



# TEMCO ALLOY C65500

## TECHNICAL DATA SHEET

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**COMMON USES:** TEMCO Alloy C65500 is one of several silicon bronze alloys which are produced with close control of alloying elements, including trace elements, at our in-house casting facility. The close control of the chemistry is necessary to control the electrical conductivity within a very narrow range. This alloy is specifically produced for high resistance rotor bar, but is also used in applications where high strength is required. Consult our Sales Department to discuss your specific application.

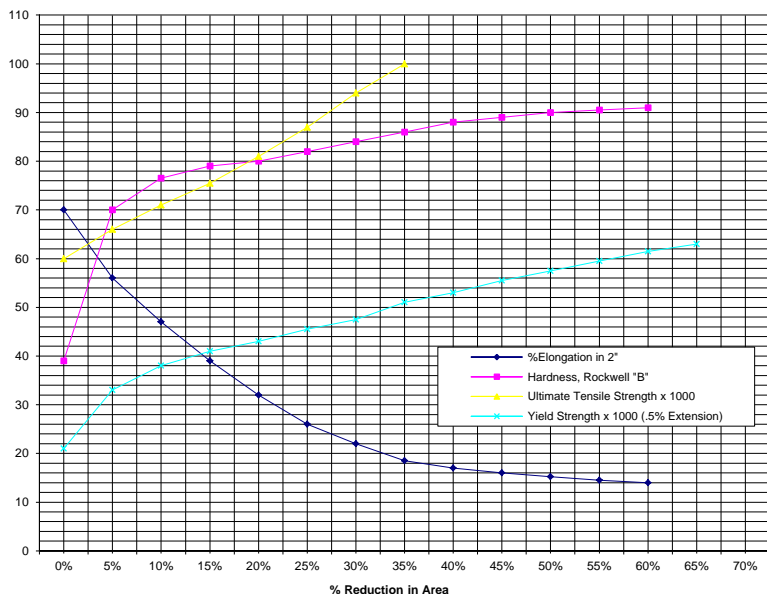
CHEMISTRY		
ELEMENT	NOMINAL %	RANGE %
Copper	95.6	Remainder
Silicon	3.3	2.8 – 3.8
Manganese	1.1	0.5 – 1.3
Lead	--	.03 max.
Iron	--	.05 max.
Zinc	--	1.5 max.

TEMPER	TYPICAL PROPERTIES			
	TENSILE STRENGTH ksi (MPa)	YIELD STRENGTH* ksi (MPa)	ELONGATION %	HARDNESS ROCKWELL
Annealed (061)	60 (410)	20 (135)	70	RB 40
Ho1 (10%)	71 (490)	38 (260)	47	RB 77
Ho2 (20%)	81 (555)	44 (300)	32	RB 80
Ho4 (36%)	100 (685)	51 (350)	18	RB 87

\*0.5 % EXTENSION UNDER LOAD

CAPABILITY FOR BEING COLD WORKED	EXCELLENT
CAPABILITY FOR BEING HOT WORKED	EXCELLENT
HOT WORKING TEMPERATURE	1300° - 1600° F 700° - 875° C
ANNEALING TEMPERATURE	900° - 1300° F 475° - 700° C

SOFT SOLDERING	GOOD
SILVER ALLOY BRAZING	EXCELLENT
OXYACETYLENE WELDING	GOOD
COATED METAL ARC WELDING	FAIR
RESISTANCE WELDING	EXCELLENT



### MISCELLANEOUS INFORMATION:

MACHINEABILITY RATE\* 30

\*Free Machining Brass = 100

CONDUCTIVITY 6.5 % ± .5 % IACS @ 68° F

DENSITY .308 lb/cu in (8.53 gm/cu cm @ 20° C)

NEAREST APPLICABLE ASTM SPEC: B96, B98, B124

*Note: C65500 is susceptible to stress corrosion and must be thermally stress relieved unless sold in the annealed condition.*