

# Phosphor & Lead Bronze - SAE660 / C93200

## Round Bar

## Properties

Stock - Imperial Sizes		Chemical Properties	
Dia (in)	Weight/m (Kg)	Element	Chemical Composition %
1/2	1.28	Copper (Cu)	81.0 - 85.0
3/4	2.76	Nickel (Ni)	0.10
7/8	3.67	Phosphorus (P)	0.15
1	4.79	Lead (Pb)	6.0 - 7.5
1 1/8	6.56	Tin (Sn)	6.3 - 7.5
1 1/4	7.38	Zinc (Zn)	2.0 - 5.0
1 1/2	10.50		
1 5/8	12.69		
1 3/4	14.21		
2	18.44		
2 1/4	23.36		
2 1/2	28.58		
2 3/4	34.45		
3	41.34		
3 1/4	48.36		
3 1/2	55.77		
3 3/4	69.15		
4	74.11		
4 1/2	93.50		
5	115.10		
5 1/2	139.00		
6	165.10		
6 1/2	193.40		
7	204.30		
7 1/2	259.00		
8	292.00		
9	367.47		
10	465.90		
11	564.33		
12	692.29		

  

Mechanical Properties	
Property	Value
0.2% Proof Strength	138 N/mm <sup>2</sup>
Tensile Strength	240 N/mm <sup>2</sup>
Elongation	10%
Hardness	65 HB

  

Physical Properties	
Property	Value
Melting Point - Liquidus	977 °C
Melting Point - Solidus	854 °C
Density	8.91 gm/cm <sup>3</sup> @ 20°C
Specific Gravity	8.91
Electrical Resistivity	14.29 micrΩ-cm @ 20°C
Electrical Conductivity	0.07 MegaSiemens/cm @ 20°C
Thermal Conductivity	58.2 W/m.0K at 20°C
Coefficient of Thermal Expansion	18.0 10-6 per °C (20-100 °C)
Specific Heat Capacity	377.1 J/kg 0K at 293K
Modulus of Elasticity in Tension	100000 MPa

## Stock - Metric Sizes

Cast Size (mm)	Finished Size (mm)	Weight kg/m
13	12	1.2
15	14	1.5
16	15	1.8
17	16	2.0
19	18	2.5
21	20	3.0
23	22	3.6
26	25	4.8
29	28	5.9

31	30	6.6
33	32	7.6
36	35	9.0
41	40	11.7
46	45	14.7
51	50	18.1
56	55	22.0
61	60	26.0
66	65	30.4
71	70	35.2
76	75	40.3
81	80	45.8
86	85	51.6
91	90	57.8
96	95	64.4
102	100	73.0
107	105	80.0
112	110	88.0
117	115	95.5
122	120	104.0
127	125	112.5
132	130	122.0
142	140	141.0
152	150	161.50
162	160	183.4
172	170	206.7
182	180	231.40
192	190	259.30
202	200	285.20
212	210	317.0
222	220	348.0
232	230	380.0
242	240	413.0
252	250	447.0
262	260	484.0
272	270	521.0
282	280	560.0
304	300	650.0
324	320	735.0
334	330	785.0
354	350	881.0
404	400	1147.0

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