{16}$	.938	3.24	38.88
1	1.000	3.68	44.16
$1\frac{1}{8}$	1.125	4.66	55.92
$1\frac{1}{4}$	1.250	5.76	69.12
$1\frac{5}{16}$	1.312	6.35	76.20
$1\frac{3}{8}$	1.375	6.97	83.64
$1\frac{1}{2}$	1.500	8.29	99.48
$1\frac{5}{8}$	1.625	9.73	116.8
$1\frac{3}{4}$	1.750	11.3	135.6
$1\frac{7}{8}$	1.875	13.0	156.0
$1\frac{15}{16}$	1.938	13.8	165.6
2	2.000	14.7	176.4
$2\frac{1}{4}$	2.250	18.7	224.4
$2\frac{1}{2}$	2.500	23.0	276.0
$2\frac{3}{4}$	2.750	27.9	334.8
3	3.000	33.2	398.4

RECTANGULAR BRASS BAR HIGH SPEED – FREE CUTTING

12 Foot Mill Lengths
SPEC A.S.T.M. B16-360

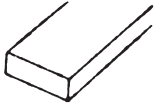


Thickness In Inches	Width In Inches	Weight Per Lin. Ft.	Weight Per 12' Length
1/16	1/4	.0572	.686
	5/16	.0720	.864
	3/8	.0863	1.04
	7/16	.100	1.20
	1/2	.115	1.38
	5/8	.144	1.73
	3/4	.173	2.08
	7/8	.201	2.41
	1	.230	2.76
	1 1/4	.288	3.46
	1 1/2	.345	4.14
	2	.460	5.52
	3	.691	8.29
3/32	1/4	.086	1.03
	3/8	.129	1.55
	1/2	.172	2.06
	5/8	.216	2.59
	3/4	.259	3.11
	7/8	.302	3.62
	1	.345	4.14
	1 1/4	.432	5.18
	1 1/2	.518	6.22
	2	.691	8.29
	2 1/2	.863	10.36
1/8	3/16	.086	1.03
	1/4	.115	1.38
	5/16	.144	1.73
	3/8	.173	2.08
	7/16	.201	2.41
	1/2	.230	2.76
	5/8	.288	3.46
	3/4	.345	4.14
	7/8	.403	4.84
	1	.460	5.52
	1 1/8	.518	6.22
	1 1/4	.576	6.91

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**RECTANGULAR BRASS BAR
HIGH SPEED – FREE CUTTING**

12 Foot Mill Lengths
SPEC A.S.T.M. B16-360

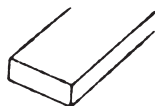


Thickness In Inches	Width In Inches	Weight Per Lin. Ft.	Weight Per 12' Length
$\frac{1}{8}$	$1\frac{1}{2}$	.691	8.29
	$1\frac{3}{4}$	.806	9.67
	2	.921	11.05
	$2\frac{1}{4}$	1.04	12.48
	$2\frac{3}{8}$	1.09	13.08
	$2\frac{1}{2}$	1.15	13.80
	$2\frac{3}{4}$	1.27	15.24
	3	1.38	16.56
	4	1.84	22.08
	$\frac{1}{4}$	.173	2.08
	$\frac{5}{16}$	.216	2.59
	$\frac{3}{8}$	.259	3.11
	$\frac{7}{16}$	.302	3.62
	$\frac{1}{2}$	.345	4.14
	$\frac{9}{16}$	.388	4.66
$\frac{3}{16}$	$\frac{5}{8}$	.432	5.18
	$\frac{3}{4}$	.518	6.22
	$\frac{7}{8}$	.604	7.25
	1	.691	8.29
	$1\frac{1}{4}$	.863	10.36
	$1\frac{3}{8}$	.950	11.40
	$1\frac{1}{2}$	1.04	12.48
	$1\frac{3}{4}$	1.21	14.52
	2	1.38	16.56
	$2\frac{1}{4}$	1.55	18.60
	$2\frac{1}{2}$	1.73	20.76
	3	2.07	24.84
	$3\frac{1}{2}$	2.42	29.00
	4	2.76	33.12
	$\frac{5}{16}$.288	3.46
$\frac{1}{4}$	$\frac{3}{8}$.345	4.14
	$\frac{1}{2}$.460	5.52
	$\frac{9}{16}$.518	6.22
	$\frac{5}{8}$.576	6.91
	$\frac{3}{4}$.691	8.29
	$\frac{7}{8}$.806	9.67

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RECTANGULAR BRASS BAR HIGH SPEED – FREE CUTTING

12 Foot Mill Lengths
SPEC A.S.T.M. B16-360

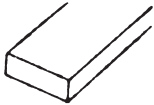


Thickness In Inches	Width In Inches	Weight Per Lin. Ft.	Weight Per 12' Length
1/4	1	.921	11.05
	1 1/4	1.15	13.80
	1 1/2	1.38	16.56
	1 3/4	1.61	19.32
	2	1.84	22.08
	2 1/4	2.07	24.84
	2 1/2	2.30	27.60
	3	2.76	33.12
	3 1/2	3.22	38.64
	4	3.68	44.16
	5	4.61	55.32
	6	5.53	66.36
5/16	3/8	.432	5.18
	1/2	.576	6.91
	5/8	.719	8.63
	3/4	.863	10.36
	7/8	1.01	12.12
	1	1.15	13.80
	1 1/4	1.44	17.28
	1 1/2	1.73	20.76
	1 3/4	2.02	24.24
	2	2.30	27.60
	2 1/4	2.59	31.08
	2 1/2	2.88	34.56
	2 3/4	3.17	37.99
	3	3.45	41.40
	1/2	.691	8.29
	5/8	.863	10.36
	3/4	1.04	12.48
	7/8	1.21	14.52
	1	1.15	13.80
	1 1/8	1.55	18.60
	1 1/4	1.73	20.76
	1 1/2	2.07	24.84
	1 3/4	2.42	29.04
	2	2.76	33.12

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**RECTANGULAR BRASS BAR
HIGH SPEED – FREE CUTTING**

12 Foot Mill Lengths
SPEC A.S.T.M. B16-360

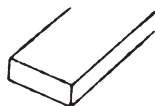


Thickness In Inches	Width In Inches	Weight Per Lin. Ft.	Weight Per 12' Length
$\frac{3}{8}$	$2\frac{1}{4}$	3.11	37.32
	$2\frac{1}{2}$	3.45	41.40
	$2\frac{3}{4}$	3.80	45.59
	3	4.15	49.80
	$3\frac{1}{2}$	4.84	58.08
	4	5.53	66.36
$\frac{7}{16}$	$\frac{1}{2}$	.806	9.67
	1	1.61	19.32
	$2\frac{1}{4}$	3.63	43.56
$\frac{1}{2}$	$\frac{5}{8}$	1.15	13.80
	$\frac{3}{4}$	1.38	16.56
	$\frac{7}{8}$	1.61	19.32
	1	1.84	22.08
	$1\frac{1}{8}$	2.07	24.84
	$1\frac{1}{4}$	2.30	27.60
	$1\frac{1}{2}$	2.76	33.12
	$1\frac{3}{4}$	3.22	38.64
	2	3.68	44.16
	$2\frac{1}{4}$	4.14	49.68
	$2\frac{1}{2}$	4.61	55.32
	$2\frac{3}{4}$	5.07	60.84
	3	5.53	66.36
	$3\frac{1}{4}$	5.99	71.88
	$3\frac{1}{2}$	6.45	77.40
	4	7.37	88.44
	$4\frac{1}{2}$	8.29	99.48
	6	11.05	132.6
	$\frac{9}{16}$	1.43	17.16
	$\frac{5}{8}$	1.73	20.76
	$\frac{7}{8}$	2.02	24.24
	1	2.30	27.60
	$1\frac{1}{4}$	2.88	34.56
	$1\frac{1}{2}$	3.45	41.40
	$1\frac{3}{4}$	4.03	48.36
	2	4.61	55.32
	$2\frac{1}{2}$	5.76	69.12

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RECTANGULAR BRASS BAR HIGH SPEED – FREE CUTTING

12 Foot Mill Lengths
SPEC A.S.T.M. B16-360

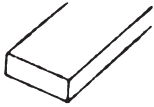


Thickness In Inches	Width In Inches	Weight Per Lin. Ft.	Weight Per 12' Length
$\frac{5}{8}$	3	6.91	82.92
	$\frac{3}{4}$	2.42	29.04
	1	2.76	33.12
	$1\frac{1}{4}$	3.45	41.40
	$1\frac{1}{2}$	4.14	49.68
	$1\frac{3}{4}$	4.84	58.08
	2	5.53	66.36
	$2\frac{1}{2}$	6.91	82.92
	3	8.29	99.48
	4	11.05	132.6
$\frac{7}{8}$	1	3.22	38.64
	$1\frac{1}{8}$	3.63	43.56
	$1\frac{1}{4}$	4.03	48.36
	$1\frac{3}{8}$	4.43	53.16
	$1\frac{1}{2}$	4.84	58.08
	$1\frac{5}{8}$	5.24	62.86
	$1\frac{3}{4}$	5.64	67.68
	2	6.45	77.40
	$2\frac{1}{4}$	7.37	88.44
	$2\frac{1}{2}$	9.21	110.5
1	3	11.05	132.6
	4	14.74	176.88
	6	22.10	264.12
	$1\frac{1}{2}$	6.91	82.92
	$1\frac{3}{4}$	8.06	96.72

Cont'd

**RECTANGULAR BRASS BAR
HIGH SPEED – FREE CUTTING**

12 Foot Mill Lengths
SPEC A.S.T.M. B16-360



Thickness In Inches	Width In Inches	Weight Per Lin. Ft.	Weight Per 12' Length
1¼	2	9.21	110.5
	3	13.82	165.8
1½	2	11.05	132.6
	2½	13.82	165.8
	3	11.58	199.0
1¾	2	12.89	154.7
	2½	16.12	193.4
	3	19.34	232.1
	3½	22.56	270.7
2	2½	18.42	221.0
	2¾	20.26	243.1
	3	22.10	265.2
	3½	25.79	309.5
	4	29.47	353.6
3	5	55.26	663.1

**ROUND NAVAL BRASS BAR
LEADED AND NON-LEADED**

12 Foot Mill Lengths – Half Hard Temper
SPEC - LEADED A.S.T.M. B21-485
SPEC - NON-LEADED A.S.T.M. B21-464

Sizes In Inches	Decimal Equivalent	Weight Per Lin. Ft.	Weight Per 12' Length
1/8	.125	.0448	.538
5/32	.156	.0699	.839
3/16	.188	.101	1.21
1/4	.250	.179	2.15
9/32	.281	.227	2.73
5/16	.312	.280	3.36
3/8	.375	.403	4.84
7/16	.438	.548	6.58
15/32	.469	.630	7.56
1/2	.500	.716	8.59
9/16	.562	.907	10.88
5/8	.625	1.12	13.44
11/16	.688	1.35	16.20
3/4	.750	1.61	19.32
13/16	.812	1.89	22.68
7/8	.875	2.19	26.28
15/16	.938	2.52	30.24

Cont'd

ROUND NAVAL BRASS BAR LEADED AND NON-LEADED (cont'd)

