

MoldMAX V[®]

Materion Performance Alloys' MoldMAX V (MMV) Alloy is a high conductivity, moderately high strength, copper nickel silicon chromium alloy. Applications include injection mold and blow mold cores and cavities.

CHEMICAL COMPOSITION (weight percent)

Alloy	Nickel	Silicon	Chromium	Copper
MoldMAX V	6.4 – 7.6	1.5 – 2.5	0.6 – 1.2	Balance

PHYSICAL PROPERTIES

Elastic Modulus	Melting Point (Solidus)	Density	Thermal Expansion	Thermal Conductivity (typical @100 °C)	Heat Capacity (typical @100 °C)
18,500 ksi 130 GPa	~1800 °F ~980 °C	.314 lb/in ³ 8.69 g/cm ³	9.72x10 ⁻⁶ in/in °F 17.5 x 10 ⁻⁶ °C ⁻¹	92 BTU/hr·ft·°F 160 W/m·°C	0.098 BTU/lb·°F 0.41 J/g·°C

MECHANICAL PROPERTIES*

Product Size Range	Typical Minimum 0.2% Offset Yield Strength	Typical Min. Ultimate Tensile Strength	Typical Fatigue Strength 10 ⁷ Cycles (R = -1)	Typical Minimum Elongation	Typical Impact Strength	Minimum Hardness
Rod 0.5 – 3.5 in. 12.5 – 89 mm	115 ksi 790MPa	125 ksi 860 MPa	40 ksi 275 MPa	7%	5 ft·lb 7 J	265 HBW (27 HRC)
Rod 4 – 5 in. 100 – 125 mm	105 ksi 725 MPa	115 ksi 790 MPa	40 ksi 275 MPa	5%	5 ft·lb 7 J	250 HBW minimum
Plate 0.5 – 4.5 in 12.5 – 113 mm	100 ksi 690 MPa	115 ksi 790 MPa	40 ksi 275 MPa	5%	5 ft·lb 7 J	250 HBW minimum

*Hardness is tested via Brinell Test Method at 3000 kgf load and equivalent HRC values converted per ASTM-E-140, Table 1 Properties may vary by shape and thickness.

FORMS AVAILABLE

Rounds, plates, and parts finished machined per customer drawings.

RELATED INFORMATION

Additional technical information on MoldMAX[®] products can be obtained by visiting www.MoldMax.com or by calling 800-375-4205 (USA). For pricing and availability in North America, contact the sales location listed on: <http://materion.com/Businesses/BrushPerformanceAlloys/About/ContactUs/NorthAmericanDistributor-AgentNetwork-Mold-ToolingAlloys.aspx>.

For sales locations outside North America visit:

<http://materion.com/Businesses/BrushPerformanceAlloys/About/ContactUs/InternationalDistributor-AgentNetwork-Mold-ToolingAlloys.aspx>.

North American Service Centers – Sales Inquiries

For bar, tube, plate/sheet >0.060” (1.5 mm) thick
and rod >0.5” (12.7 mm) diameter:

Warren, MI

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MATERION CORPORATION

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