

# Brass CZ130 / CW624N

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. CZ130 is a duplex or alpha/beta alloy.

Brass alloy CZ130 is a machinable brass typically used in sections.

## Applications

CZ130 is typically used in decorative applications such as:

- ◆ Shopfittings
- ◆ Machine parts
- ◆ Instruments
- ◆ Electrical appliances
- ◆ Hinges

## Typical Chemical Composition

%	CZ130 / CW624N
Cu	55-57
Pb	1.6-3.0
Sn	-
Fe	-
Al	0.05-0.5
Mn	-
Zn	Balance
Si	-
Ni	-

CZ130 also covers brass with Aluminium removed from the above composition. This variation is CW623N. The addition of Aluminium imparts a golden lustre which eliminates the need for additional polishing.

## Typical Mechanical Properties

Grade	CZ130
Tensile Strength (MPa)	350-420
Proof Stress 0.2% (MPa)	150-220
Elongation A5 (%)	30-20
Hardness (HV)	100-130

## Typical Physical Properties

Property	Value
Density	8.44 g/cm <sup>3</sup>
Melting Point	890°C
Thermal Conductivity	109 W/m.K

## Alloy Designations

Brass alloy CZ130 corresponds to the following designations:

CEN	BS	UNS	ISO
CW624N	CZ130	C3800	CuZn43Pb2Al
CW623N			CuZn43Pb2

## Corrosion Resistance

CZ130 has good corrosion resistance in most environments.

## Cold Working

CZ130 has a poor to fair rating for cold working.



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## Hot Working

Hot working of CZ130 is excellent. It is normally formed into complex profiles using hot extrusion.

The hot forgeability rating of CZ130 is good to excellent.

## Machinability

CZ130 has a very good machinability rating of 90 compared to Alloy 360 FC Brass which is rated as 100.

## Welding and Joining

- ◆ Soldering of CZ130 is rated as "excellent".
- ◆ Oxyacetylene welding and gas shielded arc welding are not recommended.
- ◆ Resistance welding is rated as "fair".
- ◆ Friction welding is rated as "good".

## Supplied Form

CZ130 is typically supplied in the following form:

- ◆ Angle



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