



# TEMCO ALLOY C80410

## TECHNICAL DATA SHEET

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**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.)

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

### HEAT TREATMENT

**Stress Relieving:** 500° F (260° C) for 1h/in of section thickness

**Cannot be strengthened by heat treatment**

### PHYSICAL PROPERTIES

	<b>US Customary</b>	<b>Metric</b>
<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

		<b>US Customary</b>	<b>Metric</b>
<b>Tensile Strength</b>	minimum	20 ksi	138 MPa
	typical	25 ksi	172 MPa
<b>Yield Strength</b>	minimum	7 ksi	45 MPa
	typical	8 ksi	55 MPa
<b>Elongation</b>	minimum	20 % in 2 in.	20 % in 51 mm
	typical	25 % in 2 in.	25 % in 51 mm
<b>Rockwell Hardness</b> (F scale)	typical	30	30

### CASTING CHARACTERISTICS

<b>Characteristic</b>	<b>Value</b>
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)