



Represented in South Africa by:
Multi-Alloys C.C.
 Ph: 011 466 2480
 Fax: 011 466 1692
 E-mail: kenp@wwtrade.co.za

CX Temper

ToughMet® 3

ToughMet® is Brush Wellman's solution to your severe service material problems. By applying our EquaCast® process, tailored alloying additions and spinodal hardening technology, we have engineered ToughMet® to provide attributes beyond those typically found in a high-strength copper alloy.

- Exceptional resistance to corrosion and cavitation
- Outstanding lubricity and durability in demanding applications
- Highly uniform composition in all product forms
- Available in a wide range of continuous-cast shapes and sizes

ToughMet® 3 in the cast and spinodally hardened (CX) condition exhibits tensile strength up to 120 ksi and hardness up to HRC 34 in a Copper - 15% Nickel - 8% Tin alloy with excellent machinability.

Mechanical Properties

Temper	Yield Strength 0.2% offset (ksi)	Ultimate Tensile Strength (ksi)	Elongation (%)	Hardness (HRC)
T3 CX105	105 (< 4" Ø)	110 (< 4" Ø)	4	30
T3 CX105	94.5 (≥ 4" Ø)	99 (≥ 4" Ø)	4	30
T3 CX90	90	105	6	27
T3 CA	20 - 40	50 - 75	30	HRB 62-75

Typical minimum values except for T3 CA (strength and hardness specified as ranges). Consult your Brush Wellman representative to review your application requirements.

Physical Properties

Young's Modulus	18.5 x 10 ⁶ psi
Poisson's Ratio	0.3
Electrical Conductivity	9% IACS
Thermal Conductivity	22 Btu/ft/hr/°F
CTE (70 – 215 °F)	9.1 x 10 ⁻⁶ /°F
Density	0.323 lb/in ³
Magnetic Permeability	< 1.001

Some properties depend on strength level.

Specification: ASTM B505

CDA Standard: C96900

Availability

Brush Wellman provides a variety of cast and spinodally hardened forms:

Rods: 1¹/₈" – 5" diameter

Tube		
OD	Min. Wall	Min. ID
1 ¹ / ₈ " - 3"	1/4"	1/2"
>3" - 5"	3/8"	1"
>5" – 7 ¹ / ₂ "	1/2"	2"
>7 ¹ / ₂ " - 10"	5/8"	3"

Specialty Shapes: Multi-hole and/or shapes with >0.400" in. wall

Tolerances in accordance with ASTM B505.