



## ToughMet® 3 TS 150 Tube

Materion Brush Performance Alloys' ToughMet 3 tube is a spinodal copper nickel tin alloy designed for use in the oil and gas market where wear resistant, high performance bearings and resistance to salt water corrosion, sour service and high strength properties are required. A typical application would be pressure housings for instrumentation packages. Precision tolerances are available.

### CHEMICAL COMPOSITION (weight percent)

Alloy	Nickel	Tin	Copper
ToughMet 3 Tube	15	8	Balance

### PHYSICAL PROPERTIES

Elastic Modulus	Poisson's Ratio	Electrical Conductivity	Coefficient of Thermal Expansion	Density	Magnetic Permeability
21 x 10 <sup>6</sup> psi 144 kN/mm <sup>2</sup>	0.32	<7% IACS <4 MS/m	9.1 x 10 <sup>-6</sup> in/in/°F 16.4 x 10 <sup>-6</sup> m/m/°C	0.325 lb/in <sup>3</sup> 9.00 g/cm <sup>3</sup>	<1.001

\*10<sup>6</sup> cycle fatigue limit

### MECHANICAL PROPERTIES

0.2% Offset Yield Strength (Typical)		Ultimate Tensile Strength (Typical)		Elongation (Min) (%)	Hardness (Min) (HRC)	Grain Size (Typical)
(ksi)	(N/mm <sup>2</sup> )	(ksi)	(N/mm <sup>2</sup> )			
150	1034	158	1089	5	36	<100 micron

### STANDARD AVAILABILITY

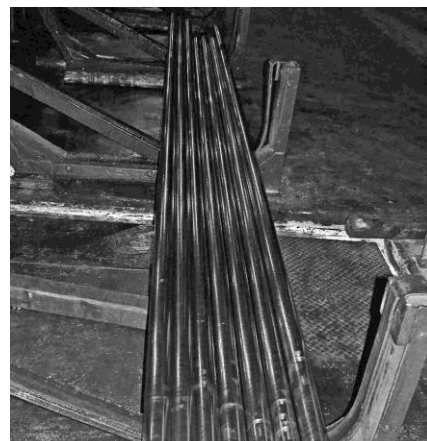
Outside Diameter: 2.25 inch (57 mm) maximum  
 Inside Diameter: 1.5inch (38.1 mm) minimum  
 Wall Thickness: approximately 10 - 20% of outside diameter

### SPECIFICATIONS

UNS C72900, ISO 15156, NACE MRO175

### RELATED INFORMATION

Additional technical information on ToughMet 3 TS 150 tube can be obtained by calling 800-375-4205. For pricing and availability, phone 800-521-8800, or the local sales number listed on the back of this datasheet.



## North American Service Centers – Sales Inquiries

For bar, tube, plate/sheet >0.060" (1.5 mm) thick  
and rod >0.5" (12.7 mm) diameter:

### Warren, MI

TOLL FREE: 800-521-8800  
LOCAL: +(1) 586-772-2700  
FAX: +(1) 586-772-2472

## International Sales Offices

### CHINA/HONG KONG

TEL: + (852) 2318-1960 / 1907  
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To obtain a complete list of our global Distributor/Agent network, visit us online at [www.materion.com/BrushAlloys/ContactUs](http://www.materion.com/BrushAlloys/ContactUs)



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### MATERION CORPORATION

[www.materion.com/alloys](http://www.materion.com/alloys)

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