

Data Sheet

Alloy 3 (C17510) Strip

Brush Wellman's 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			Longitudinal	Transverse
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 for Strip 0.004" (0.10 mm) and thicker.

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

FORMS AVAILABLE

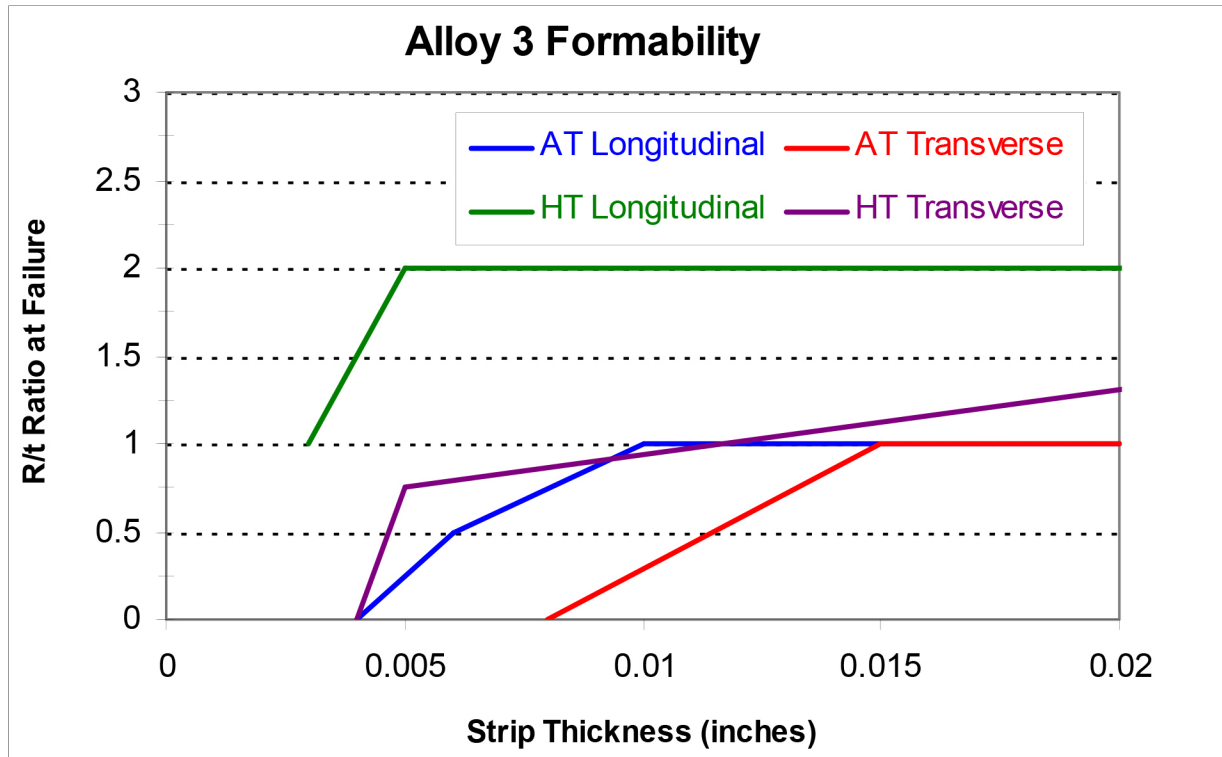
Alloy 3 strip is available in widths ranging from 0.050" to 16" (1.27 mm to 452.7 mm) and in thicknesses ranging from 0.002" to 0.125" (0.05 mm to 3.18 mm). It is also available in rod, wire, bar, tube and plate.

SPECIFICATIONS

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

RELATED INFORMATION

Additional information on Alloy 3 may be obtained by phoning 800-375-4205.



HEALTH AND SAFETY

Handling Alloy 3 strip in solid form poses no special health risk. Like many industrial materials, beryllium-containing materials may pose a health risk if recommended safe handling practices are not followed. Inhalation of airborne beryllium may cause a serious lung disorder in susceptible individuals. The Occupational Safety and Health Administration (OSHA) has set mandatory limits on occupational respiratory exposures. Read and follow the guidance in the Material Safety Data Sheet (MSDS) before working with this material. For additional information on safe handling practices or technical data on Alloy 3, contact Brush Wellman Inc. at 1-800-375-4205.

AD0071/0808
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