Technical Data Sheet
TON C17500

Chemical Composition

Beryllium	Cobalt	Copper
0.6 %	2.6 %	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	220 HB	220 HB
Tensile Strength	794 MPa	115 ksi
Yield Strength(2)	620 MPa	90 ksi
Elongation	12 %	12 %
Density	8.61 g/cm^3	0.311 lb/in^3
Electrical Conductivity	45 %IACS	26.1 Ms/m
Thermal Conductivity	208 W/m·K	120 Btu/hr·ft·°F
Coefficient of (3) Thermal Expansion	17.6x10^{-6}/°C	9.8x10^{-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

Excellent Electrical Conductivity, Excellent Thermal conductivity, High Strength, Heat Resistance, Retains Strength at Elevated Temperatures, Wear Resistance.

Typical Uses

Injection Mold: Ingate Sleeves
Hot Runner: Hot Runner Nozzles
Low Pressure Casting: Molds
Die Casting: Plunger Tips
Resistance Welding: Resistance Welding Tips, Wheels and Fixtures
Stud Welding: Collets and Tips
Other: Current Carrying Arms, Current Carrying Shafts
Electrical Switches, Relay Parts
Electrode Holders

Fabrication Properties

Machinability Rating: 40% (Free-Cutting Brass, C36000 is defined as 100%). Cemented carbide cutting tool is suggested for various machining. Good lubricating and cooling should be guaranteed.
Forgeability Rating: 60% (Forging Brass, C37700 is defined as 100%).
Workability: Capacity for Being Hot Formed (Good), Capacity for Being Cold Worked (Good).
Welding Suitability: Soldering (Good), Brazing (Good), Gas Shielded Arc Welding (Fair), Oxyacetylene Welding (Not Recommended).