

Technical Data Sheet

TON C18150



Chemical Composition

Chromium	Zirconium	Copper
1.0 %	0.2 %	Rem.

Note: Cu + Sum of Named Elements, 99.8% min.

Matters Needing Attention

Due to the very high thermal conductivity, EDM'ing times will extend and a higher electrode wear will result. Using of high speed milling is recommended to mill as close as possible to finished shape so that EDM'ing removal of material will be less.

Mechanical and Physical Properties

Properties ⁽¹⁾	Metric	US Customary
Brinell Hardness	150 HB	150 HB
Tensile Strength	545 MPa	79 ksi
Yield Strength ⁽²⁾	517 MPa	75 ksi
Elongation	16 %	16 %
Density	8.89 g/cm ³	0.321 lb/in ³
Electrical Conductivity	80 %IACS	46.4 Ms/m
Thermal Conductivity	323 W/m·K	186 Btu/hr·ft·°F
Coefficient of ⁽³⁾ Thermal Expansion	16.5 x10 ⁻⁶ /°C	9.5x10 ⁻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 Electrical Conductivity and Thermal Conductivity, High Strength, Retains Strength at Elevated Temperatures, Stable up to 700 F.

Typical Uses

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
Continuous Casting Crystallizer

Fabrication Properties

Machinability Rating: 20% (Free-Cutting Brass, C36000 is defined as 100%).

Forgeability Rating: 80% (Forging Brass, C37700 is defined as 100%).

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

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