Technical Data Sheet

TON Q3

Chemical Composition

Aluminum	Iron	Nickel	Manganese	Copper
10.5 %	4.8 %	5.1 %	⩽1.5 %	Rem.

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

Matters Needing Attention

TON Q3 should not be used for oxidizing acids conditions.

Mechanical and Physical Properties

Properties (1)	Metric	US Customary
Brinell Hardness	275 HB	275 HB
Tensile Strength	860 MPa	125 ksi
Yield Strength(2)	700 MPa	102 ksi
Elongation	6 %	6 %
Density	7.45 g/cm^3	0.269 lb/in^3
Electrical Conductivity	8 %IACS	4.6 Ms/m
Thermal Conductivity	40 W/m·K	23.1 Btu/hr·ft·°F
Coefficient of (3) Thermal Expansion	16.2x10^{-6}/°C	9.0x10^{-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

High Hardness, Excellent Strength, Good Ductility and Toughness, Excellent Corrosion Resistance and Wear Resistance.

Typical Uses

Injection Mold: Side Cores, Slides, Wear Plates, Guide Bushing
Stamping die: Slides, Bushings
Tube Bending: Wiper dies, Balls
Steel Industry: Pressure Blocks, Large Hold Down Screws
Other: Valve Guides, Valve Seats, Valve Bodies, Valve Balls
Hydraulic Bushings
Ship Propellers
Cams, Gears, Worm Gears
Support Bushings, Wear Plates

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: 75% (Forging Brass, C37700 is defined as 100%).
Workability: Capacity for Being Hot Formed (Good), Capacity for Being Cold Worked (Poor).
Welding Suitability: Gas Shielded Arc Welding (Good), Brazing (Fair), Soldering (Not Recommended), Oxyacetylene Welding (Not Recommended).