12 Foot Mill Lengths – Half Hard Temper

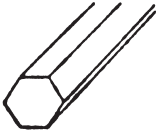
SPEC - LEADED A.S.T.M. B21-485

SPEC - NON-LEADED A.S.T.M. B21-464

Sizes In Inches	Decimal Equivalent	Weight Per Lin. Ft.	Weight Per 12' Length
1	1.000	2.87	33.44
1 $\frac{1}{16}$	1.0625	3.23	38.76
1 $\frac{1}{8}$	1.125	3.63	43.56
1 $\frac{3}{16}$	1.188	4.04	48.48
1 $\frac{1}{4}$	1.250	4.48	53.76
1 $\frac{5}{16}$	1.312	4.94	59.28
1 $\frac{3}{8}$	1.375	5.42	65.04
1 $\frac{7}{16}$	1.438	5.92	71.04
1 $\frac{1}{2}$	1.500	6.45	77.40
1 $\frac{9}{16}$	1.562	6.99	83.88
1 $\frac{5}{8}$	1.625	7.57	90.84
1 $\frac{3}{4}$	1.750	8.77	105.2
1 $\frac{13}{16}$	1.812	9.41	112.9
1 $\frac{7}{8}$	1.875	10.1	121.2
1 $\frac{15}{16}$	1.938	10.8	129.6
2	2.000	11.5	138.0
2 $\frac{1}{8}$	2.125	12.9	154.8
2 $\frac{1}{4}$	2.250	14.5	174.0
2 $\frac{3}{8}$	2.375	16.2	194.4
2 $\frac{1}{2}$	2.500	17.9	214.8
2 $\frac{5}{8}$	2.625	19.7	236.9
2 $\frac{3}{4}$	2.750	21.7	260.4
3	3.000	25.8	309.6
3 $\frac{1}{4}$	3.250	30.3	363.6
3 $\frac{1}{2}$	3.500	35.1	421.2
4	4.000	45.8	509.6
5	5.000	71.6	859.2
6	6.000	103.0	1236

**HEX NAVAL BRASS ROD
LEADED**

12 Foot Mill Lengths – Half Hard Temper
SPEC A.S.T.M. B21-485
Machinability Rating – 70%



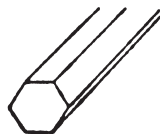
Sizes In Inches	Decimal Equivalent	Weight Per Lin. Ft.	Weight Per 12' Length
$\frac{5}{16}$	.312	.309	3.70
$\frac{3}{8}$	.375	.446	5.35
$\frac{1}{2}$	.500	.793	9.51
$\frac{9}{16}$	.562	1.00	12.0
$\frac{5}{8}$	.625	1.24	14.88
$\frac{11}{16}$	.687	1.5	17.96
$\frac{3}{4}$	.750	1.78	21.41
$\frac{13}{16}$	.812	2.09	25.09
$\frac{7}{8}$	.875	2.43	29.14
1	1.000	3.17	38.06
$1\frac{1}{8}$	1.125	4.01	48.17
$1\frac{1}{4}$	1.250	4.96	59.48
$1\frac{3}{8}$	1.375	5.6	71.96
$1\frac{1}{2}$	1.500	7.14	85.64
$1\frac{5}{8}$	1.625	8.38	100.51
$1\frac{3}{4}$	1.750	9.71	116.57
2	2.00	12.69	152.26

HEX NAVAL BRASS ROD NON-LEADED

12 Foot Mill Lengths – Half Hard Temper

SPEC A.S.T.M. B21-464

Machinability Rating – 30%



Sizes In Inches	Decimal Equivalent	Weight Per Lin. Ft.	Weight Per 12' Length
$\frac{5}{16}$	.312	.308	3.69
$\frac{3}{8}$	.375	.445	5.34
$\frac{1}{2}$	.500	.790	9.48
$\frac{9}{16}$	.562	1	11.98
$\frac{5}{8}$	.625	1.24	14.82
$1\frac{1}{16}$	.687	1.49	17.91
$\frac{3}{4}$	.750	1.78	21.34
$1\frac{3}{16}$	.812	2.08	25.01
$\frac{7}{8}$	.875	2.42	29.04
1	1.000	3.16	37.94
$1\frac{1}{8}$	1.125	4.00	48.01
$1\frac{1}{4}$	1.250	4.94	59.28
$1\frac{3}{8}$	1.375	5.98	71.73
$1\frac{1}{2}$	1.500	7.11	85.36
$1\frac{5}{8}$	1.625	8.34	100.18
$1\frac{3}{4}$	1.750	9.68	116.19
2	2.00	12.64	151.76

ROUND PHOSPHOR BRONZE ROD

12 Foot Mill Lengths

Grade A *SPEC A.S.T.M. B139 (510)*

Also Available

Free Cutting – *Leaded SPEC A.S.T.M. B139 (544)*

Grade A Machinability Rating – 20%

Free Cutting Machinability Rating – 90%



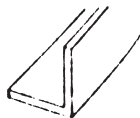
Sizes In Inches	Decimal Equivalent	Weight Per Lin. Ft.	Weight Per 12' Length	Grade "A"	Free Cutting
1/16	.0625	.0110			
3/32	.0938	.0265	.318		✓
1/8	.125	.0471	.565	✓	✓
5/32	.156	.0736	.883	✓	✓
3/16	.188	.106	1.27	✓	✓
7/32	.219	.144	1.73	✓	✓
1/4	.250	.188	2.26	✓	✓
9/32	.2816	.238	2.86		✓
5/16	.312	.295	3.54	✓	✓
11/32	.344	.356	4.27		✓
3/8	.375	.424	5.09	✓	✓
13/32	.406	.498	5.98	✓	✓
7/16	.438	.577	6.92	✓	✓
15/32	.469	.662	7.94		✓
1/2	.500	.754	9.05	✓	✓
9/16	.562	.954	11.45	✓	✓
5/8	.625	1.18	14.16	✓	✓
11/16	.6858	1.43	17.16	✓	✓
23/32	.719	1.56	18.72		✓
3/4	.750	1.70	20.40	✓	✓
13/16	.812	1.99	24.00	✓	✓
7/8	.875	2.31	27.72	✓	✓
15/16	.938	2.65	31.80	✓	✓
1	1.000	3.02	36.24	✓	✓
1 1/16	1.062	3.41	40.92		✓
1 1/8	1.125	3.82	45.84	✓	✓
1 3/16	1.158	4.25	51.00	✓	✓
1 1/4	1.250	4.71	56.52		✓
1 5/16	1.312	5.20	62.40		✓
1 3/8	1.375	5.70	68.40		✓
1 7/16	1.438	6.23	74.76	✓	✓
1 1/2	1.500	6.79	81.48	✓	✓
1 9/16	1.562	7.36	88.32		
1 5/8	1.625	7.96	95.52	✓	✓
1 3/4	1.750	9.23	110.8		✓
1 7/8	1.875	10.6	127.2		✓
2	2.000	12.1	145.2	✓	✓
2 1/8	2.125	13.7	164.4		✓
2 1/4	2.250	15.2	182.4		✓
2 5/16	2.312	16.2	194.4		✓
2 3/8	2.375	17.0	204.0		✓
2 1/2	2.500	18.9	226.8		✓

ANGLES – ARCHITECTURAL BRONZE EXTRUDED

12 Foot Mill Lengths

SPEC A.S.T.M. B455-385

Machinability Rating – 90%



Sizes In Inches	Thickness	Weight Per Lin. Ft	Weight Per 12' Length
½ x ½	⅛	.402	4.82
⅝ x ⅝		.520	6.24
¾ x ¾		.631	7.57
1 x 1	⅜	.653	7.84
1 x 1	⅛	.861	10.33
1¼ x 1¼	⅛	1.09	13.08
1½ x 1½	⅛	1.32	15.84
1¾ x 1¾		1.54	18.48
2 x 2		1.78	21.36
2½ x 2½		2.18	26.16
1 x 1	⅜	1.24	14.88
1¼ x 1¼		1.59	19.08
1½ x 1½		1.94	23.28
2 x 2		2.66	31.92
1 x 1	¼	1.61	19.32
1¼ x 1¼	¼	2.07	24.84
1½ x 1½		2.52	30.24
2 x 2		3.44	41.28

**SHEET & PLATE –
CARTRIDGE BRASS**

SPEC A.S.T.M. B36-C26000

Half Hard Temper

Decimal Equivalent	Sheet Size In Inches	Lbs Per Sq. Ft.	Lbs Per Sheet
.016	24 x 96	.71	11.35
.020	24 x 96	.887	14.19
	36 x 96		21.29
.025	24 x 96	1.11	17.74
	36 x 96		26.61
.032	24 x 96	1.42	22.71
	36 x 96		34.06
.040	36 x 96	1.77	42.58
.050	36 x 96	2.22	53.22
.0625	36 x 96	2.77	66.53
.080	36 x 96	3.55	85.16
.093	36 x 96	4.12	99.0
.125	36 x 96	5.54	133.06
.187	36 x 96	8.29	199.05
.250	36 x 96	11.09	266.11
.375	36 x 96	16.63	399.17
.500	36 x 96	22.18	532.2
.750	36 x 96	33.26	798.34
1.00	36 x 96	44.35	1064.45

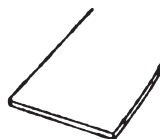
SHEET – PHOSPHOR BRONZE GRADE A

SPRING TEMPER

8 Foot Mill Lengths

SPEC A.S.T.M. B103-C51000

Nominal Composition: Copper 95%; Tin 5%; Phosphorus 0.35%



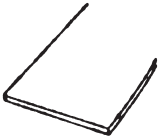
Decimal Equivalent	Width In Inches	Pound Per Ft.	Pounds Per 8' Length
.005	6	.115	.92
	8	.153	1.22
.006	6	.145	1.16
.007	6	.164	1.31
.008	6	.184	1.47
.009	6	.205	1.64
.010	6	.230	1.84
	8	.307	2.46
.012	6	.290	2.32
	8	.387	3.10
.014	6	.327	2.62
.015	6	.366	2.93
.017	6	.412	3.30
	8	.550	4.40
.020	6	.463	3.70
	8	.617	4.94
.022	6	.521	4.17
	8	.694	5.55
.025	6	.583	4.66
	8	.777	6.22
.028	6	.657	5.26
.032	6	.737	5.90
	8	.983	7.86
.035	6	.827	6.62
	8	1.103	8.82
.040	6	.928	7.42
	8	1.238	9.90
.045	6	1.044	8.35
.050	6	1.170	9.36
.064	6	1.477	11.82
	8	1.969	15.75
.072	6	1.659	13.27
.080	6	1.860	14.88
.090	6	2.090	16.72
.125	8	3.840	30.72
.128	6	12.960	23.68

**SHEET & PLATE A365 MUNTZ
METAL + A464 NAVAL BRASS**

COLD ROLLED to 3/16 Inch Thick
Hot Rolled From 1/2 to 3 Inch Thick

SPEC B171

Nominal Composition: Copper 60%; Zinc 40%



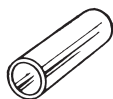
Decimal Thickness	Sheet Size	Pound Per Sq. Ft.	Pounds Per Sheet
.040	36 x 120	1.76	52.80
	48 x 120	1.76	70.40
.050	48 x 96	2.22	71.04
	48 x 120	2.22	88.80
	48 x 144	2.22	106.56
.063	36 x 96	2.73	65.52
	36 x 144	2.73	98.28
	48 x 96	2.73	87.36
	48 x 120	2.73	109.20
	48 x 144	2.73	132.48
.080	48 x 144	3.54	169.92
.090	48 x 144	3.97	190.56
.101	48 x 96	4.44	142.08
.125	36 x 96	5.45	130.80
	36 x 144	5.45	196.20
	48 x 96	5.45	174.40
	48 x 120	5.45	218.00
	48 x 144	5.45	261.60
	60 x 115 1/8	8.18	393.66
3/16	72 x 115 1/8	8.18	472.39
	36 x 96	10.91	262.00
	48 x 120	10.91	436.00
	36 x 96	16.36	393.00
.375	36 x 96	21.82	524.00
.500	36 x 96	27.27	654.00
.625	36 x 96	32.72	785.00
.750	36 x 96	43.63	1047.00
1.000	36 x 96	87.26	2094.00
2.000	36 x 96	130.9	3142.00
3.000	36 x 96		

ROUND SEAMLESS YELLOW BRASS TUBE

HARD DRAWN

Stock Lengths – 12 Feet

For general fabrication. Manufactured to ASTM B-135.



