



## ToughMet® 3 AT110 Temper Plate

ToughMet is Materion Brush Performance Alloys' 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
- Uniform microstructure in a variety of wrought shapes and sizes

### MECHANICAL PROPERTIES

Temper	Yield Strength 0.2% offset (ksi)	Ultimate Tensile Strength (ksi)	Elongation (%)	Hardness (HRC)
T3 AT110	110	125	6	30

Typical minimum values.

### PHYSICAL PROPERTIES

<b>Young Modulus</b>	21 x 10 <sup>6</sup> psi	<b>CTE (70 – 215 °F)</b>	8.9 x 10 <sup>-6</sup> /°F
<b>Poisson's Ratio</b>	0.33	<b>Density</b>	0.325 lb/in <sup>3</sup>
<b>Electrical Conductivity</b>	9% IACS	<b>Fatigue Limit (estimated)</b>	60 ksi at R=-1*
<b>Thermal Conductivity</b>	22 btu/ft/hr/°F	<b>Magnetic Permeability</b>	<1.001

\*Fatigue at 10<sup>6</sup> cycles

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"	0.13"
1" – 2.99"	0.20"
≥ 3"	0.25"

### AVAILABILITY

**PLATE THICKNESSES RANGE FROM ¼" TO 4 ¾".**

**TYPICAL MILL WIDTH = 16".**

**FOR WIDER PLATE, CONSULT YOUR MATERION BRUSH PERFORMANCE ALLOYS SALES REPRESENTATIVE.**

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The logo for TOUGHMET, featuring the word "TOUGHMET" in a bold, italicized, sans-serif font with a horizontal line through the middle of the letters.

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#### MATERION CORPORATION

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