

## MoldMAX V<sup>®</sup>

Material 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 <sup>3</sup> 8.69 g/cm <sup>3</sup>	9.72x10 <sup>-6</sup> in/in °F 17.5 x 10 <sup>-6</sup> °C <sup>-1</sup>	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 <sup>7</sup> 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, square and rectangular bars, and plate.