

## SPECIFICATIONS

Commercial CZ108

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 brass sets 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 properties are required. It can be machined but only with slow speeds and very light feeds.

### Applications

CZ108 / CW508L is typically used in:

Scientific Applications

Radiators

Heat Exchangers

Decorative

## CHEMICAL COMPOSITION

EN 1652:1997  
CW508L Brass

| Element        | % Present |
|----------------|-----------|
| Copper (Cu)    | 62 - 64   |
| Nickel (Ni)    | 0.3 max   |
| Others (Total) | 0.2 max   |
| Iron (Fe)      | 0.1 max   |
| Lead (Pb)      | 0.1 max   |
| Tin (Sn)       | 0.1 max   |
| Aluminium (Al) | 0.05 max  |
| Zinc (Zn)      | Balance   |

## ALLOY DESIGNATIONS

CZ108 / CW508L corresponds to the following designations **but may not be a direct equivalent:**

UNS C27200

ISO CuZn37

## SUPPLIED FORMS

CZ108/CW508L is typically supplied as Half Hard Tube and Half Hard Sheet

- Sheet
- Tube

## GENERIC PHYSICAL PROPERTIES

| Property              | Value                     |
|-----------------------|---------------------------|
| Density               | 8.44 g/cm <sup>3</sup>    |
| Melting Point         | 916 °C                    |
| Thermal Expansion     | 20.5 x10 <sup>-6</sup> /K |
| Modulus of Elasticity | 103.4 GPa                 |
| Thermal Conductivity  | 116 W/m.K                 |

## MECHANICAL PROPERTIES

EN 1652:1997  
Sheet  
0.2mm to 5.00mm

| Property          | Value        |
|-------------------|--------------|
| Proof Stress      | 110-500 MPa  |
| Tensile Strength  | 300-550 MPa  |
| Elongation A50 mm | 38-3 %       |
| Hardness Vickers  | 55 to 180 HV |

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

## CORROSION RESISTANCE

The corrosion resistance of CZ108/CW508L is good to excellent 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.

## WELDABILITY

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 also be used.

## 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>                                                                   |

## REVISION HISTORY

|                          |              |
|--------------------------|--------------|
| <b>Datasheet Updated</b> | 18 July 2019 |
|--------------------------|--------------|

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