Outside Diameter Inches	Wall Thickness Inches	Weight Per Ft. Lbs.
$\frac{3}{16}$	.032	.057
$\frac{1}{4}$	.035	.087
	.049	.114
	.065	.139
$\frac{5}{16}$	.035	.112
	.049	.149
	.065	.186
$\frac{3}{8}$	.035	.138
	.049	.185
	.065	.233
$\frac{7}{16}$	.042	.192
	.065	.280
$\frac{1}{2}$	.035	.188
	.049	.256
	.065	.327
$\frac{5}{8}$	.035	.239
	.049	.327
	.065	.421
$\frac{3}{4}$	.035	.290
	.049	.397
	.065	.515
	.120	.875
$\frac{7}{8}$	.035	.340
	.065	.609
	.120	1.050
1	.035	.391
	.065	.703
	.120	1.220
1 $\frac{1}{8}$.035	.797
	.125	1.450
1 $\frac{1}{4}$.035	.492
	.065	.891
	.120	1.570
1 $\frac{3}{8}$.035	.512
	.065	.985

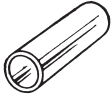
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**ROUND SEAMLESS YELLOW
BRASS TUBE (cont'd)**

HARD DRAWN

Stock Lengths – 12 Feet

For general fabrication. Manufactured to ASTM B-135.



Outside Diameter Inches	Wall Thickness Inches	Weight Per Ft. Lbs.
1½	.035	.593
	.049	.823
	.065	1.080
	.125	1.990
1⅝	.065	1.170
1¾	.065	1.270
	.120	2.260
1⅞	.120	2.44
2	.035	.79
	.065	1.46
	.120	2.61
2¼	.120	2.96
2½	.065	1.83
	.120	3.31
2¾	.120	3.65
3	.065	2.21
	.120	4.00
3¼	.120	4.35
4	.120	5.39

PIPE – 85% RED BRASS

Standard Pipe Size – Commercial Temper
12 Foot Straight Lengths **Not Threaded*
20 Foot Straight Lengths Available from Mill
SPEC A.S.T.M. B43-A230



Size in Inches	Outside Diameter	Inside Diameter	Wall Thickness	Weight Per Lin. Ft.	Weight 12' Lengths
1/8	.405	.281	.062	.253	3.04
1/4	.540	.376	.082	.447	5.36
3/8	.675	.495	.090	.627	7.52
1/2	.840	.626	.107	.934	11.21
3/4	1.050	.822	.114	1.27	15.24
1	1.315	1.063	.126	1.78	21.36
1 1/4	1.660	1.368	.146	2.63	31.56
1 1/2	1.900	1.600	.150	3.13	37.56
2	2.375	2.063	.156	4.12	49.44
2 1/2	2.875	2.501	.187	5.99	71.88
3	3.500	3.062	.219	8.56	102.7
3 1/2	4.000	3.500	.250	11.2	134.4
4	4.500	4.000	.250	12.7	152.4
5	5.562	5.062	.250	15.8	190.2
6	6.625	6.125	.250	19.0	228.0
8	8.625	8.001	.312	30.9	370.8
10	10.750	10.020	.365	45.2	542.4
12	12.750	12.000	.375	55.3	663.6

**EXTRA HEAVY PIPE –
85% RED BRASS**

Standard Pipe Size – Commercial Temper
12 Foot Straight Lengths **Not Threaded*
20 Foot Straight Lengths Available from Mill
SPEC A.S.T.M. B43-A230



Size in Inches	Outside Diameter	Inside Diameter	Wall Thickness	Weight Per Lin. Ft.	Weight 12' Lengths
1/8	.405	.205	.100	.363	4.36
1/4	.540	.294	.123	.611	7.33
3/8	.675	.421	.127	.829	9.95
1/2	.840	.542	.149	1.23	14.76
3/4	1.050	.736	.157	1.67	20.04
1	1.315	.951	.182	2.46	29.52
1 1/4	1.660	1.272	.194	3.39	40.68
1 1/2	1.900	1.494	.203	4.10	49.20
2	2.375	1.933	.221	5.67	68.04
2 1/2	2.875	2.315	.280	8.66	103.92
3	3.500	2.892	.304	11.6	139.20
3 1/2	4.000	3.358	.321	14.1	169.20
4	4.500	3.818	.341	16.9	202.80
5	5.562	4.812	.375	23.2	278.40
6	6.625	5.751	.437	32.2	386.40
8	8.625	7.625	.500	48.4	580.80
10	10.750	9.750	.500	61.1	733.20

CONDENSER AND HEAT EXCHANGER TUBES ASTM B111

ALLOYS AVAILABLE:

Admiralty – C44300

Cupro – Nickel 10% – C70600

Cupro – Nickel 30% – C71500

Lengths other than stock available upon request.



O.D. In Inches	Wall thickness In Inches	Weight Per Lin. Foot (Admiralty)	Std. Stock Length in Feet
$\frac{3}{8}$	.035	.139	16 – 20
$\frac{3}{8}$	.049	.186	20
$\frac{1}{2}$	.049	.257	20 – 24
$\frac{5}{8}$	.049	.344	20 – 24
$\frac{3}{4}$	.049	.418	20
$\frac{3}{4}$	.065	.542	16 – 20
1	.065	.741	20

CONDENSER AND HEAT EXCHANGER TUBE

PHOSPHORUS DEOXIDIZED COPPER

In general, this type of condenser tubing is limited to applications where its high-thermal conductivity is essential. It is quite serviceable in water that is somewhat alkaline and where brackish material is limited.

ARSENICAL COPPER

This tubing can be used in place of phosphorus deoxidized copper tubing where the application requires tubing of greater strength and higher hardness to assure improved resistance to abrasion and erosion, or where higher operating temperatures are encountered.

ADMIRALTY BRASS

This tubing is widely used for steam condensers and for oil refinery installations, providing extended service under normal operating conditions of circulating sea water, brackish water or polluted fresh water. With many crude oils and refinery by-products containing hydrogen sulfide, which accelerates the corrosion of non-ferrous alloys (high-copper alloys being particularly susceptible), admiralty brass often offers refiners a better choice of tubing because of its lower copper, higher zinc content.

70/30 COPPER-NICKEL

Comparatively, this condenser tubing offers both high strength and ductility, and retains these characteristics at elevated temperatures. It also has high resistance to erosion as well as impingement and pit-type corrosion. As a result, 70/30 copper-nickel tubing has found wide usage for applications with severe operating conditions. Examples include ship condensers involving salt water, tidewater power stations where highly corrosive brackish waters are circulated, and oil refinery units operating at relatively high temperatures.

90/10 COPPER-NICKEL

The strength and corrosion resistance properties of this condenser tubing closely approach those of the 70/30 product, and it also maintains its strength at relatively high operating temperatures. For petroleum refineries, however, with their hydrogen sulfide by-products, this 90/10 product is more susceptible to corrosion than 70/30 copper-nickel or admiralty brass tubing. Conversely, in resistance to sea water corrosion and erosion, 90/10 is vastly superior to admiralty brass and, where erosion alone is a problem, it compares very favorably with aluminum brass. In general, 90/10 copper-nickel tubing is recommended for severe applications where high velocities, high temperatures, and salt and/or brackish waters are encountered.

CONDENSER AND HEAT EXCHANGER TUBE

CONDENSER TUBE ALLOYS – APPLICABLE SPECIFICATIONS AND MECHANICAL PROPERTY REQUIREMENTS

UNS Alloy No.	Alloy Name	ASTM Specifications	Temper
C12200	Copper	B-111, B-75	Light Drawn
C12200	Copper	B-111, B-75	Hard Drawn
C14200	Arsenical Copper	B-111, B-75	Light Drawn
C14200	Arsenical Copper	B-111, B-75	Hard Drawn
C23000	Red Brass, 85%	B-111	Annealed
C44300	Admiralty	B-111	Annealed
C68700	Aluminum Brass	B-111	Annealed
C70600	Copper-Nickel, 10%	B-111	Annealed
C70600	Copper-Nickel, 10%	B-111	Light-Drawn
		B-111	Annealed
C71500	Copper-Nickel, 30%	B-111	Annealed
C71500	Copper-Nickel, 30%	B-111	Drawn
			Stress Relieved

UNS Alloy No.	Tensile Strength-Min		Yield Strength-Min		% Elongation in 2" (50.8 mm.) Minimum
	ksi	MPa	ksi	MPa	
C12200	36	250	30	205	20
C12200	45	310	40	275	6
C14200	36	250	30	205	20
C14200	45	310	40	275	6
C23000	40	275	12	85	35
C44300	45	310	15	105	35
C68700	50	345	18	125	35
C70600	40	275	15	105	35
C70600	45	310	35	240	20
	45	310	16	110	35
C71500	52	360	18	125	35
C71500	72	445	50	345	12-wall thru .048" (1.12 mm.) 15-wall over .048" (1.12 mm.)

**SAE-660
ASTM B505 – C93200
CONTINUOUS CAST
BEARING BRONZE
ROUND SOLID BAR**

105" Stock Lengths – We will cut to any length

SPEC A.S.T.M. B505 – C93200

Machinability Rating – 70%

Actual sizes provide allowances for cleanup, as follows:

Outside Diameters to 4" 1/32" finish, OD and ID
 Outside Diameters 4" to 5" incl. 1/16" finish, OD and ID
 Outside Diameters over 5" 1/32" finish, OD and ID

Diameters	Weight Per Inch	13 Inch Bar Weight	105 Inch Bar Weight
1/2	.077	1.0	8
3/4	.162	2.1	17
1	.276	3.6	29
1 1/4	.438	5.7	46
1 1/2	.619	8.0	65
1 3/4	.819	10.6	86
2	1.075	13.9	113
2 1/4	1.342	17.4	141
2 1/2	1.666	21.6	175
2 3/4	2.009	26.1	211
3	2.371	30.8	249
3 1/4	2.771	36.0	291
3 1/2	3.238	42.1	340
3 3/4	3.733	48.5	393
4	4.276	55.6	449
4 1/4	4.825	62.7	507
4 1/2	5.380	69.9	585
4 3/4	5.999	77.9	630
5	6.629	86.2	696
5 1/2	8.105	105.4	851
6	9.629	125.2	1011
6 1/2	11.333	147.3	1190
7	13.028	169.4	1368
7 1/2	14.638	192.9	1558
8	16.914	219.9	1776
9	21.380	277.9	2245

SAE-660 CONTINUOUS CAST BEARING BRONZE HOLLOW ROUND BAR

105" Stock Lengths **SPEC A.S.T.M. B505 (932) - 660**

We will cut to any lengths

NOMINAL COMPOSITION: Copper 83%; Tin 7%; Lead 7%; Zinc 3%

Stock sizes are nominal. Material purchased from this stock will machine cleanly to the sizes listed.

