

IBC Advanced Alloys - Copper Alloys

Product Data Sheet - Thermal-Mould™ Super

Thermal Mould™ Super is manufactured to provide a combination of high strength and hardness properties coupled with superior thermal properties. This range of properties makes Thermal-Mould™ Super the premier material for copper alloy molds and a wide range of other applications from oil and gas to aerospace.

Chemical Composition (Weight Percent Nominal)

METRIC

DELIVERING SOLUTIONS				
Alloy	Nickel	Silicon	Chromium	Copper
Super	7	2	1	Balance

Physical and Chemical Properties

DELIVERING SOLUTIONS				
Density (g/cm ³)	Elastic Modulus (GPa)	Coefficient of Thermal Expansion (m/m/°C)	Thermal Conductivity (W/mC)	Melting Temperature (°C)
8.69	130	17.5 x 10 ⁻⁶	160	980

Typical Mechanical Properties

DELIVERING SOLUTIONS						
Alloy	Temper	Thickness	Tensile Strength (MPa)	0.2% Offset Yield (MPa)	Elongation (%)	Hardness (Brinell)
Plate	Heat treated	All sizes	900	725	8%	258-286
Round Bars	Heat treated	All sizes	900	725	8%	258-286

Forms Available:

Plate: Thickness 25 to 250 mm, width 600 mm max. x standard mill lengths up to 1500 mm.

Rounds: Diameter 25 to 300 mm, standard mill lengths.