Brass CZ108 / CW508L

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 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. CZ108 / CW508L is an alpha alloy.

CZ108/CW508L is a high purity cold forming brass. It is used when severe bending or riveting properties are required. It can be machined but only with slow speeds and very light feeds.

Applications

CZ108 / CW508L is typically used in:

- Nails
- Chains
- Screws
- Scientific Applications
- Radiators
- Heat Exchangers

Typical Chemical Composition

%	CZ108 / CW508L
Cu	63
Pb	-
Sn	-
Fe	-
Al	-
Mn	-
Zn	Balance
Si	-
Ni	-

Alloy Designations

CZ108, also referred to as yellow brass, corresponds to the following designations:

CEN	BS	UNS	ISO
CW508L	CZ108	C27200	CuZn37

Typical Mechanical Properties

Grade	CZ108/CW508L
Tensile Strength (Ann) MPa	275
Proof Stress 0.2% MPa	-
Elongation A5 (Ann) %	45
Hardness (Ann) VPN	80
Hardness (Half Hard) VPN	110
Hardness (EH) VPN	160

Typical Physical Properties

Property	Value
Density	8.44 g/cm^3
Melting Point	916°C
Modulus of Elasticity	103.4 GPa
Thermal Conductivity	116 W/m.K at 20°C
Thermal Expansion	20.5x10^{-6} /°C at 20-300°C

Corrosion Resistance

The corrosion resistance of CZ108/CW508L is excellent to good in most environments. It is not suited for use with acetic acid, moist ammonia or ammonia compounds, hydrochloric acid and nitric acid.

Cold Working

Cold working of CZ108/CW508L is excellent and it can be readily drawn.

Hot Working

Fabrication is rated as fair.

Welding and Joining

Soldering and brazing of CZ108/CW508L are both rated as “excellent”. Oxyacetylene welding is “good” and gas shielded methods are only “fair”. Resistance flash butt-welding may be done on rod, bar and wire.

Supplied Forms

CZ108/CW508L is typically supplied in the following forms:

- Half Hard Tube
- Half Hard Sheet

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