

Brush 60[®] Strip

Materion Performance Alloys' Brush 60 is a high performance, lower priced copper beryllium alloy offering cost effective solutions for many applications. Available in mill hardened tempers, Brush 60 was performance engineered for electronic contact and spring applications in the computer, datacom and telecommunications markets.



As components are reduced in size and signal requirements become more stringent, the selection of materials is of increasing importance. Total cost solutions demand materials which provide design flexibility, ease of manufacturing, and life cycle reliability. Brush 60 (C17460) was performance engineered with these criteria in mind. Key benefits include:

- Greater contact force and conductivity to improve signal transfer
- Superior high temperature durability
- Freedom to form intricate parts at high strength levels
- Complete recyclability

CHEMICAL COMPOSITION (weight percent)

Beryllium (Be)	Nickel (Ni)	Zirconium (Zr)	Tin (Sn)	Copper
0.15 – 0.5	1.0 – 1.4	0.5 max	0.25 max.	Balance

PHYSICAL PROPERTIES

Elastic Modulus	Density	Electrical Conductivity	Thermal Conductivity	Coefficient of Thermal Expansion
19,600 ksi 135 GPa	0.318 lb/in ³ 8.81 g/cm ³	50% IACS (nominal) 3.4 μ-ohm-cm (nominal)	128 BTU/hr ft °F 221 W/m °C	9.8 x 10 ⁻⁶ in/in °F 17.6 x 10 ⁻⁶ mm/mm °C

TYPICAL MECHANICAL PROPERTIES

Temper	0.2% Offset Yield Strength		Ultimate Tensile Strength		Elongation (Minimum)	Formability (R/t) For a 90 Degree Bend	
	(ksi)	(MPa)	(ksi)	(MPa)		Good Way	Bad Way
¾ HT	95 – 115	655 – 795	115 – 135	795 – 930	11%	0.7	0.7
HT	105 – 125	720 – 860	120 – 140	825 – 965	10%	1.5	1.5

Note: A “good way” bend has its axis perpendicular to the rolling direction of the strip. Strip less than 0.010” (0.25 mm) may form somewhat better. Please see formability vs. thickness charts on reverse side

STANDARD AVAILABILITY Brush 60 strip is available in widths ranging from 0.050” to 16” (1.27 mm to 406.5 mm) and in thicknesses ranging from 0.002” to 0.080” (0.05 mm to 2.03 mm).

SPECIFICATIONS AND STANDARDS UNS C17460

RELATED INFORMATION Additional technical information on Brush 60 strip may be obtained by phoning 800-375-4205. For pricing and availability, phone 800-323-2438, or the local sales number listed below.

TOLERANCES

Strip Thickness (inches)		Standard Thickness Tolerance (inches)	Strip Thickness (mm)		Standard Thickness Tolerance (mm)
Over	Including	Plus or Minus	Over	Including	Plus or Minus
	0.0020	0.00010		0.05	0.003
0.0020	0.0040	0.00015	0.05	0.10	0.004
0.0040	0.0060	0.00020	0.10	0.15	0.005
0.0060	0.0090	0.00025	0.15	0.20	0.006
0.0090	0.0130	0.00030	0.20	0.30	0.008
0.0130	0.0260	0.00040	0.30	0.70	0.010
0.0260	0.0370	0.00060	0.70	1.00	0.015
0.0370	0.0500	0.00080	1.00	1.30	0.020
0.0500	0.0750	0.00100	1.30	2.00	0.025

Additional tolerances are per ASTM B 194. Please specify the exact tolerances that you require when you place your order. Tighter tolerances may be available at additional cost. Please contact your local sales engineer to confirm the requested capability.

SAFE HANDLING OF COPPER BERYLLIUM

Handling copper beryllium 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 Safety Data Sheet (SDS) before working with this material. For additional information on safe handling practices or technical data on copper beryllium, contact Materion Performance Alloys, Technical Service Department at 1-800-375-4205.

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
PHONE: +(1) 630-832-9650
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International Sales Offices

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

