

Brasses are alloys of Copper and Zinc. They may also contain small amounts of other alloying elements to impart advantageous properties. Brasses have high corrosion resistance and high tensile strength. They are also suited to fabrication by hot forging. Free machining grades of brass set the standard for machining, by which other metals are compared. Brasses are divided into two classes. The alpha alloys, with less than 37% zinc, and the alpha/beta alloys with 37-45% zinc. Alpha alloys are ductile and can be cold worked. Alpha/beta or duplex alloys have limited cold ductility and are harder and stronger. CZ131 / CW606N is an alpha/beta alloy.

The composition of brass alloy CZ131 / CW606N has been designed to provide a compromise between machinability, ductility and strength. Thus, it can be used in applications when machinability and riveting are required.

#### Applications

CZ131 / CW606N is typically used in:

Fasteners

Rivets

Domestic appliances

Automotive engineering

Hose fittings

Intricate parts such as clock components

#### CHEMICAL COMPOSITION

Element	% Present
Copper (Cu)	62.00 Typical
Lead (Pb)	2.00 Typical
Zinc (Zn)	Balance

#### ALLOY DESIGNATIONS

CZ131 / CW606N corresponds to the following designations:

UNS C35300

ISO CuZn37Pb2

#### SUPPLIED FORMS

CZ131/CW606N is typically supplied as Round bar

- Bar

#### PHYSICAL PROPERTIES

Property	Value
Density	8.50 Kg/m <sup>3</sup>
Melting Point	885 °C
Modulus of Elasticity	105 GPa
Thermal Conductivity	115 W/m.K
Electrical Resistivity	0.066 x10 <sup>-6</sup> Ω .m

#### MECHANICAL PROPERTIES

Property	Value
Proof Stress	160-450 MPa
Tensile Strength	300-580 MPa
Elongation	45-5 %
Hardness Vickers	90 to 150 HV

*Mechanical properties vary widely according to condition (soft/half hard/etc)*

#### CORROSION RESISTANCE

Corrosion resistance is rated from fair to excellent in most environments.

#### COLD WORKING

CZ131 / CW606N has only a fair rating for cold working.

#### HOT WORKING

Hot forming of CZ131 / CW606N is poor.

#### HEAT TREATMENT

Solution treatment or annealing can be done by rapid cooling after heating to 430-600°C.

#### MACHINABILITY

This alloy has a machinability rating of 70 when Brass CZ121/CW614N is 100.

#### WELDABILITY

Soldering of CZ131 / CW606N is rated as "excellent" and brazing is "good". Butt welding is fair but all other welding methods are not recommended.

## CONTACT

<b>Address:</b>	Please make contact directly with your local service centre, which can be found via the Locations page of our web site
<b>Web:</b>	<a href="http://www.aalco.co.uk">www.aalco.co.uk</a>

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