



# ELECTRIC MATERIALS

A United States Company

COMMUTATORS • EXTRUSIONS • ROTOR BAR • CASTINGS • FORGINGS

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## TEMCO ALLOY C80410

### TECHNICAL DATA SHEET

UNCONTROLLED COPY

**COMMON USES:** TEMCO Alloy C80410 was developed for Centrifugal Cast rotor end rings. The combinations of melting practices and high purity melt stock produce an end product that is free of porosity and has excellent electrical properties. Consult our Sales Department to discuss your specific application.

#### CHEMICAL COMPOSITION

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

	Cu (incl. Ag)	P	Total Other Elements
Min./Max.	99.9 min.	--	.10
Nominal	--	--	--

#### HEAT TREATMENT

Cannot be strengthened by heat treatment

#### PHYSICAL PROPERTIES

	US Customary	Metric
<b>Melting Range</b> Liquidus	1981° F	1083° C
Solidus	1948° F	1064° C
<b>Density</b>	0.323 lb/in <sup>3</sup> at 68° F	8.94 g/cm <sup>3</sup> at 20° C
<b>Specific Gravity</b>	8.94	8.94
<b>Coefficient of Thermal Expansion</b>	9.4 10 <sup>6</sup> per °F (68-392° F)	18.9 10 <sup>6</sup> per °C (20-200° C)
<b>Electrical Conductivity</b>	98 %IACS at 68° F minimum	0.568 Siemens/cm at 20° C
<b>Modulus of Elasticity in Tension</b>	17,000 ksi	117,000 MPa

#### MECHANICAL PROPERTIES

		US Customary	Metric
<b>Tensile Strength</b>	typical	25 ksi	172 MPa
<b>Yield Strength</b>	typical	8 ksi	55 MPa
<b>Elongation</b>	typical	25 % in 2 in.	25 % in 51 mm
<b>Rockwell Hardness</b> (F scale)	typical	30	

#### CASTING CHARACTERISTICS

Characteristic	Value
Effect of section size	small
Patternmaker's shrinkage	1/4 in/ft
Drossing	none
Gassing	high
Fluidity	medium
Shrinkage	high
Casting Yield	low

#### MISCELLANEOUS INFORMATION:

MACHINEABILITY RATING 10  
(C36000, Free Cutting Brass = 100)