# C67300

**Extruded and Drawn**

| | |
|---|---|
| **Product Description:** | Manganese Bronze |
| **Tempers:** | H02 Half Hard |
| **Solids:** | ¾" to 3" O.D. |
| **Hex:** | Consult Mill |
| **Rectangles:** | Consult Mill |
| **Standard Lengths:** | 144" |

## Typical Uses

| | |
|---|---|
| **Fasteners** | fasteners, lead screw nuts |
| **Industrial** | bearings, bearings (pins), bushings, clutch bearings, drive shafts, gears and cams, idler pins, piston heads, propeller shafts, pump parts, seal rings, shaft bushings, sleeve bearings, spindles, thrust bearings, wear plates |
| **Marine** | hardware, valve seats |
| **Other** | connecting rods |

## Similar or Equivalent Specification

| CDA | ASTM | SAE | AMS | Federal | Military | Other |
|---|---|---|---|---|---|---|
| C67300 | | J461<br>J463 | | | | |

## Chemical Composition

| Cu% | Pb% | Sn% | Zn% | Fe% | Ni%[1] | Al% | Mn% | Si% |
|---|---|---|---|---|---|---|---|---|
| 58.00-<br>63.00 | 0.40-<br>3.00 | 0.30 | Rem. | 0.50 | 0.25 | 0.25 | 2.00-<br>3.50 | 0.50-<br>1.50 |

Chemical Composition according to SAE J463

[1]Ni value includes Co.
Note: Single values represent maximums.

## Machinability

| Copper Alloy UNS No. | Machinability Rating | Density (lb/in$^3$ at 68 ˚F) |
|---|---|---|
| C67300 | 70 | 0.300 |

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## Mechanical Properties

Mechanical Properties according to SAE J463
C67300
H02 Half Hard

**SIZE RANGE: UP TO 1" INCLUSIVE**

| Tensile Strength, min | | Yield Strength, at 0.5% Extension Under Load, min | | Elongation, in 4x Diameter or Thickness of Specimen, min | Rockwell "B" Hardness | Remarks |
|---|---|---|---|---|---|---|
| ksi | MPa | ksi | MPa | % | min HRB | |
| 65 | 450 | 40 | 275 | 12 | 70 | |

**SIZE RANGE: OVER 1" TO 3" INCLUSIVE**

| Tensile Strength, min | | Yield Strength, at 0.5% Extension Under Load, min | | Elongation, in 4x Diameter or Thickness of Specimen, min | Rockwell "B" Hardness | Remarks |
|---|---|---|---|---|---|---|
| ksi | MPa | ksi | MPa | % | min HRB | |
| 58 | 400 | 35 | 240 | 15 | 70 | |

**SIZE RANGE: OVER 3"**

| Tensile Strength, min | | Yield Strength, at 0.5% Extension Under Load, min | | Elongation, in 4x Diameter or Thickness of Specimen, min | Rockwell "B" Hardness | Remarks |
|---|---|---|---|---|---|---|
| ksi | MPa | ksi | MPa | % | min HRB | |
| 52 | 360 | 30 | 205 | 18 | 65 | |

## Physical Properties

| | US Customary | Metric |
|---|---|---|
| Melting Point – Liquidus | 1605 ˚F | 874 ˚C |
| Density | 0.3 lb/in$^3$ at 68 ˚F | 8.3 gm/cm$^3$ at 20 ˚C |
| Specific Gravity | 8.3 | 8.3 |
| Electrical Conductivity | 22% IACS at 68 ˚F | 0.13 MegaSiemens/cm at 20 ˚C |
| Thermal Conductivity | 55 Btu/sq ft/ft hr/˚F at 68 ˚F | 95 W/m at 20 ˚C |
| Coefficient of Thermal Expansion 68-572 | 11 · 10$^{-6}$ per ˚F (68-572 ˚F) | 19 · 10$^{-6}$ per ˚C (20-300 ˚C) |
| Modulas of Elasticity in Tension | 17000 ksi | 117212 MPa |

Physical Properties provided by CDA

## Fabrication Properties

| Technique | Suitability |
|---|---|
| Machinability Rating | 70 |

Fabrication Properties provided by CDA