

Technical Data Sheet

TON 100



Chemical Composition

Beryllium	Cobalt	Copper
1.9 %	0.4 %	Rem.

Note: Cu + Sum of Named Elements, 99.5% min.

Matters Needing Attention

TON 100 contains beryllium that is potential risky to safety and health. Ventilation conditions should be guaranteed and adequate preventive measures should be taken during melting, welding, grinding and other processing or testing process that may cause dust or flue gas.

Mechanical and Physical Properties

Properties ⁽¹⁾	Metric	US Customary
Brinell Hardness	370 HB	370 HB
Tensile Strength	1207 MPa	175 ksi
Yield Strength ⁽²⁾	1069 MPa	155 ksi
Elongation	5 %	5 %
Density	8.25 g/cm ³	0.298 lb/in ³
Electrical Conductivity	22 %IACS	12.8 Ms/m
Thermal Conductivity	107 W/m·K	61.8 Btu/hr·ft·°F
Coefficient of ⁽³⁾ Thermal Expansion	17.8x10 ⁻⁶ /°C	9.9x10 ⁻⁶ /°F

(1) Typical values measured at room temperature, 20°C (68°F), unless otherwise stated.

(2) Offset yield strength set at 0.2% strain.

(3) Typical value measured at 20-300°C (68-572°F).

Material properties

Extremely High Hardness, Extremely High Strength, Good Thermal Conductivity, Good Electrical Conductivity, Excellence Wear Resistance, Good Corrosion Resistance.

Typical Uses

Injection Mold: Ejector Pins, Cores, Cavities, Inserts, Ingate Sleeves
Hot Runner: Hot Runner Nozzles
Blow Mold: Cavities, Inserts, Pinch-offs, Blow Pins
Die Casting: Plunger Tips
Resistance Welding: Resistance Welding Tips, Wheels and Fixtures
Other: Non Sparking Safety Tools, Electrical Switches, Relay Parts

Fabrication Properties

Machinability Rating: 20% (Free-Cutting Brass, C36000 is defined as 100%). Cemented carbide cutting tool should be used for various machining. Good lubricating and cooling should be guaranteed.

Forgeability Rating: 40% (Forging Brass, C37700 is defined as 100%).

Workability: Capacity for Being Hot Formed (Excellent), Capacity for Being Cold Worked (Good).

Welding Suitability: Soldering (Good), Brazing (Good), Gas Shielded Arc Welding (Good), Oxyacetylene Welding (Not Recommended).