

## Bohler-Uddeholm BeCu Alloy 172 Mold Material

Category : Metal , Nonferrous Metal , Beryllium Alloy , Copper Alloy

### Material Notes:

Beryllium copper alloy A high strength beryllium copper mold alloy with high thermal conductivity. BeCu Alloy 172 is characterized by: High thermal conductivity Good corrosion resistance Good polishability Good wear resistance Good resistance to galling Good machinability High strength and hardness Excellent weldability The special properties of BeCu Alloy 172 beryllium copper alloy make it a suitable mold/core/insert material for a wide variety of molding situations but especially where a combination of high thermal conductivity, corrosion resistance and good polishability are needed. Blow molds: pinch offs, neck rings and handle inserts. Injection mold: molds, cores, inserts. Injection nozzles and manifolds for hot runner systems.

Order this product through the following link:

[http://www.lookpolymers.com/polymer\\_Bohler-Uddeholm-BeCu-Alloy-172-Mold-Material.php](http://www.lookpolymers.com/polymer_Bohler-Uddeholm-BeCu-Alloy-172-Mold-Material.php)

Physical Properties	Metric	English	Comments
Density	8.36 g/cc	0.302 lb/in <sup>3</sup>	
	8.22 g/cc	0.297 lb/in <sup>3</sup>	
	@Temperature 299 °C	@Temperature 570 °F	
	8.28 g/cc	0.299 lb/in <sup>3</sup>	
	@Temperature 199 °C	@Temperature 390 °F	

Mechanical Properties	Metric	English	Comments
Hardness, Rockwell C	30 - 40	30 - 40	Age-hardened
Tensile Strength, Ultimate	1170 MPa	170000 psi	hardened to 30 HRC
	1280 MPa	185000 psi	hardened to 40 HRC
Tensile Strength, Yield	989.4 MPa	143500 psi	hardened to 30 HRC
	@Strain 0.200 %	@Strain 0.200 %	
	1084 MPa	157200 psi	hardened to 40 HRC
	@Strain 0.200 %	@Strain 0.200 %	
Elongation at Break	6.0 %	6.0 %	hardened to 40 HRC
	8.0 %	8.0 %	hardened to 30 HRC
Modulus of Elasticity	131 GPa	19000 ksi	
	103 GPa	15000 ksi	
	@Temperature 299 °C	@Temperature 570 °F	
	131 GPa	19000 ksi	

Mechanical Properties	Metric @ Temperature 199 °C	English @ Temperature 390 °F	Comments
Compressive Yield Strength	970 MPa	141000 psi	0.2%, hardened to 30 HRC
	1070 MPa	155000 psi	0.2%, hardened to 40 HRC

Thermal Properties	Metric	English	Comments
CTE, linear	17.5 $\mu\text{m}/\text{m}\cdot\text{°C}$	9.70 $\mu\text{in}/\text{in}\cdot\text{°F}$	
	@Temperature 199 °C	@Temperature 390 °F	
	17.8 $\mu\text{m}/\text{m}\cdot\text{°C}$	9.90 $\mu\text{in}/\text{in}\cdot\text{°F}$	
	@Temperature 299 °C	@Temperature 570 °F	
Specific Heat Capacity	0.381 J/g-°C	0.0910 BTU/lb-°F	
	@Temperature 20.0 °C	@Temperature 68.0 °F	
	0.477 J/g-°C	0.114 BTU/lb-°F	
	@Temperature 199 °C	@Temperature 390 °F	
	0.536 J/g-°C	0.128 BTU/lb-°F	
	@Temperature 299 °C	@Temperature 570 °F	
Thermal Conductivity	110 W/m-K	763 BTU-in/hr-ft <sup>2</sup> -°F	hardened to 40 HRC
	@Temperature 20.0 °C	@Temperature 68.0 °F	
	120 W/m-K	833 BTU-in/hr-ft <sup>2</sup> -°F	hardened to 30 HRC
	@Temperature 20.0 °C	@Temperature 68.0 °F	
	145 W/m-K	1010 BTU-in/hr-ft <sup>2</sup> -°F	hardened to 40 HRC
	@Temperature 199 °C	@Temperature 390 °F	
	155 W/m-K	1080 BTU-in/hr-ft <sup>2</sup> -°F	hardened to 40 HRC
	@Temperature 299 °C	@Temperature 570 °F	
	160 W/m-K	1110 BTU-in/hr-ft <sup>2</sup> -°F	hardened to 30 HRC
	@Temperature 199 °C	@Temperature 390 °F	
	170 W/m-K	1180 BTU-in/hr-ft <sup>2</sup> -°F	hardened to 30 HRC
	@Temperature 299 °C	@Temperature 570 °F	

Component Elements Properties	Metric	English	Comments
Beryllium, Be	1.9 %	1.9 %	
Co + Ni	0.25 %	0.25 %	

Component	Properties	Metric	English	Comments
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## Contact Songhan Plastic Technology Co.,Ltd.

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