

## C54400 (Phosphor Bronze B-2)

### Chemical Composition

(%max., unless shown as range or min.)

	Cu	Fe	Pb	P	Sn	Zn
<b>Min./Max.</b>	Rem. 10	3.0-4.0	.01-.50	3.5-4.5	1.5-4.5	
<b>Nominal</b>	88.0	-	3.8	.25	4.0	3.0

Note: Cu + Sum of Named Elements, 99.5% min.

### Mechanical Properties (measured at room temperature, 68 F (20 C))

Temper	Section Size	Cold Work	Typ/Min Temp	Tensile Strength	Yield Strength (0.5% ext. under load)	Yield Strength (0.2% offset)	Yield Strength (0.05% offset)	Elongation	Rockwell Hardness	Vickers Hard.	Brinell Hard.	Shear Strength	Fatigue Strength*	Izod Impact Strength
	in.	%	F	ksi	ksi	ksi	ksi					ksi	ksi	ft-lb
	mm.		C	MPa	MPa	MPa	MPa					MPa	MPa	J
<b>Flat Products</b>														
H02	0.04	0	TYP68	58	40	-	-	2468	-	-	-	-	-	0.0
	1		20	400	276	-	-	2468	-	-	-	-	-	0.0
OS035	0.04	0	TYP68	44	19	-	-	50-	-	65-	-	-	-	0.0
	1		20	303	131	-	-	50-	-	65-	-	-	-	0.0
<b>Rod</b>														
H04	0.5	35	TYP68	75	63	-	-	1583	-	-	-	-	-	0.0
	12.7		20	517	434	-	-	1583	-	-	-	-	-	0.0
H04	1	25	TYP68	68	57	-	-	2080	-	-	-	-	-	0.0
	25.4		20	469	393	-	-	2080	-	-	-	-	-	0.0

\*Fatigue Strength:  $100 \times 10^6$  cycles, unless indicated as [N]X  $10^6$ .

### Physical Properties

<="" b="">	US Customary
Melting Point - Liquidus	1830 F
Melting Point - Solidus	1700 F
Density	0.320 lb/in <sup>3</sup> at 68 F
Specific Gravity	8.890
Electrical Resistivity	54.60 ohms-cmil/ft @ 68 F
Electrical Conductivity	19 %IACS @ 68 F
Thermal Conductivity	50 Btu · ft/(hr · ft <sup>2</sup> · °F) at 68F
Coefficient of Thermal Expansion	$9.60 \cdot 10^{-6}$ per °F (68-572 F)
Specific Heat Capacity	0.090 Btu/lb/°F at 68 F
Modulus of Elasticity in Tension	15000 ksi
Modulus of Rigidity	5600 ksi