

Data Sheet

ToughMet® 3 TS 160U Rod

Brush Wellman's ToughMet® 3 rod is a spinodal copper nickel tin alloy designed for use in applications such as high performance bearings & bushings requiring high strength and resistance to wear and corrosion.

CHEMICAL COMPOSITION (weight percent)

Alloy	Nickel	Tin	Copper
ToughMet® 3	15	8	Balance

PHYSICAL PROPERTIES

Elastic Modulus	Poisson's Ratio	Electrical Conductivity	Thermal Conductivity	Coefficient of Thermal Expansion	Density	Magnetic Permeability
18.5 x 10 ⁶ psi 128 kN/mm ²	0.3	<7% IACS <4 MS/m	22 Btu/hr/ft/°F 38 W/m/°C	8.9 x 10 ⁻⁶ in/in/°F 16.1 x 10 ⁻⁶ m/m/°C	0.323 lb/in ³ 8.94 g/cm ³	<1.001

MECHANICAL PROPERTIES

Diameter		0.2% Offset Yield Strength (Min)		Ultimate Tensile Strength (Min)		Elongation (Min)	Hardness (Min)
(inch)	(mm)	(ksi)	(N/mm ²)	(ksi)	(N/mm ²)	(%)	(R _c)
<0.75	<19	150	1035	165	1138	7	36
0.75 - 1.6	19 - 41	150	1035	165	1138	5	34
1.6 - 2.75	41-70	150	1035	160	1105	3	34

STANDARD AVAILABILITY

Sizes: .50 to 2.75 inch (13-70 mm) diameter

Length: Nominal 6-12 ft (1829-3658 mm) with ends

Surface: Mill hardened finish

Straightness: <0.25 inch/10 ft (6.35 mm/3048 mm) for sizes < 0.75"

<0.5 inch/10 ft (12 mm/3048 mm) for sizes >= 0.75"

Tolerance: +0.005 inch (0.13mm)/-0 for sizes <0.75 inch (19 mm)

+0.02 inch (0.5 mm)/-0 for sizes 0.75 to 1.6 inch (19 - 41 mm)

+0.08 inch (2 mm)/-0 for sizes 1.6-2.75 inch (41-70 mm)

SPECIFICATIONS

UNS C72900, ASTM B 249

RELATED INFORMATION

Additional information on ToughMet® 3 rod availability and size capability can be obtained by calling 800-375-4205.

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