Actual sizes provide allowances for cleanup, as follows:

Outside Diameters to 4" $\frac{1}{32}$ " finish, OD and ID

Outside Diameters 4" to 5" incl. $\frac{1}{16}$ " finish, OD and ID

Outside Diameters over 5" $\frac{3}{32}$ " finish, OD and ID



I.D. / O.D.	Weight Per Inch	13 Inch Bar Weight	105 Inch Bar Weight
$\frac{1}{2}$ x 1	.228	2.9	24
$\frac{1}{4}$	.371	4.8	39
$\frac{1}{2}$	.561	7.3	59
$\frac{1}{4}$	.761	9.9	80
2	1.009	13.1	106
$\frac{3}{4}$ x 1	.143	1.8	15
$\frac{1}{4}$	.305	4.0	32
$\frac{1}{2}$	.486	6.3	51
$\frac{1}{4}$	.695	9.0	73
2	.943	12.3	99
$2\frac{1}{4}$	1.220	15.9	128
$2\frac{1}{2}$	1.534	19.9	161
$2\frac{3}{4}$	1.886	24.5	198
1 x $1\frac{1}{4}$	.191	2.5	20
$\frac{1}{2}$	.381	4.9	40
$\frac{1}{4}$	.591	7.7	62
2	.839	10.9	88
$2\frac{1}{4}$	1.115	14.5	117
$2\frac{1}{2}$	1.420	18.5	149
$2\frac{3}{4}$	1.772	23.0	186
3	2.143	27.8	225
$3\frac{1}{4}$	2.543	33.1	267
$3\frac{1}{2}$	3.010	39.1	316
4	4.115	53.5	432
$1\frac{1}{4}$ x $1\frac{1}{2}$	.239	3.1	25
$\frac{1}{4}$	.458	6.0	48
2	.696	9.1	73
$2\frac{1}{4}$	.972	12.7	102
$2\frac{1}{2}$	1.296	16.8	136
$2\frac{3}{4}$	1.639	21.3	172
3	2.001	26.1	210
$3\frac{1}{4}$	2.410	31.3	253
$3\frac{1}{2}$	2.858	37.2	300
4	3.905	50.8	410
$1\frac{1}{2}$ x $1\frac{1}{4}$	.277	3.6	29
2	.534	7.0	56
$2\frac{1}{4}$	.802	10.4	84
$2\frac{1}{2}$	1.124	14.7	118
$2\frac{3}{4}$	1.467	19.1	154
3	1.839	24.0	193
$3\frac{1}{4}$	2.229	29.0	234
$3\frac{1}{2}$	2.696	35.1	283
$3\frac{3}{4}$	3.181	41.3	334
4	3.801	49.5	399
$4\frac{1}{2}$	4.886	63.6	513
$1\frac{3}{4}$ x $2\frac{1}{4}$	.601	7.8	63
$2\frac{1}{2}$	.961	12.5	100
$2\frac{3}{4}$	1.258	16.4	132
3	1.639	21.3	172
$3\frac{1}{4}$	2.040	26.5	214
$3\frac{1}{2}$	2.515	32.7	264
$3\frac{3}{4}$	3.001	39.1	315
4	3.572	46.4	375
$4\frac{1}{4}$	4.124	53.7	433

SAE-660 CONTINUOUS CAST BEARING BRONZE HOLLOW ROUND BAR

105" Stock Lengths **SPEC A.S.T.M. B505 (932) - 660**

We will cut to any length

NOMINAL COMPOSITION: Copper 83%; Tin 7%; Lead 7%; Zinc 3%

Stock sizes are nominal. Material purchased from this stock will machine cleanly to the sizes listed.

Actual sizes provide allowances for cleanup, as follows:

Outside Diameters to 4" $\frac{1}{32}$ " finish, OD and ID

Outside Diameters 4" to 5" incl. $\frac{1}{16}$ " finish, OD and ID

Outside Diameters over 5" $\frac{3}{32}$ " finish, OD and ID



I.D. / O.D.	Weight Per Inch	13 Inch Bar Weight	105 Inch Bar Weight
2 x 2 $\frac{1}{4}$	.362	4.8	38
2 $\frac{1}{2}$	.686	9.0	72
2 $\frac{3}{4}$	1.029	13.4	108
3	1.820	23.7	191
3 $\frac{1}{2}$	2.248	29.3	236
3 $\frac{3}{4}$	2.743	35.7	288
4	3.362	43.7	353
4 $\frac{1}{2}$	4.458	58.0	468
5	5.686	74.0	597
6	8.724	113.4	916
2 $\frac{1}{4}$ x 2 $\frac{3}{4}$	.772	10.1	81
3	1.143	15.0	120
3 $\frac{1}{4}$	1.553	20.2	163
3 $\frac{1}{2}$	1.991	26.0	209
3 $\frac{3}{4}$	2.420	31.5	254
4	3.058	39.7	321
4 $\frac{1}{4}$	3.620	47.1	380
2 $\frac{1}{2}$ x 3	.838	11.0	88
3 $\frac{1}{4}$	1.239	16.1	130
3 $\frac{1}{2}$	1.686	22.0	177
3 $\frac{3}{4}$	2.162	28.1	227
4	2.772	36.1	291
4 $\frac{1}{4}$	3.334	43.4	350
4 $\frac{1}{2}$	3.905	50.8	410
4 $\frac{3}{4}$	4.524	59.0	475
5	5.124	66.7	538
5 $\frac{1}{2}$	6.648	86.4	698
6	8.105	105.4	851
2 $\frac{3}{4}$ x 3 $\frac{1}{4}$	.975	12.7	102
3 $\frac{1}{2}$	1.353	17.6	142
3 $\frac{3}{4}$	1.848	24.0	194
4	2.429	31.6	255
4 $\frac{1}{4}$	2.981	38.7	313
4 $\frac{1}{2}$	3.572	46.4	375
4 $\frac{3}{4}$	4.190	54.4	440
3 x 3 $\frac{1}{2}$	.991	12.9	104
3 $\frac{3}{4}$	1.486	19.3	156
4	2.115	27.5	222
4 $\frac{1}{4}$	2.639	34.3	277
4 $\frac{1}{2}$	3.191	41.5	335
4 $\frac{3}{4}$	3.810	49.5	400
5	4.458	57.9	468
5 $\frac{1}{2}$	5.953	77.4	625
6	7.477	97.2	785
6 $\frac{1}{2}$	9.096	118.2	955
3 $\frac{1}{4}$ x 4	1.686	21.9	177
4 $\frac{1}{4}$	2.239	29.1	235
4 $\frac{1}{2}$	2.810	36.5	295
4 $\frac{3}{4}$	3.429	44.6	360
5	4.048	52.6	425
5 $\frac{1}{2}$	5.553	72.2	583
3 $\frac{1}{2}$ x 4	1.267	16.5	133
4 $\frac{1}{4}$	1.801	23.4	189
4 $\frac{1}{2}$	2.381	30.9	250

Cont'd

SAE-660 CONTINUOUS CAST BEARING BRONZE HOLLOW ROUND BAR

105" Stock Lengths **SPEC A.S.T.M. B505 (932) - 660**

We will cut to any length

NOMINAL COMPOSITION: Copper 83%; Tin 7%; Lead 7%; Zinc 3%

Stock sizes are nominal. Material purchased from this stock will machine cleanly to the sizes listed.

Actual sizes provide allowances for cleanup, as follows:

Outside Diameters to 4" $\frac{1}{32}$ " finish, OD and ID

Outside Diameters 4" to 5" incl. $\frac{1}{16}$ " finish, OD and ID

Outside Diameters over 5" $\frac{3}{32}$ " finish, OD and ID



I.D. / O.D.	Weight Per Inch	13 Inch Bar Weight	105 Inch Bar Weight
3½ x 4¾	3.010	39.1	316
5	3.620	47.4	380
5½	5.096	66.2	535
6	6.629	86.2	696
6½	8.324	108.2	874
3¾ x 4½	1.943	25.3	204
4¾	2.562	33.3	269
5	3.191	41.5	335
5½	4.667	60.7	490
6	6.201	80.6	651
4 x 4½	1.448	18.8	152
4¾	2.067	26.9	217
5	2.686	34.9	282
5¼	3.410	44.3	358
5½	4.172	54.2	438
6	5.714	74.3	600
6½	7.401	96.2	777
7	9.096	118.3	955
7½	10.953	142.4	1150
8	13.288	172.7	1395
4¼ x 5	2.247	29.2	236
5¼	2.952	38.3	310
5½	3.667	47.7	385
6	5.181	67.4	544
4½ x 5	1.629	21.2	171
5½	3.153	40.9	331
6	4.639	60.3	487
6½	6.286	81.7	660
7	7.981	103.8	838
4¾ x 6	4.077	53.0	428
6½	5.753	74.8	604
5 x 6	3.401	44.2	357
6½	5.096	66.2	535
7	6.858	89.2	720
7½	8.791	114.3	923
8	10.677	138.7	1120
9	15.191	197.5	1595
5¼ x 7	6.029	78.4	633
5½ x 6½	3.848	50.0	404
7	5.601	72.8	588
7½	7.429	96.6	780
8	9.429	122.6	990
5¾ x 7½	7.429	96.6	780
6 x 7	4.143	53.9	435
7½	5.962	77.5	626
8	8.076	105.0	848
8½	10.229	133.0	1074
9	12.515	162.7	1314
6½ x 7½	4.410	57.3	463
8	6.601	85.8	693
9	11.001	143.0	1155
7 x 8	4.676	60.8	491
9	9.239	120.1	970
8 x 9	5.258	68.4	552

**SAE-660 CONTINUOUS
CAST BEARING BRONZE
HOLLOW ROUND BAR**

105" Stock Lengths *SPEC A.S.T.M. B505 (932) - 660*

We will cut to any length

Stock sizes are nominal. Material purchased from this stock will machine cleanly to the sizes listed.

Actual sizes provide allowances for cleanup, as follows:



Recommended Clean-Up Allowances

Nominal O.D. Rods and Tubes	I.D.	O.D.
to 4" O.D.	$\frac{1}{32}$ "	$\frac{1}{32}$ "
4" to 5" O.D.	$\frac{1}{16}$ "	$\frac{1}{16}$ "
5" to 9" O.D.	$\frac{3}{32}$ "	$\frac{3}{32}$ "

Dimensional tolerances

(variation in average dimensions)

Rods and Tubes	I.D.	O.D.
to 4" O.D.	+ .012" - .033"	+ .004" - .006"
4" to 5" O.D.	+ .016" - .046"	+ .006" - .010"
Over 5" O.D.	+ .032" - .064"	+ .032" - .032"

Typical Compositions and Properties

Nominal Composition					
SAE No.	CDA and ASTM B505 Alloy No.	Copper	Tin	Lead	Zinc
660	932	83	7	7	3

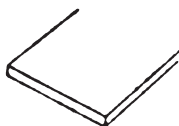
Typical Mechanical Properties					
SAE No.	CDA and ASTM B505 Alloy No.	Tensile Strength- PSI	Yield Strength- PSI	Elongation % in 2"	Brinell Hardness
660	932	44,000	24,000	16	72

COPPER SHEET & PLATE COLD ROLLED

Electrolytic Tough Pitch

SPEC A.S.T.M. B152-C11000

Nominal Composition: Copper 99.9%



Decimal Equivalent	Sheet Size In Inches	Pounds Per Sheet
.050	36 x 96	57.00
.0625	36 x 96	69.75
.064	36 x 96	72.00
.080	36 x 96	89.20
.093	36 x 96	104.64
.125	36 x 96	139.44
$\frac{3}{16}$	36 x 96	209
$\frac{1}{4}$	36 x 96	278
$\frac{3}{8}$	36 x 96	418
$\frac{1}{2}$	36 x 96	559
$\frac{5}{8}$	36 x 96	675
$\frac{3}{4}$	24 x 96	558
	36 x 96	832
1	36 x 96	1116
1 $\frac{1}{4}$	36 x 96	1394
1 $\frac{1}{2}$	36 x 96	1675
2	36 x 96	2232

COPPER SHEET FOR BUILDING CONSTRUCTION

Cold Rolled or Soft Annealed Temper

SPEC A.S.T.M. B370

Copper for B370 is 99.9%.

Decimal Equivalent	Oz Per Sq. Ft.	Sheet Size In Inches	Pounds Per Sheet
.016	12	36 x 96	18
.021	16	24 x 96	16
		30 x 96	20
		36 x 96	24
		24 x 120	20
		30 x 120	25
		36 x 120	30
.027	20	24 x 96	20
		30 x 96	25
		36 x 96	30
		24 x 120	25
		30 x 120	31.25
		36 x 120	37.50

Cont'd

**COPPER SHEET FOR
BUILDING CONSTRUCTION (cont'd)**

Cold Rolled or Soft Annealed Temper

SPEC A.S.T.M. B370

Copper for B370 is 99.9%.

