

BRASS

CZ114 - CW721R

BORNMORE METALS



CZ114 - CW721R

CZ114, also known as CW721R or high tensile brass, is a robust brass alloy developed for applications requiring high strength and corrosion resistance. CZ114 is a duplex or alpha/beta brass alloy, sometimes referred to as manganese bronze due to its composition and properties. This brass alloy's combination of high strength, excellent formability, and corrosion resistance makes it a versatile material for a wide range of applications.

KEY FEATURES

- Enhanced Strength Levels
- Excellent Hot Forming Properties
- Good Corrosion Resistance
- High Machinability Rating
- Non-Sparking

CHEMICAL PROPERTIES

| Copper (Cu) | Lead (Pb) | Tin (Sn) | Nickel (Ni) | Iron (Fe) | Aluminium (Al) | Zinc (Zn) |
|---------------|-----------------|-----------------|-------------|------------------|-----------------|-------------|
| 59-61% | 1.2-1.6% | 0.3-0.6% | 0.3% | 0.25-0.5% | 0.1-0.3% | rest |

MECHANICAL PROPERTIES

| | |
|---------------------------------------|----------------|
| Tensile strength (N/mm ²) | 400-600 |
| Yield strength (N/mm ²) | 150-200 |
| Elongation (% at break) | 20-35 |
| Hardness - Brinell (HB) tube | 100-150 |
| Hardness - Vickers (HV) | 130-170 |

PHYSICAL PROPERTIES

| | | |
|---------------------------------------|-------------------|-------------|
| Density (kg/m ³) | 8470 | |
| Modulus of elasticity (Gpa) | 100-115 | |
| Mean coefficient of thermal expansion | 0-100°C (µm/m/°C) | 20.2 |
| | 0-350°C (µm/m/°C) | 22.6 |
| | 0-538°C (µm/m/°C) | 24.1 |
| Thermal conductivity | at 100°C (W/m.K) | 115 |
| | at 500°C (W/m.K) | 95 |
| Specific Heat 0-100°C (J/kg.K) | 380 | |
| Electrical conductivity (IAPS) | 28 | |
| Melting point (°C) | 900 | |

MARKET SECTORS



Heating & Plumbing

Tubes, pipes, gas lines, fittings, valves, connectors



Electrical Industry

Electrical connectors, terminals, components in switches, relays



Manufacturing & Engineering

Screws, nuts, bolts, fasteners, machinery components



Automotive Industry

Radiators, heat sinks, fuel lines, connectors



Marine Equipment

Components, fittings, valves, pumps, tanks



Chemical Processing

Heat exchangers, condensers, components