

# BERYLLIUM COPPER



Beryllium copper is a precipitation-hardened alloy with good thermal conductivity. Besides exhibiting the highest strength (similar to steel) and hardness among commercial copper alloys, it also has superb spring properties, good corrosion resistance, and non-sparking, non-magnetic, superior wear and anti-galling properties, as well as high fatigue strength and toughness under harsh conditions. However, it is not suitable for case hardening or nitriding.

## CHEMICAL PROPERTIES

Copper (Cu)	98 MPa
Beryllium (Be)	1.80%
Phosphorus (P)	0.01%
Bismuth (Bi)	0.01%
Silicon (Si)	0.10%
Aluminium (Al)	-
Iron (Fe)	0.08%
Nickel (Ni)	0.24%
Lead (Pb)	0.24%

## PHYSICAL PROPERTIES

Density	8.25 g/cm <sup>3</sup>
Melting Point	866 °C

MECHANICAL PROPERTIES	
Hardness GB/T2059-2001	215 HV
Tensile strength GB/T2059-2001	14072.08 kg/cm <sup>2</sup>
Elongation at break (50 mm) GB/T2059-2001	1.0 - 4.0 %
Modulus of elasticity tension	125 - 315 MPa
Fatigue strength	285 - 315 MPa
Shear modulus	50.0 Gpa

## APPLICATIONS

Motors  
Electrical/electronic connectors  
Current-carrying springs  
Precision screw machined parts

Welding electrodes  
Plastic moulds  
Corrosion resistant components  
Electrical insulation components

\*The above product parameters are to be considered typical product parameters and are not intended to be considered product specifications. Table provided are general and may vary from C17200 TW

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