

# Brass CZ131 / CW606N

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 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

## Typical Chemical Composition

%	CZ131 / CW606N
Cu	62
Pb	2
Sn	-
Fe	-
Al	-
Mn	-
Zn	Balance
Si	-
Ni	-

## Alloy Designations

Brass alloy CZ131 corresponds to the following designations:

CEN	BS	UNS	ISO
CW606N	CZ131	C35300	CuZn37Pb2

## Typical Mechanical Properties

Grade	CZ131 / CW606N
Tensile Strength (MPa)	380
Proof Stress 0.2% (MPa)	210
Elongation A5 (%)	25
Hardness VPN	110-130

## Typical Physical Properties

Property	Value
Density	8.5 g/cm <sup>3</sup>
Melting Point	885°C
Modulus of Elasticity	105 GPa
Electrical Resistivity	0.066x10 <sup>-6</sup> Ω.m
Thermal Conductivity	115 W/m.K at 100°C

## 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.



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### Machinability

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

### Welding and Joining

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

### Supplied Form

CZ131/CW606N is typically supplied in the following form:

- ◆ Round bar

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