Technical Data Sheet

TON 35

Chemical Composition

Aluminum	Iron	Manganese	Cobalt	Copper
14.5 %	4.0 %	≤2.0 %	≤2.0 %	Rem.

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

Matters Needing Attention

Due to its very low toughness and impact resistance, TON 35 is not suitable for structural parts or other applications that vibration load or high stress is involved. Appropriate measures should be taken for various machining to avoid possible brittle failures.

Mechanical and Physical Properties

Properties (1)	Metric	US Customary
Brinell Hardness	340 HB	340 HB
Compressive Strength	1280 MPa	185 ksi
Yield Strength(2)	635 MPa	92 ksi
Elongation	0.5 %	0.5 %
Density	7.06 g/cm^3	0.255 lb/in^3
Electrical Conductivity	10 %IACS	5.8 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) Compressive yield strength set at 0.1% strain.

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

Material properties

High Hardness, High Compressive Strength, Anti-Friction, Excellent Wear Resistance, Good Corrosion Resistance, Very Low Elongation.

Typical Uses

Blank Holders, Dies and Punches used for Stainless Steel Deep Drawing.

Forming Rolls used for Stainless Steel, Titanium Welded Tube Forming.

Fabrication Properties

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

Workability: Capacity for Being Hot Formed (Fair), Capacity for Being Cold Worked (Not Recommended).

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