Decimal Equivalent	Oz Per Sq. Ft.	Sheet Size In Inches	Pounds Per Sheet
.032	24	24 x 96	23.75
		30 x 96	29.68
		36 x 96	35.62
		24 x 120	29.68
		30 x 120	44.52
		36 x 120	44.52
.043	32	24 x 96	32
		30 x 96	40
		36 x 96	48
		24 x 120	40
		30 x 120	50
		36 x 120	60
.062	48	36 x 96	71.4
		36 x 120	89.3

LEADCOATED COPPER SHEETS

TYPE I CLASS A A.S.T.M. B101

Leadcoating two sides approx. 15 lbs CSF

Decimal Equivalent	Ounces Per Sq. Ft.	Sheet Size In Inches	Weight Per Sheet
.021	16 oz	24 x 96	18.4
		30 x 96	23
		36 x 96	27.6
		24 x 120	23
		30 x 120	28.75
		36 x 120	34.5
.027	20 oz	24 x 96	22.4
		30 x 96	28
		36 x 96	33.6
		24 x 120	28
		30 x 120	35
		36 x 120	42
.032	24 oz	24 x 96	26.2
		30 x 96	32.68
		36 x 96	39.2
		30 x 120	40.85
		36 x 120	49.02

RECTANGULAR COPPER BAR

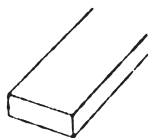
FULL ROUND – SQUARE EDGE – ROUND CORNER

12 Foot Mill Lengths – Hard Drawn

SPEC A.S.T.M. B133, B187-C11000

Nominal Composition: Copper 99.9%

Machinability Rating – 20%



Thickness In Inches	Width In Inches	Weight Per Lin. Ft.	Weight Per 12' Length
$\frac{1}{16}$	$\frac{3}{8}$	.0908	1.09
	$\frac{7}{16}$	.106	1.27
	$\frac{1}{2}$	.121	1.45
	$\frac{5}{8}$	.151	1.81
	$\frac{3}{4}$	.182	2.18
	$\frac{7}{8}$	.212	2.54
	1	.242	2.90
	$1\frac{1}{8}$	.272	3.26
	$1\frac{1}{4}$	.302	3.62
	$1\frac{3}{8}$	.333	4.00
	$1\frac{1}{2}$	.363	4.36
	$1\frac{5}{8}$	.393	4.72
	$1\frac{3}{4}$	.424	5.09
	$1\frac{7}{8}$	.454	5.45
	2	.484	5.81
$\frac{3}{32}$	$\frac{3}{8}$	.136	1.63
	$\frac{1}{2}$	.182	2.18
	$\frac{5}{8}$	.227	2.72
	$\frac{3}{4}$	.273	3.28
	$\frac{7}{8}$	.318	3.82
	1	.363	4.36
	$1\frac{1}{4}$	.454	5.45
	$1\frac{1}{2}$.545	6.54
	$1\frac{3}{4}$.636	7.63
	$\frac{1}{4}$.121	1.45
	$\frac{3}{8}$.182	2.18
	$\frac{1}{2}$.242	2.90
	$\frac{5}{8}$.303	3.64
	$\frac{3}{4}$.363	4.36
	$\frac{7}{8}$.424	5.09

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**RECTANGULAR
COPPER BAR**

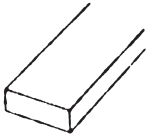
FULL ROUND – SQUARE EDGE – ROUND CORNER

12 Foot Mill Lengths – Hard Drawn

SPEC A.S.T.M. B133, B187-C11000

Nominal Composition: Copper 99.9%

Machinability Rating – 20%



Thickness In Inches	Width In Inches	Weight Per Lin. Ft.	Weight Per 12' Length
$\frac{1}{8}$	1	.484	5.81
	1 $\frac{1}{8}$	.545	6.54
	1 $\frac{1}{4}$	.605	7.26
	1 $\frac{3}{8}$	.666	7.99
	1 $\frac{1}{2}$	.726	8.71
	1 $\frac{5}{8}$	.787	9.44
	1 $\frac{3}{4}$	.847	10.16
	1 $\frac{7}{8}$	.908	10.90
	2	.969	11.63
	2 $\frac{1}{4}$	1.09	13.08
	2 $\frac{1}{2}$	1.21	14.52
	3	1.45	17.40
	3 $\frac{1}{2}$	1.69	20.28
	4	1.94	23.28
	4 $\frac{1}{2}$	2.18	26.16
$\frac{5}{32}$	$\frac{5}{16}$	.277	3.32
$\frac{3}{16}$	$\frac{3}{8}$	.273	3.28
	$\frac{7}{16}$	.318	3.82
	$\frac{1}{2}$	.363	4.36
	$\frac{5}{8}$	.454	5.45
	$\frac{3}{4}$	.545	6.54
	$\frac{7}{8}$	.636	7.63
	1	.727	8.72
	1 $\frac{1}{8}$.818	9.82
	1 $\frac{1}{4}$.909	10.91
	1 $\frac{3}{8}$	1.00	12.00
	1 $\frac{1}{2}$	1.09	13.08
	1 $\frac{3}{4}$	1.27	15.24
	2	1.45	17.40
	2 $\frac{1}{2}$	1.81	21.72

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RECTANGULAR COPPER BAR

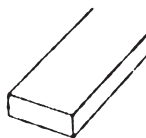
FULL ROUND – SQUARE EDGE – ROUND CORNER

12 Foot Mill Lengths – Hard Drawn

SPEC A.S.T.M. B133, B187-C11000

Nominal Composition: Copper 99.9%

Machinability Rating – 20%



Thickness In Inches	Width In Inches	Weight Per Lin. Ft.	Weight Per 12' Length
$\frac{3}{16}$	$2\frac{3}{4}$	2.00	24.00
	3	2.18	26.16
	4	2.91	34.92
	5	3.64	43.68
	8	5.82	69.84
	10	7.27	87.24
$\frac{1}{4}$	$\frac{3}{8}$	.363	4.36
	$\frac{1}{2}$	.484	5.81
	$\frac{5}{8}$	.606	7.27
	$\frac{3}{4}$	.727	8.72
	$\frac{7}{8}$	.848	10.18
	1	.969	11.63
	$1\frac{1}{8}$	1.09	13.08
	$1\frac{1}{4}$	1.21	14.52
	$1\frac{1}{2}$	1.45	17.40
	$1\frac{3}{4}$	1.70	20.40
$\frac{1}{2}$	2	1.94	23.28
	$2\frac{1}{4}$	2.18	26.16
	$2\frac{1}{2}$	2.42	29.04
	$2\frac{5}{8}$	2.55	30.60
	$2\frac{3}{4}$	2.67	32.04
	3	2.91	34.92
	$3\frac{1}{4}$	3.15	37.80
	$3\frac{1}{2}$	3.39	40.68
	4	3.88	46.56
	5	4.85	58.20
	6	5.81	69.72
	8	7.75	93.00
$\frac{5}{16}$	$\frac{1}{2}$	.606	7.27
	$\frac{5}{8}$	.727	9.08

Cont'd

**RECTANGULAR
COPPER BAR**

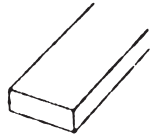
FULL ROUND – SQUARE EDGE – ROUND CORNER

12 Foot Mill Lengths – Hard Drawn

SPEC A.S.T.M. B133, B187-C11000

Nominal Composition: Copper 99.9%

Machinability Rating – 20%



Thickness In Inches	Width In Inches	Weight Per Lin. Ft.	Weight Per 12' Length
$\frac{5}{16}$	$\frac{3}{4}$	.908	10.91
	1	1.21	14.52
	1 $\frac{1}{4}$	1.51	18.12
	1 $\frac{1}{2}$	1.81	21.72
	1 $\frac{3}{4}$	2.12	25.43
$\frac{3}{8}$	2	2.42	29.04
	$\frac{1}{2}$	.727	8.72
	$\frac{5}{8}$	.908	10.90
	$\frac{3}{4}$	1.09	13.08
	$\frac{7}{8}$	1.27	15.24
$\frac{1}{2}$	1	1.45	17.40
	1 $\frac{1}{8}$	1.68	19.56
	1 $\frac{1}{4}$	1.81	21.72
	1 $\frac{1}{2}$	2.18	26.16
	1 $\frac{3}{4}$	2.54	30.48
	2	2.90	34.80
	2 $\frac{1}{4}$	3.26	39.12
	2 $\frac{1}{2}$	3.63	43.56
	2 $\frac{3}{4}$	3.99	47.88
	3	4.35	57.32
	3 $\frac{1}{2}$	5.08	60.96
	4	5.80	69.60
	5	7.25	87.00
	$\frac{5}{8}$	1.21	14.52
	$\frac{3}{4}$	1.45	17.40
	$\frac{7}{8}$	1.70	20.40
	1	1.94	23.28
	1 $\frac{1}{4}$	2.42	29.04
	1 $\frac{1}{2}$	2.91	34.92
	2	3.88	46.56

Cont'd

RECTANGULAR COPPER BAR

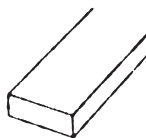
FULL ROUND – SQUARE EDGE – ROUND CORNER

12 Foot Mill Lengths – Hard Drawn

SPEC A.S.T.M. B133, B187-C11000

Nominal Composition: Copper 99.9%

Machinability Rating – 20%



Thickness In Inches	Width In Inches	Weight Per Lin. Ft.	Weight Per 12' Length
$\frac{1}{2}$	$2\frac{1}{4}$	4.26	52.32
	$2\frac{1}{2}$	4.85	58.20
	3	5.82	69.84
	$3\frac{1}{2}$	6.79	81.48
	4	7.76	93.12
	5	9.70	116.40
	6	11.64	139.68
	8	15.52	186.24
$\frac{5}{8}$	1	2.42	29.04
	$1\frac{1}{2}$	3.63	43.56
	2	4.84	58.08
	$2\frac{1}{2}$	6.05	72.60
$\frac{5}{8}$	3	7.26	87.12
	4	9.68	116.16
	$\frac{7}{8}$	2.54	30.48
$\frac{3}{4}$	1	2.91	34.92
	$1\frac{1}{4}$	3.63	43.56
	$1\frac{1}{2}$	4.36	52.32
	$1\frac{5}{8}$	4.73	56.80
	$1\frac{3}{4}$	5.09	61.08
	2	5.81	69.72
	$2\frac{1}{2}$	7.27	87.24
	3	8.72	104.64
	4	11.63	139.56

Cont'd

**RECTANGULAR
COPPER BAR**

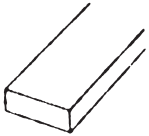
FULL ROUND – SQUARE EDGE – ROUND CORNER

12 Foot Mill Lengths – Hard Drawn

SPEC A.S.T.M. B133, B187-C11000

Nominal Composition: Copper 99.9%

Machinability Rating – 20%



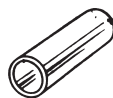
Thickness In Inches	Width In Inches	Weight Per Lin. Ft.	Weight Per 12' Length
$\frac{3}{4}$	6	17.44	208.80
1	1 $\frac{1}{4}$	4.85	58.20
	1 $\frac{1}{2}$	5.81	69.72
	1 $\frac{3}{4}$	6.78	81.36
	2	7.75	93.00
	2 $\frac{1}{2}$	9.69	116.28
	3	11.63	139.56
	4	15.50	186.00
	5	19.38	232.56
	6	23.26	279.12
1 $\frac{1}{4}$	1 $\frac{1}{2}$	7.27	87.24
	1 $\frac{3}{4}$	8.48	101.76
	2	9.69	116.28
	3	14.54	174.48
	4	19.38	232.56
	6	23.26	279.12
1 $\frac{1}{2}$	2	11.63	139.56
	2 $\frac{1}{2}$	14.54	174.48
	3	17.44	209.28
	4	23.26	279.12
	6	23.26	279.12
2	2 $\frac{1}{2}$	19.38	232.56
	3	23.26	279.12
	4	31.00	372.00

ROUND SEAMLESS COPPER TUBE

HARD DRAWN

Stock Lengths – 12 Feet

A general purpose tube suitable for bending, flaring and other cold working operations. Manufactured to ASTM B-75, 99.9 + % Copper



