

Technical Data Sheet

TON 30



Chemical Composition

| Aluminum | Iron | Manganese | Cobalt | Copper |
|----------|-------|-----------|--------|--------|
| 13.3 % | 4.3 % | ≤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 30 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 | 280 HB | 280 HB |
| Tensile Strength | 689 MPa | 100 ksi |
| Yield Strength ⁽²⁾ | 379 MPa | 55 ksi |
| Elongation | 1 % | 1 % |
| Density | 7.20 g/cm ³ | 0.260 lb/in ³ |
| Electrical Conductivity | 10 %IACS | 5.9 Ms/m |
| Thermal Conductivity | 46 W/m·K | 26.6 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, High Compressive Strength, Anti-Friction, Excellent Wear Resistance, Good Corrosion Resistance, Very Low Elongation.

Typical Uses

Injection Mold: Wear Plates, Slides
Tube Bending: Mandrels, Balls
High Strength Clamps

Fabrication Properties

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

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

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

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

Oxyacetylene Welding (Not Recommended).