MATERION

DATA SHEET

MoldMAX V Alloy

Materion's 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	0.40 – 1.25	Balance

Typical Physical Properties

Elastic Modulus	Melting Point (Solidus)	Electrical Conductivity	Density	Thermal Expansion (20 - 200°C)	Thermal Conductivity (typical @100°C)	Heat Capacity (typical @100°C)
18,500 ksi 130 GPa	~1800°F ~980°C	25% IACS min.	0.314 lb./in^3 8.69 g/cm^3	9.72 x 10^{-6} in/in °F 17.5 x 10^{-6} m/m °C^{-1}	92 BTU/hr·ft·°F 160 W/m·°C	0.098 BTU/lb.·°F 0.41 J/g·°C

Typical Mechanical Properties*

Product Size Range	0.2% Offset Yield Strength	Ultimate Tensile Strength	Fatigue Strength 10^7 Cycles (R = -1)	Elongation	Impact Strength	Hardness
Rod 0.5 - 3.5 in. 12.5 - 89 mm	105 ksi 720 MPa	125 ksi 860 MPa	40 ksi 275 MPa	7%	4 ft·lb. 5 J	270 HBW (28 HRC)

*Hardness is tested via the Brinell Test Method at 3000 kgf load and equivalent HRC values converted per ASTM E140, Table 1. Properties may vary by shape and thickness.

Forms Available

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

Related Information

Additional technical information on MoldMAX® products can be obtained by visiting www.MoldMax.com or by calling +1.800.375.4205 in the U.S. and +1.216.383.6800 outside the United States.

Disclaimer:

Only the buyer can determine the appropriateness of any processing practice, end-product or application. Materion does not make any warranty regarding its recommendations, the suitability of Materion's product, or its processing suggestions for buyer's end product, application or equipment.

The properties presented on this data sheet are for reference purposes only, intended only to initiate the material selection process. They do not constitute, nor are they intended to constitute, a material specification. Material will be produced to one of the applicable industry standards, if any, listed in the Industry Standards and Specification section.

Actual properties may vary by thickness and/or part number. Please contact your local sales engineer for detailed properties to be used in simulation.

Any properties marked as preliminary are subject to change at any time as the manufacturing process is further refined.

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