



ToughMet® 3 AT110 Alloy Temper Plate

ToughMet Alloy is Materion 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 alloy 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		Ultimate Tensile Strength		Elongation (%)	Hardness (HRC)	Fatigue Strength	
(ksi)	(N/mm ²)	(ksi)	(N/mm ²)			(ksi)	(N/mm ²)
110	760	125	860	6	30	60	415

* Rotating Beam Fatigue Strength at 10⁶ Cycles

FINISHING ALLOWANCE

ToughMet® 3 AT110 alloy 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 ¼" to 4 ¾" (6.4 to 120.7 mm).

Typical mill width = 16" (406 mm)

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

SPECIFICATIONS AND STANDARDS

UNS C72900, AMS 4595

RELATED INFORMATION

Additional technical information on ToughMet 3 AT110 alloy 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 tube, bar, rod 0.4" (10 mm) diameter and over,
plate 0.062" (1.57 mm) thickness and over

Warren, MI

TOLL FREE: 800.521.8800

LOCAL: +(1) 586.772.2700

FAX: +(1) 586.772.2472

INTERNATIONAL SALES OFFICES

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MATERION CORPORATION

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