Technical Data Sheet

TON 150

Chemical Composition

Nickel	Silicon	Chromium	Copper
7.0 %	2.0 %	1.0 %	Rem.

Note: Cu + Sum of Named Elements, 99.5% 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	260 HB	260 HB
Tensile Strength	850 MPa	123 ksi
Yield Strength(2)	720 MPa	104 ksi
Elongation	6 %	6 %
Density	8.69 g/cm^3	0.314 lb/in^3
Electrical Conductivity	32 %IACS	18.6 Ms/m
Thermal Conductivity	152 W/m·K	87.8 Btu/hr·ft·°F
Coefficient of (3) Thermal Expansion	17.5x10^{-6}/°C	9.7x10^{-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

Beryllium-Free, High Hardness, High Strength, Heat Resistance, High Electrical Conductivity, High thermal conductivity that is 1.5 times of beryllium copper's.

Typical Uses

Injection Mold: Ejector Pins, Cores, Cavities, Inserts, Ingate Sleeves
Hot Runner: Hot Runner Nozzles
Blow Mold: Cavities, Inserts, Pinch-offs, Blow Pins
Low Pressure Casting: Molds
Die Casting: Plunger Tips
Resistance Welding: Resistance Welding Tips, Wheels and Fixtures
Stud Welding: Collets and Tips

Fabrication Properties

Machinability Rating: 30% (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: 50% (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).