Outside Diameter Inches	Wall Thickness Inches	Weight Per Ft. Lbs.
1/4	.035	.091
1/4	.065	.146
3/8	.065	.245
1/2	.035	.198
1/2	.065	.344
5/8	.035	.251
5/8	.065	.443
3/4	.035	.305
3/4	.065	.542
1	.049	.567
1	.065	.740
1	.120	1.290
1 1/8	.065	.839
1 1/2	.065	1.140
1 1/2	.120	2.02
1 3/4	.065	1.330
2	.065	1.530
2 1/8	.070	1.75
2 1/4	.120	3.11
2 1/2	.035	1.05
2 1/2	.065	1.92
3 3/8	.109	4.00
4	.083	3.96

SEAMLESS COPPER TUBE C12200

WATER TUBE ASTM B88, TYPE K, L, M

DMV (DRAINAGE, WASTE & VENT) ASTM B306

WEIGHT CHART

		¼	⅜	½	⅝	¾	1	1¼	
B88	K wt/ft.	.145	.269	.344	.418	.641	.839	1.04	K
	12' length	1.74	3.23	4.13	5.02	7.69	10.07	12.48	
	20' length	2.90	5.38	6.88	8.36	12.82	16.78	20.80	
	66' coil	9.57	17.75	22.70	27.59	42.31	55.37	68.64	
B88	L wt/ft.	.126	.198	.285	—	.455	.655	.844	L
	12' length	1.51	2.38	3.42	—	5.46	7.86	10.61	
	20' length	2.52	3.96	5.70	—	9.10	13.10	17.68	
	60' coil	7.56	11.88	17.10	—	27.30	39.30	53.04	
B88	M wt/ft.	—	.145	.204	—	.328	.465	.682	M
	12' length	—	1.74	2.44	—	3.94	5.58	8.18	
	20' length	—	2.90	4.08	—	6.56	9.30	13.64	
B306	DMV wt/ft.	—	—	—	—	—	—	.650	DMV
	12' length	—	—	—	—	—	—	7.80	
	20' length	—	—	—	—	—	—	13.00	
	60' coil	—	—	—	—	—	—	—	

		1½	2	2½	3	3½	4	
B88	K wt/ft.	1.36	2.06	2.93	4.00	5.12	6.51	K
	12' length	16.32	24.72	35.16	48.00	61.44	78.12	
	20' length	27.20	41.20	58.60	80.00	102.40	130.20	
	66' coil	89.76	—	—	—	—	—	
B88	L wt/ft.	1.14	1.75	2.48	3.33	4.29	5.38	L
	12' length	13.68	21.00	29.76	39.96	51.48	64.56	
	20' length	22.80	35.00	49.60	66.60	85.80	107.60	
	60' coil	68.40	—	—	—	—	—	
B88	M wt/ft.	.940	1.46	2.03	2.68	3.58	4.66	M
	12' length	11.28	17.52	24.36	32.16	42.96	55.92	
	20' length	18.80	29.20	40.60	53.60	71.60	93.20	
B306	DMV wt/ft.	.809	1.07	—	1.69	—	2.87	DMV
	12' length	9.71	12.84	—	20.28	—	34.44	
	20' length	16.18	21.40	—	33.80	—	57.40	
	60' coil	—	—	—	—	—	—	

Cont'd

SEAMLESS COPPER TUBE C12200 (cont'd)

WATER TUBE ASTM B88, TYPE K, L, M

DMV (DRAINAGE, WASTE & VENT) ASTM B306

RANGE OF SIZES AND WALL THICKNESS

NOMINAL SIZE INCHES	OUTSIDE DIAMETER INCHES	WALL THICKNESS INCHES			
	ALL TYPES	TYPE K	TYPE L	TYPE M	TYPE D.W.V.
¼	.375	.035	.030		
⅜	.500	.049	.035	.025	
½	.625	.049	.040	.028	
⅝	.750	.049	.042	—	
¾	.875	.065	.045	.032	
1	1.125	.065	.050	.035	
1¼	1.375	.065	.055	.042	.040
1½	1.625	.072	.060	.049	.042
2	2.125	.083	.070	.058	.042
2½	2.625	.095	.080	.065	—
3	3.125	.109	.090	.072	.045
3½	3.625	.120	.100	.083	—
4	4.125	.134	.110	.095	.058

C12200 ASTM B280

HARD DRAWN

ACR Tube

Dimensions and Weights

Outside Diameter (Inches)	Wall Thickness (Inches)	Weight (lbs/ft)
1/4	.028	.070
3/8	.030	.126
1/2	.035	.198
5/8	.040	.285
3/4	.042	.362
7/8	.045	.455
1 1/8	.050	.655
1 1/4	.055	.834
1 1/2	.060	1.140
2 1/8	.070	1.750
2 3/8	.080	2.430
3 1/8	.090	3.330
3 5/8	.100	4.290
4 1/8	.110	5.380

**SAFE WORKING
INTERNAL PRESSURES
OF SEAMLESS TUBES**

We are listing below a tabulation of commonly used sizes in which the values are average and are intended only as a general guide.

The exact formula for calculating bursting pressures of seamless tubes is complicated but for practical purposes the following may be used.

Example: ½" O.D. – .035 wall – hard copper tubing:

$$\text{Bursting Pressure} = \frac{\text{Tensile strength} \times \text{wall thickness} \times 2}{\text{Outside Diameter}}$$
$$\text{Bursting Pressure} = \frac{55000 \times .035 \times 2}{.500} = 7700 \text{ lbs. sq. in.}$$
$$7700 \div 5 \text{ (safety factor)} = 1540 \text{ lbs. sq. in.}$$

**Safe working pressure – annealed copper
(safety factor of 5)**

Wall	OD .125	.1875	.250	.3125	.375	.4375	.500	.5625
	OD 1/8"	3/16"	1/4"	5/16"	3/8"	7/16"	1/2"	9/16"
.020	1980	1320	1000	800	660	560	500	450
.025	2480	1660	1240	1000	820	700	620	560
.028	2780	1860	1380	1120	920	800	700	620
.032	3180	2120	1580	1260	1060	900	800	700
.035	3480	2320	1740	1380	1160	1000	860	780
.042	4160	2780	2080	1660	1380	1200	1040	920
.049	4860	3240	2440	1940	1620	1380	1220	1080
.065	....	4300	3220	2580	2140	1840	1620	1440
.072	....	4760	3580	2860	2380	2040	1780	1580
.095	....	....	4720	3760	3140	2700	2360	2100
.109	....	....	5400	4320	3600	3080	2700	2400

Wall	.625	.6875	.750	.8125	.875	.9375	1.000	1.0625	1.125
	5/8"	1 1/16"	3/4"	13/16"	7/8"	15/16"	1"	1-1/16"	1-1/8"
.020	400	360	340	300	280	260	240	240	220
.025	500	460	420	380	360	340	320	300	280
.028	560	500	460	420	400	380	340	320	300
.032	640	580	520	480	460	420	400	380	360
.035	700	640	580	540	500	460	440	400	380
.042	840	760	700	640	600	560	520	500	460
.049	980	880	820	740	700	640	600	580	540
.065	1280	1180	1080	1000	920	860	800	760	720
.072	1420	1300	1180	1100	1020	960	900	840	800
.095	1880	1720	1580	1460	1340	1260	1180	1100	1040
.109	2160	1960	1800	1660	1540	1440	1360	1280	1200

cont'd

SAFE WORKING INTERNAL PRESSURES OF SEAMLESS TUBES (cont'd)

Safe working pressure – hard copper
(safety factor of 5)

Wall	OD .125	.1875	.250	.3125	.375	.4375	.500	.5625
	OD 1/8"	3/16"	1/4"	5/16"	3/8"	7/16"	1/2"	9/16"
.020	3520	2340	1760	1400	1180	1000	880	780
.025	4400	2940	2200	1760	1460	1260	1100	980
.028	4920	3280	2460	1980	1640	1400	1240	1100
.032	5640	3760	2820	2260	1880	1600	1400	1260
.035	6160	4100	3080	2460	2060	1760	1540	1360
.042	7400	4920	3700	2960	2460	2120	1840	1640
.049	8620	5740	4320	3440	2880	2460	2160	1920
.065	....	7620	5720	4580	3820	3260	2860	2540
.072	....	8440	6340	5060	4220	3620	3160	2820
.095	....	....	8360	6680	5580	4780	4180	3720
.109	....	....	9600	7680	6400	5480	4800	4260

Wall	.625	.6875	.750	.8125	.875	.9375	1.000	1.0625	1.125
	5/8"	11/16"	3/4"	13/16"	7/8"	15/16"	1"	1-1/16"	1-1/8"
.020	700	640	580	540	500	460	440	420	400
.025	880	800	740	680	620	580	560	520	480
.028	980	900	820	760	700	660	620	580	540
.032	1120	1020	940	860	800	760	700	660	620
.035	1240	1120	1020	940	880	820	780	720	680
.042	1480	1340	1240	1140	1060	980	920	860	820
.049	1720	1560	1440	1320	1240	1140	1080	1020	960
.065	2280	2080	1880	1760	1640	1520	1440	1340	1260
.072	2540	2300	2120	1960	1820	1680	1580	1500	1400
.095	3340	3040	2780	2580	2380	2220	2100	1960	1860
.109	3840	3480	3200	2960	2740	2560	2400	2260	2120

cont'd

**SAFE WORKING
INTERNAL PRESSURES
OF SEAMLESS TUBES (cont'd)**

Other alloys

MULTIPLY CORRESPONDING COPPER VALUES					
Mixture	Hard	Soft	Mixture	Hard	Soft
Copper (Phosphorus, Deoxidized)	1.0	1.0	High Brass (70-30).....	1.60	1.55
Commercial Bronze (90-10).....	1.14	1.16	Aluminum 3003 .....	.53	.52
Red Brass (85-15).....	1.25	1.29	Aluminum 1100 .....	.44	.42
Low Brass (80-20)	1.42	1.40	Aluminum 5052 .....	.55	.53

Safe working pressures for other alloys in the sizes tabulated above, may be determined by multiplying the copper value by the corresponding factor in the table at left.

For example: The value for ½" O.D. x .035" Hard copper is 1540 lbs. on the table. The safe working pressure (safety factor of 5) for ½" O.D. red brass is then 1540 x 1.25 = 1920 lbs. per square inch. APPROX.

SOFT SEAMLESS COPPER TUBE

ANNEALED – DEHYDRATED & SEALED

50 Foot Coils (Refrigeration Tube)

Designed primarily for use in refrigeration
and air conditioning.

