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Austral Bronze Crane Copper Limited  
ACN 008 466 840

**PRODUCT DATA  
SHEET**

**Dezincification resistant  
machining brass**

**Copper Alloys**

**Alloy 352**

UNS C35330

Also known as Leaded 63/37 Arsenical Brass

**Composition, Typical**

Copper	Lead	Arsenic	Zinc
61.5%	3.25%	0.15%	Remainder

**Equivalent Specifications**

AS1567 - C35330

BS 2873 – C2119

**Available as:**

**Straight Lengths**

Rounds

Hexagons

Squares

Flats

Sections

Hollows

**Drawn ?**

Yes

Yes

Yes

No

No

No

**Coils**

Rounds

Hexagons

Squares

**Drawn ?**

Yes

Yes

Yes

**Typical  
Mechanical  
Properties**

Temper	Yield stress (0.2% Proof) MPa	Tensile Strength MPa	Elongation, %	Surface Hardness, HV
Drawn	165	370	30	110

**General Description** Chlorinated potable water supplies (town water) can cause dezincification of brasses containing more than 15% zinc. The careful formulation of this alloy combined with heat treatment produces a dezincification resistant brass suitable for high speed machining applications.

**Typical applications.** Plumbers hardware, valve spindles, fittings.

**PHYSICAL PROPERTIES**

<b><u>Property</u></b>	<b><u>Metric Units</u></b>
Melting Point	885 <sup>0</sup> C
Density	8.47 gm/cm <sup>3</sup> @ 20 <sup>0</sup> C
Specific Gravity	8.47
Coefficient of Thermal Expansion	20.5 x 10 <sup>-6</sup> / <sup>0</sup> K (20 - 300 <sup>0</sup> C)
Thermal Conductivity	123 W/m. <sup>0</sup> K @ 20 <sup>0</sup> C
Electrical Resistivity (Annealed)	6.63 microhm.cm @ 20 <sup>0</sup> C
Electrical Conductivity (Annealed)	27% IACS 0.15 microhm <sup>-1</sup> .cm <sup>-1</sup> @ 20 <sup>0</sup> C
Modulus of Elasticity (tension)	103 GPa @ 20 <sup>0</sup> C
Modulus of Rigidity (torsion)	39 GPa @ 20 <sup>0</sup> C
Poisson's Ratio	0.33

**FABRICATING PROPERTIES**

Cold Working Capacity	Excellent
Thread Rolling	Excellent
Bending	Excellent
Cold Heading	Good
Hot Working Capacity	Poor
Hot Working Temperature	800 <sup>0</sup> C
Annealing Temperature	570 <sup>0</sup> C
Stress Relieving Temperature	275 <sup>0</sup> C
Machinability Rating	100% of free cutting brass (C36000)

**JOINING PROPERTIES**

Soldering	Good
Brazing	Good
Oxy-Acetylene Welding	Fair
Gas Shielded Arc Welding (GTAW/TIG, GMAW/MIG)	Fair
Coated Metal Arc Welding (Manual electrodes)	Not recommended
Resistance Welding	Not recommended

**Corrosion Resistance**

C35330 has excellent corrosion resistance in potable water.

C35330 should not be used in contact with ammonia or ammonia compounds, as it may suffer stress corrosion cracking. Beware of corrosion inhibitors in piping systems containing carbon steels, which should be checked for compatibility with alloy C33300.

Brass should not be used with acetic acid, acetylene, brines, calcium chloride, moist chlorine, chromic acid, hydrochloric acid, mercury or its compounds, nitric acid and sodium hypochlorite. Please consult Austral Wright Metals for your specific application.

**Phase Diagram & Mechanical Properties of the Brasses**

