

Alloy 3 (C17510) Strip

Materion Performance Alloys' Alloy 3 mill hardened strip provides good strength with high electrical conductivity and good resistance to stress relaxation. It is a drop-in replacement for the obsolete Alloy 10 (C17500) strip material in Automotive, Appliance and DataCom/Telecom market applications. Typical applications include high reliability spring contacts for switches and relays.



CHEMICAL COMPOSITION (weight percent)

Alloy	Beryllium	Nickel	Copper
C17510	0.20-0.60	1.4-2.2	Balance

PHYSICAL PROPERTIES*

Elastic Modulus	Melting Point (Solidus)	Electrical Conductivity/resistivity	Density	Thermal Expansion Coefficient	Thermal Conductivity (25 °C)
20,000 ksi 138 GPa	1900°F 1040 °C	45-60% IACS 2.9-3.8 μΩ-cm	0.319 lb/in ³ 8.83 g/cm ³	9.8x10 ⁻⁶ in/in °F 17.6x10 ⁻⁶ m/m °C	140 BTU/ft hr °F 240 W/ m K

*Properties specified for the precipitation age hardened (heat treated) condition

MECHANICAL PROPERTIES**

Temper***	0.2% Offset Yield Strength		Ultimate Tensile Strength		Elongation ***	Hardness	Formability (Minimum Bend Radius to Thickness Ratio for a 90° Bend)****	
	ksi	MPa	ksi	MPa			Percent	DPH
AT (TF00)	80-100	550-690	100-130	680-900	10-25	195-275	1.0	1.0
HT (TH04)	95-120	650-830	110-135	750-940	8-20	216-287	2.0	2.0

Properties may vary by thickness. * Percent elongation valid only for strip 0.004" (0.10 mm) and thicker.

****Formability numbers valid for strip 0.010" (0.25 mm) and thinner.

FORMS AVAILABLE

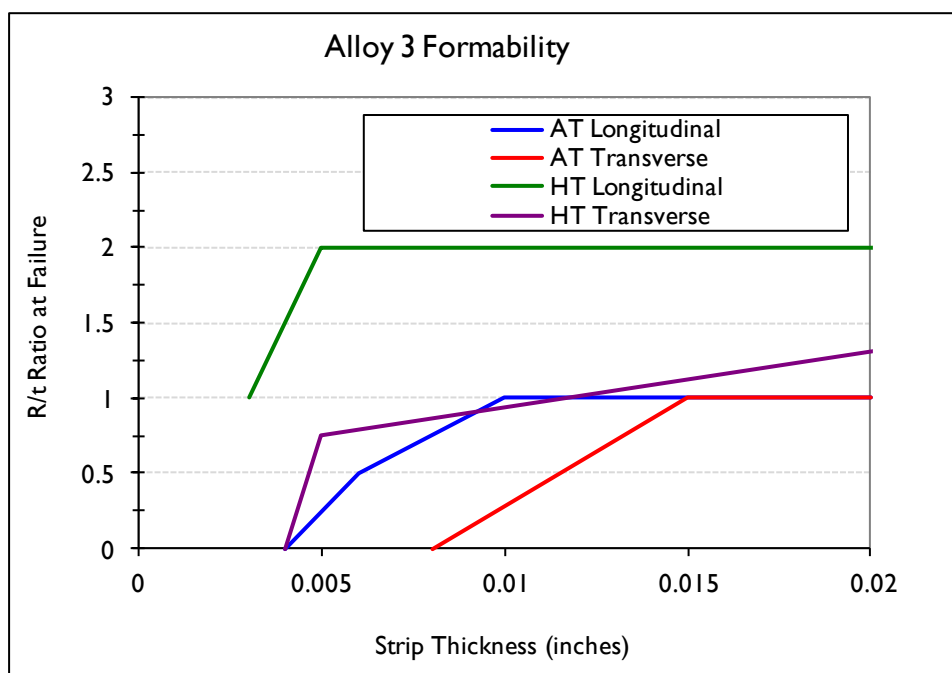
Alloy 3 strip is available in widths ranging from 0.050" to 16" (1.27 mm to 452.7 mm) and in thicknesses ranging from 0.002" to 0.125" (0.05 mm to 3.18 mm). It is also available in rod, wire, bar, tube and plate.

SPECIFICATIONS AND STANDARDS

C17410, ASTM B-768 ASTM B534, EN 1652, EN 1654, EN 13148, EN 14436, MIL-C-81021, ISO 1187, ISO 1634

RELATED INFORMATION

Additional technical information on Alloy 3 strip may be obtained by phoning 800-375-4205. For pricing and availability, phone 800-323-2438, or the local sales number listed on the back of this datasheet.



North American Service Centers – Sales Inquiries

For strip ≤ 0.060 " (1.5 mm) thick.
wire and rod ≤ 0.5 " (12.7 mm) diameter:

Elmhurst, IL

TOLL FREE: 800-323-2438
LOCAL: +(1) 630-832-9650
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MATERION CORPORATION

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