



ToughMet® 3 AT110 Temper Plate

ToughMet Alloy is Materion Brush Performance Alloys' solution to your severe service material problems. By application of our patented process to implement the EquaCast® Microstructure, 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
- Uniform microstructure in a variety of wrought shapes and sizes

CHEMICAL COMPOSITION (weight percent)

Alloy	Nickel	Tin	Copper
ToughMet 3 Alloy	15	8	Balance

PHYSICAL PROPERTIES

Elastic Modulus	Poisson's Ratio	Coefficient of Thermal Expansion (70-215°F / 20-100°C)	Density	Thermal Conductivity	Relative Magnetic Permeability
21 x 10 ⁶ psi 144 kN/mm ²	0.33	9.1 x 10 ⁻⁶ in/in/°F 16.4 x 10 ⁻⁶ m/m/°C	0.325 lb/in ³ 9.00 g/cm ³	22 Btu/hr/ft/°F 38 W/m/°C	<1.001

MINIMUM MECHANICAL PROPERTIES

0.2% Offset Yield Strength (ksi) (N/mm ²)		Ultimate Tensile Strength (ksi) (N/mm ²)		Elongation (%)	Hardness (HRC)	Fatigue Strength (ksi) (N/mm ²)	
110	760	125	860	6	30	60	415

* Rotating Beam Fatigue Strength at 10⁶ Cycles

FINISHING ALLOWANCE

ToughMet® 3 AT110 plate is provided with a rolled and heat-treated surface. When ordering, please add the following minimum finishing allowances to the thickness of the finish-machined parts.

Plate Thickness	Finishing Allowance
< 1" (<25.4 mm)	0.13" (3.3 mm)
1" – 2.99" (25.4 - 75.9 mm)	0.20" (5.1 mm)
≥ 3" (≥76 mm)	0.25" (6.4 mm)

AVAILABILITY

Plate thicknesses range from 1/4" to 4 3/4" (6.4 to 120.7 mm).

Typical mill width = 16" (406 mm)

For wider plate, consult your Materion Brush Performance Alloys Sales Representative.

SPECIFICATIONS AND STANDARDS

UNS C72900, AMS 4595

RELATED INFORMATION

Additional technical information on ToughMet 3 ATI10 Plate tube can be obtained by calling 800-375-4205. For availability, size capability and pricing, please phone 800-521-8800, or the local sales number listed on the bottom of this page.

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

brushalloysHK-info@materion.com

CHINA/SHANGHAI

TEL: + (86) 21-5237-2328

brushalloysCN-info@materion.com

GERMANY

TEL: + (49) 711-830-930

brushalloysDE-info@materion.com

JAPAN

TEL: + (81) 33 230 2961

brushalloysJP-info@materion.com

REPUBLIC OF KOREA

TEL: + (82) 32-811-2171

brushalloysKR-info@materion.com

SINGAPORE/ASEAN

TEL: + (65) 6842-4456

brushalloysSG-info@materion.com

TAIWAN, R.O.C.

TEL: + (886) 2-2747-8800 x-121

brushalloysTW-info@materion.com

UNITED KINGDOM & IRELAND

TEL: + (44) 118-930-3733

brushalloysUK-info@materion.com

To obtain a complete list of our global Distributor/Agent network, visit us online at www.materion.com/BrushAlloys/ContactUs



Materion Brush Performance Alloys
6070 Parkland Boulevard
Mayfield Heights, OH 44124 USA
phone: 216.486.4200 fax: 216.383.4005
email: BrushAlloys-info@materion.com

MATERION CORPORATION

www.materion.com/alloys

AD0055_0513

ToughMet® and EquaCast® are Registered Trademarks of Materion Brush Inc.

© 2013 Materion Brush Inc.