Alloy 122



Outside Diameter Inches	Wall Thickness Inches	Weight Per Ft. Lbs.
$\frac{1}{8}$	.030	.034
$\frac{3}{16}$	.030	.057
$\frac{1}{4}$	.030	.082
$\frac{5}{16}$	.032	.110
$\frac{3}{8}$	.032	.134
$\frac{1}{2}$	.032	.182
$\frac{5}{8}$	.032	.231
$\frac{3}{4}$	.035	.305

COPPER PIPE STANDARD

12 Foot Lengths

SPEC A.S.T.M. B42-122

Nominal Composition: Copper 99.9%; Phosphorus 0.01%



I.P.S. Size	O.D.	Wall Thickness	Weight Per Foot	Pounds Per 12' Length
$\frac{1}{8}$	.405	.062	.259	3.11
$\frac{1}{4}$	.540	.082	.457	5.48
$\frac{3}{8}$	.675	.090	.641	7.69
$\frac{1}{2}$	.840	.107	.955	11.46
$\frac{3}{4}$	1.050	.114	1.30	15.60
1	1.315	.126	1.82	21.96
1 $\frac{1}{4}$	1.660	.146	2.69	32.28
1 $\frac{1}{2}$	1.900	.150	3.20	38.40
2	2.375	.156	4.22	50.76
2 $\frac{1}{2}$	2.875	.187	6.12	73.44
3	3.500	.219	8.75	105.0
3 $\frac{1}{2}$	4.000	.250	11.40	136.8
4	4.500	.250	12.90	154.8
5	5.562	.250	16.20	194.4
6	6.625	.250	19.40	232.8

COPPER PIPE

EXTRA HEAVY

12 Foot Lengths



I.P.S. Size	O.D.	Wall Thickness	Weight Per Foot	Pounds Per 12' Length
1/8	.405	.100	.371	4.45
1/4	.540	.123	.625	7.70
3/8	.627	.127	.847	10.16
1/2	.840	.149	1.25	15.00
3/4	1.050	.157	1.71	20.52
1	1.315	.182	2.51	30.12
1 1/4	1.660	.194	3.46	41.52
1 1/2	1.900	.203	4.19	50.28
2	2.375	.221	5.80	69.60
2 1/2	2.875	.280	8.85	106.2
3	3.500	.304	11.80	141.6
3 1/2	4.000	.321	14.40	172.8
4	4.500	.341	17.30	207.6
5	5.562	.375	23.70	284.4
6	6.625	.437	32.90	394.8

ROUND LOW SILICON BRONZE ROD

12 Foot Mill Lengths

SPEC A.S.T.M. B98-651

Nominal Composition: Copper 98.5%; Silicon 1.5%

Machinability Rating – 30%

Size in Inches	Decimal Equivalent	Weight Per Lin. Ft.	Weight Per 12' Length
3/32	.0938	.0261	.313
1/8	.125	.0465	.558
1/4	.250	.186	2.23
3/8	.375	.419	5.03
1/2	.500	.744	8.93
3/4	.750	1.68	20.16
1	1.000	2.97	35.64
1 3/8	1.375	5.63	67.56
1 1/2	1.500	6.70	80.40
2 5/8	2.625	20.48	245.8

BRASS, COPPER AND BRONZE ALLOYS

PROPERTIES, SPECIFICATIONS, TYPICAL USES

Here are typical uses of the most popular copper-base alloys. This information can, in most instances, enable you to select the alloy best suited to your application.

SHEETS, ROLLS, STRIPS and CIRCLES

Made in a variety of widths, gauges and tempers – for stamping, deep drawing, forming, spinning, spring applications. Precise control of grain structure means economy in fabrication, with excellent finish and quality.

Copper Strip – For drawing, stamping, spinning; for leaders, gutters, flashing.

Low Brass, 80% – Light golden color, very ductile. For expansion bellows, flexible hose, clock dials.

Yellow Brass – Bright yellow color. For general drawing, stamping, forming and spinning – probably most versatile of all the brasses.

Commercial Bronze, 90% – Rich bronze color. Resists season cracking and corrosion from weathering. For weather strip, costume jewelry, screw shells, primer cups; electric fixtures for outdoor use.

Cartridge Brass, 70% – For small arms, shell cases; deep drawn and spun parts; eyelet machine products.

Red Brass, 85% – Fine golden color, very ductile. For vanities, jewelry, radiator cores, fire extinguishers.

Leaded Brasses – Flat, stiff, free cutting brass for blanking clock, watch, and instrument frames, wheels, etc. Also used for engraving purposes.

Phosphor Bronzes – Excellent for spring contacts, for electronic and mechanical devices, diaphragms, instruments. Good fatigue and wear resistance.

Silicon Bronze – Fine spring properties. Supplied in strip and wire. Used for electrical and mechanical contacts.

Leaded Silicon Bronze – Strength and toughness of mild steel with the corrosion resistance of copper. Cold rolled strip has good spring properties. Hot rolled sheet used for small tanks.

Copper Nickels – Give good corrosion resistance and retain their mechanical properties at higher temperatures than any of the other copper alloys. Highly suitable for support baffles or tube sheets in evaporators and heat exchangers or mechanical parts that must operate at elevated temperatures.

Nickel Silvers – Silvery white in color, and extremely ductile, these alloys are used as base for silver plateware, costume jewelry, etc., where ductility as well as beauty is important. Higher corrosion and wear resistance makes them useful for fishing reels, marine applications, slide fasteners.

Cont'd

BRASS, COPPER AND BRONZE ALLOYS (Cont'd)

PROPERTIES, SPECIFICATIONS, TYPICAL USES

Here are typical uses of the most popular copper-base alloys. This information can, in most instances, enable you to select the alloy best suited to your application.

RODS, DRAWN SHAPES and BARS

Tellurium Copper – Offers excellent machinability without seriously compromising such desirable properties of pure copper as electrical and thermal conductivity and hot workability. Frequently used for soldering iron and welding tips and in current carrying electrical parts which require difficult machining operations.

Free Cutting Rod – Most versatile of many machinable alloys, high speed free cutting brass rod permits fast screw machine operation without sacrifice of quality in the finished part and with minimum tool maintenance. Fills 90% of industry's need for machining rod.

Naval Brass Rod – Made to U.S. Government specifications. For marine construction.

Aluminum Bronze – Malleability, strength and good corrosion resistance to liquids and gases make this alloy good for bolts and screw products and components for pole line hardware.

Aluminum Silicon Bronze – Copper 91%, Silicon 2%, Aluminum 7%. Surprisingly hard and strong – yet free machining. About 9% lighter in weight than brass. Excellent for making high strength screw machine parts and forgings. Has unusually high fatigue and wear resistance. Used for supporting sleeves in airplane compression fittings, for wire and cable connectors: worms, gears, sliding parts operating against steel, pump parts, valve stems.

Copper Nickel – Excellent corrosion resistance to sea water and other liquids, highly resistant to stress corrosion cracking. Very malleable either hot or cold. Used for fasteners and many small parts.

Leaded Nickel Silver – Excellent machinability. Used in valves, valve trimmings and hardware fittings.

WIRE

Low Brass and Red Brass Wire – For jewelry findings, ornamental jewelry.

Yellow Brass Wire – Very malleable for making cold-threaded products such as special screws and difficult beads; cap machine and wood screws; rivets. Pin wire for safety pins, spring wire, welding wire.

Commercial Bronze Wire – For making screws and bolts for outdoor construction.

Silicon Bronze – Hard drawn wire is strong yet very malleable. Suitable for cold upsetting operations. Very resistant to stress corrosion cracking. For outdoor construction, pole line hardware, water meter bolts.

Cont'd

BRASS, COPPER AND BRONZE ALLOYS (Cont'd)

PROPERTIES, SPECIFICATIONS, TYPICAL USES

Here are typical uses of the most popular copper-base alloys. This information can, in most instances, enable you to select the alloy best suited to your application.

TUBES

Deoxidized Copper (DHP) – Can be welded, brazed and soldered. Used for hydraulic lines or to convey oil, gas, air or other liquids.

Commercial Bronze – Lends itself to outdoor uses because of good resistance to corrosion and season cracking. Very ductile, somewhat stronger than copper.

Cartridge Brass – Very ductile and suitable for severe forming. Used for plumbers' brass goods, bathroom fixtures, electrical and automotive appliances, automotive radiators.

Low-Leaded Brass – Good for general fabrication and purposes where both cold working and machining operations are necessary. Machinability rating is 60%.

High-Leaded Brass – Not suitable for cold working, but a machinability rating of 80% permits substitution of heavy wall tubing for free cutting rod where hollow screw machine parts are being made.

Copper Nickel – C70600 – Excellent corrosion resistance to sea water. 90/10 Copper/Nickel is used in saline water conversion.

Copper Nickel – C71500 – 70/30 Copper/Nickel has the highest resistance to sea water corrosion of any condenser tube alloy and is widely used in naval vessels.

For alloys, sizes, tempers or specifications not listed, contact our sales office for your specific requirements.

TEMPERS OF BRASS & COPPER METALS

Quarter Hard – Hard enough to have some resistance, but soft enough to double seam without cracking.

Half Hard – A temper suitable for punching, blanking and simple forming. Will double seam on the lighter gauges.

Hard – Too stiff to be worked beyond a right angle bend. Used mostly for flat and straight work.

Spring – Hard enough to resume position after a definite deflection.

Extra Spring – As hard as brass can be rolled. Used for extraordinarily stiff spring work.

Bending Temper – A special temper used in the manufacture of tubing; just soft enough to take ordinary bends without losing its shape or denting badly, and sufficiently close grained to take a high polish.

CHEMICAL, PHYSICAL AND FABRICATION PROPERTIES

COPPER AND COPPER ALLOYS
ROD AND BARS

Alloy	Nominal Composition					Tensile Strength (Hard Drawn)	Machinability Brass Rod - 100%	Elongation % in 2"
	Copper	Zinc	Lead	Tin	Nickel			
Electrolytic Copper* (Touch Pitch)	99.9%					45,000	20	15
Tellurium Copper (Free Cutting)	99.4	0.6	Tellurium			45,000	80	10
Free Cutting Brass*	61.5	35.5	3.0			58,000	100	18
Naval Brass* (Non Leaded) ..	60.0	39.25		.75		63,000	30	30
Commercial Bronze F.C. High Strength.....	90.25	6.9	1.75		1.0	58,000	80	12
Free Cutting Phosphor Bronze	88.0	4.0	4.0	4.0		60,000	90	20
Aluminum (Everdur) Bronze.....	91.0	7.0	Alum.	2.0	Silicon	88,000	60	13
12% Leaded Nickel Silver	65.0	22.0	1.0		12.0	68,000	50	15
Leaded Naval Brass	60.0	37.5	1.75	.75		63,000	75	25
Commercial Bronze (Non Leaded)	90.0	10.0				54,000	20	20
Muntz Metal.....	60.0	40.0				55,000	40	-
Phosphor Bronze A.....	95.0			5.0		65,000	20	30
Silicon Bronze.....	95.8	1.1	Mang.	3.1	Silicon	90,000	30	18
Red Brass	85.0	15.0				56,000	30	20
Yellow Brass (Non Leaded)...	65.0	35.0				65,000	40	20

Alloy	Forming and Joining Properties†						Carbon Arc Weld- ing	Resistance Weld- ing
	Melting Point °F.	Cold Work- ing	Hot Work- ing	Solder- ing	Silver Braz- ing	Oxy- acety- lene Welding		
Electrolytic Copper* (Touch Pitch)	1981	E	E	E	G	P	F	P
Tellurium Copper (Free Cutting)	1980	G	G	G	G	P	P	P
Free Cutting Brass*	1643	P	F	E	G	F	P	P
Naval Brass* (Non Leaded) ..	1625	F	E	E	G	G	F	F
Commercial Bronze F.C. High Strength.....	1913	G	P	E	G	F	F	P
Free Cutting Phosphor Bronze	1875	F	P	E	G	P	P	P
Aluminum (Everdur) Bronze.....	1930	G	G	E	G	G	G	F
12% Leaded Nickel Silver	1859	F	P	E	G	G	F	E
Leaded Naval Brass	1634	P	G	E	G	F	P	P
Commercial Bronze (Non Leaded)	1913	E	G	E	E	G	G	P
Muntz Metal.....	1661	F	E	E	G	G	F	F
Phosphor Bronze A.....	1922	E	P	E	G	G	G	G
Silicon Bronze.....	1866	E	E	E	E	E	E	E
Red Brass	1877	E	G	E	E	G	G	P
Yellow Brass (Non Leaded)...	1688	E	P	E	G	G	F	F

† E = Excellent G = Good F = Fair P = Poor
*Alloys carried in warehouse – other items from mill.

