MOLDMAX®

DATA SHEET

MoldMAX HH®

Materion Brush Performance Alloys' MoldMAX HH (High Hard) is the premier copper mold alloy. This alloy has a hardness and strength comparable with standard tool steels but its thermal conductivity is at four to six times higher. MoldMAX HH is used for injection mold cores and cavities and blow mold pinch-offs. Its high hardness provides durability in applications where other high conductivity copper alloys fail. The alloy resists galling against other mold alloys, including itself.

CHEMICAL COMPOSITION (weight percent)

Alloy	Beryllium	Cobalt	Copper
MoldMAX HH	1.6 – 2.0	0.2 – 0.3	Balance

PHYSICAL PROPERTIES

Elastic Modulus	Melting Point (Solidus)	Density	Thermal Expansion	Thermal Conductivity (100 °C)	Heat Capacity (100 °C)
19,000 ksi 131 GPa	~1600 °F ~870 °C	.302 lb/in^3 8.36 g/cm^3	9.7x10^{-6} in/in °F 17.5 x 10^{-6} °C^{-1}	75 BTU/hr·ft·°F 130 W/m·K	.10 BTU/lb·°F 0.44 J/g·K

TYPICAL MECHANICAL PROPERTIES*

0.2% Offset Yield Strength	Ultimate Tensile Strength	Fatigue Strength 10^7 Cycles (R=-1)	Elongation	Impact Strength	Hardness
145 ksi 1000 MPa	170 ksi 1170 MPa	>45 ksi >310 MPa	5%	5 ft·lb 7 J	40 HRC

*Properties may vary by shape and thickness.

FORMS AVAILABLE

Rounds, square and rectangular bars, and plate.

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. Occupational safety and health regulatory agencies worldwide have set mandatory limits on occupational respiratory exposures. Read and follow the guidance in the Material Safety Data Sheet (MSDS) before working with this material. The SDS and additional important beryllium health and safety information and guidance can be found at berylliumsafety.com, berylliumsafety.eu, and Materion.com.

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