CHEMICAL, PHYSICAL AND FABRICATION PROPERTIES

COPPER AND COPPER ALLOYS

(Products Other Than Rod)

Alloy	Nominal Composition					Tensile Strength		Machinability Brass Rod = 100%
	Copper	Zinc	Lead	Tin	Nickel	Hard	Soft	
Electrolytic Copper*	99.9+					51,000	30,000	20%
Gilding Metal	95	5				56,000	35,000	20%
Commercial Bronze	90	10				61,000	39,000	20%
Red Brass*	85	15				70,000	42,000	30%
Low Brass.....	80	20				74,000	45,000	30%
Cartridge Brass*	70	30				76,000	48,000	30%
Yellow Brass (Sheet).....	65	35				74,000	48,000	30%
Yellow Brass (Tubes)*	66	33.5	.5			75,000	47,000	60%
Leaded Brass	62.5	35.75	1.75			74,000	45,000	90%
Phosphor Bronze C.....	92			8		93,000	58,000	20%
Phosphor Bronze D.....	90			10		100,000	66,000	20%
Nickel Silver 18% A (Soft)	65	17			18	85,000	58,000	20%
Nickel Silver 18% B (Temp) ..	55	27			18	100,000	60,000	30%

Alloy	Forming and Joining Properties									
	Elongation % in 2"		Melting Point °F.	Cold Work- ing	Hot Work- ing	Solder- ing	Silver Braz- ing	Oxy- acety- lene Welding	Carbon Arc Weld- ing	Resist- ance Weld- ing
Electrolytic Copper*	6	45	1981°	E	E	E	G	P	F	P
Gilding Metal	5	45	1950°	E	G	E	E	F	G	P
Commercial Bronze	5	45	1910°	E	G	E	E	G	G	P
Red Brass*	5	47	1880°	E	G	E	E	G	G	P
Low Brass.....	7	50	1830°	E	F	E	G	G	F	P
Cartridge Brass*	8	63	1750°	E	F	E	G	G	F	F
Yellow Brass (Sheet).....	8	60	1710°	E	P	E	G	G	F	F
Yellow Brass (Tubes)*	7	60	1720°	E	P	E	G	F	F	F
Leaded Brass	5	50	1670°	F	P	E	G	F	F	P
Phosphor Bronze C.....	10	65	1880°	G	P	E	G	G	G	E
Phosphor Bronze D.....	13	68	1830°	G	P	E	G	G	G	E
Nickel Silver 18% A (Soft)	3	40	2030°	E	P	E	E	G	F	E
Nickel Silver 18% B (Temp) ..	3	40	1930°	G	P	E	E	G	P	E

† E = Excellent G = Good F = Fair P = Poor

*Alloys carried in warehouse – other items from mill.

**THICKNESS TOLERANCES –
FLAT ROLLED PRODUCTS**

**YELLOW BRASS, RED BRASS,
COMMERCIAL BRONZE AND COPPER**

(All Tolerances plus and minus)

Thickness In Inches			Width – in Inches		
			Incl. 12 and narrower	Over 12 to 18	Incl. 18 Incl. 24
Incl. .004	and thinner		.0003	.0006	
Over .004	incl. .006		.0004	.0008	.0013
“ .006	“ .009		.0006	.0010	.0015
“ .009	“ .013		.0008	.0013	.0018
“ .013	“ .017		.0010	.0015	.002
“ .017	“ .021		.0013	.0018	.002
“ .021	“ .026		.0015	.002	.0025
“ .026	“ .037		.002	.002	.0025
“ .037	“ .050		.002	.0025	.003
“ .050	“ .073		.0025	.003	.0035
“ .073	“ .130		.003	.0035	.004
“ .130	“ .205		.0035	.004	.0045
“ .205	“ .300		.004	.0045	.005
“ .300	“ .500		.0045	.005	.006
“ .500	“ .750		.0055	.007	.009
“ .750	“ 1.00		.007	.009	.011
“ 1.00	“ 1.50		.022	.022	.022
“ 1.50	“ 2.00		.026	.026	.026

Thickness In Inches			Width – in Inches	
			Over 24 incl. 28	Over 24 Incl. 36
Incl. .004	and thinner			
Over .004	incl. .006			
“ .006	“ .009			
“ .009	“ .013		.0025	.003
“ .013	“ .017		.0025	.003
“ .017	“ .021		.003	.0035
“ .021	“ .026		.003	.0035
“ .026	“ .037		.0035	.004
“ .037	“ .050		.004	.005
“ .050	“ .073		.005	.006
“ .073	“ .130		.006	.007
“ .130	“ .205		.007	.008
“ .205	“ .300		.009	.010
“ .300	“ .500		.012	.013
“ .500	“ .750		.015	.017
“ .750	“ 1.00		.018	.021
“ 1.00	“ 1.50		.022	.025
“ 1.50	“ 2.00		.026	.030

ROUND COPPER ROD

12 Foot Mill Lengths – Hard Drawn

SPEC A.S.T.M. B133, B187-110

Nominal Composition: Copper 99.90%

Machinability Rating – 20%



Sizes in Inches	Decimal Equivalent	Weight Per Lin. Ft.	Weight Per 12' Length
* $\frac{3}{32}$	.0938	.0268	.322
* $\frac{1}{8}$	.125	.0476	.571
* $\frac{3}{16}$	.188	.107	1.28
* $\frac{1}{4}$	.250	.190	2.28
$\frac{9}{32}$	.281	.241	2.89
* $\frac{5}{16}$	.312	.297	3.56
* $\frac{3}{8}$	.375	.428	5.14
* $\frac{7}{16}$	.438	.583	7.00
* $\frac{1}{2}$	.500	.761	9.13
* $\frac{9}{16}$	.562	.963	11.56
* $\frac{5}{8}$	.625	1.19	14.28
$\frac{11}{16}$	.688	1.44	17.28
* $\frac{3}{4}$	.750	1.71	20.52
$\frac{13}{16}$	.812	2.01	24.12
$\frac{7}{8}$	.875	2.33	27.96
$\frac{15}{16}$	.938	2.68	32.16
* 1	1.000	3.04	36.48
1 $\frac{1}{16}$	1.062	3.44	41.28
1 $\frac{1}{8}$	1.125	3.85	46.20
1 $\frac{3}{16}$	1.188	4.29	51.48
1 $\frac{1}{4}$	1.250	4.76	57.12
1 $\frac{3}{8}$	1.375	5.76	69.12
1 $\frac{1}{2}$	1.500	6.85	82.20
1 $\frac{5}{8}$	1.625	8.04	96.48
1 $\frac{3}{4}$	1.750	9.32	111.8
1 $\frac{13}{16}$	1.812	10.0	120.0
1 $\frac{7}{8}$	1.875	10.7	128.4
2	2.000	12.2	146.4
2 $\frac{1}{4}$	2.250	15.4	184.8
2 $\frac{1}{2}$	2.500	19.0	228.0
2 $\frac{5}{8}$	2.625	21.0	252.0
2 $\frac{3}{4}$	2.750	23.0	276.0
3	3.000	27.4	328.8
3 $\frac{1}{4}$	3.250	32.2	386.4
3 $\frac{1}{2}$	3.500	37.3	447.6
4	4.000	48.7	584.4
4 $\frac{1}{2}$	4.500	61.6	739.2
5	5.000	76.1	913.2
6	6.000	110	1320

* Available in Certified O.F.H.C. Copper Rod, CDA101.

**ROUND TELLURIUM
COPPER ROD**

OXYGEN FREE

12 Foot Mill Lengths – Hard Drawn

SPEC A.S.T.M. B301-145

Nominal Composition: Copper 99.5%; Tellurium 0.5%; Phosphorus 0.008%

Machinability Rating – 80%



Sizes in Inches	Decimal Equivalent	Weight Per Lin. Ft.	Weight Per 12' Length
1/8	.125	.048	.571
3/16	.188	.107	1.28
1/4	.250	.190	2.28
5/16	.312	.297	3.56
3/8	.375	.427	5.12
7/16	.438	.581	6.97
1/2	.500	.759	9.11
9/16	.562	.960	11.52
5/8	.625	1.19	14.28
11/16	.688	1.43	17.16
3/4	.750	1.71	20.52
13/16	.812	2.00	24.00
7/8	.875	2.33	28.00
1	1.000	3.04	36.48
1 1/16	1.062	3.27	39.24
1 1/8	1.125	3.85	46.20
1 1/4	1.250	4.74	56.88
1 5/16	1.312	4.98	59.76
1 3/8	1.375	5.72	68.64
1 1/2	1.500	6.83	81.96
1 5/8	1.625	8.04	96.4
1 3/4	1.750	9.32	111.8
2	2.000	12.20	146.4
3	3.000	27.36	327.9

ROUND LEADED COPPER ROD

12 Foot Mill Lengths – Hard Drawn

SPEC A.S.T.M. B301-187

Nominal Composition: Copper 99.0%; Lead 1.0%

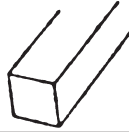
Machinability Rating – 85%



Sizes in Inches	Decimal Equivalent	Weight Per Lin. Ft.	Weight Per 12' Length
$\frac{1}{8}$	.125	.048	.571
$\frac{3}{16}$	.188	.107	1.28
$\frac{1}{4}$	.250	.190	2.28
$\frac{5}{16}$	.312	.297	3.56
$\frac{3}{8}$	.375	.428	5.14
$\frac{7}{16}$	.438	.583	7.00
$\frac{1}{2}$	.500	.761	9.13
$\frac{5}{8}$	.625	1.19	14.3
$\frac{3}{4}$	.750	1.71	20.5
$\frac{7}{8}$	.875	2.33	28.0
1	1.000	3.04	36.5
1 $\frac{1}{8}$	1.125	3.85	46.2
1 $\frac{1}{4}$	1.250	4.76	57.1
1 $\frac{3}{8}$	1.375	5.76	69.1
1 $\frac{7}{16}$	1.438	6.29	75.5
1 $\frac{1}{2}$	1.500	6.85	82.2
1 $\frac{5}{8}$	1.625	8.04	96.5
1 $\frac{3}{4}$	1.750	9.32	112
1 $\frac{7}{8}$	1.875	10.7	128
2	2.00	12.2	146
2 $\frac{1}{4}$	2.250	15.4	185
2 $\frac{1}{2}$	2.500	19.0	228
3	3.00	27.4	329

SQUARE COPPER ROD

12 Foot Mill Lengths – Hard Drawn
SPEC A.S.T.M. B133, B187-110
Nominal Composition: Copper 99.90%
Machinability Rating – 20%



Sizes in Inches	Decimal Equivalent	Weight Per Lin. Ft.	Weight Per 12' Length
¼	.250	.242	2.90
⅓	.312	.379	4.55
⅜	.375	.545	6.54
½	.438	.742	8.90
⅝	.500	.969	11.63
¾	.625	1.51	18.12
⅞	.750	2.18	26.16
1	.875	2.97	35.64
1 ¼	1.000	3.88	46.56
1 ½	1.125	4.91	58.92
1 ¾	1.250	6.06	72.72
2	1.500	8.72	104.64
2 ¼	1.750	11.9	142.80
2 ½	2.000	15.5	186.00
2 ¾	2.250	19.6	235.20
3	2.500	24.2	290.40
3 ¼	3.000	34.9	418.80
3 ½	3.500	47.5	570.00
4	4.000	62.0	744.00

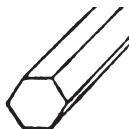
HEXAGON COPPER ROD

Hard Drawn

SPEC A.S.T.M. B133, B187-110

Nominal Composition: Copper 99.90%

Machinability Rating – 20%



Sizes in Inches	Decimal Equivalent	Weight Per Lin. Ft.	Weight Per 12' Length
$\frac{1}{4}$	.250	.210	2.52
$\frac{3}{8}$	.375	.472	5.66
$\frac{1}{2}$	.500	.839	10.07
$\frac{5}{8}$	.625	1.31	15.72
$\frac{3}{4}$	.750	1.89	22.68
$\frac{7}{8}$	.875	2.57	30.84
1	1.000	3.36	40.32
1 $\frac{1}{8}$	1.125	4.25	51.00
1 $\frac{1}{4}$	1.250	5.25	63.00
1 $\frac{3}{8}$	1.375	6.35	76.20
1 $\frac{1}{2}$	1.500	7.55	90.60
1 $\frac{5}{8}$	1.625	8.86	106.3
1 $\frac{3}{4}$	1.750	10.30	123.6