

# BRASS

## CZ121 - CW614N

# BORNMORE METALS



### CZ121 - CW614N

CZ121 (CW614N) brass is a free-machining brass alloy known for its excellent machinability and is widely used in applications requiring high-speed machining. It offers the highest machinability of any copper alloy, thanks to the lead content which acts as a lubricant and chip breaker. It also offers good strength and moderate corrosion resistance, making it suitable for various industrial and decorative applications.

### KEY FEATURES

- Excellent for machining
- Good hot forming properties
- Good corrosion resistance
- Moderate strength
- Easily soldered or brazed

### CHEMICAL PROPERTIES

Copper (Cu)	Lead (Pb)	Nickel (Ni)	Tin (Sn)	Aluminium (Al)	Zinc (Zn)
<b>57-59%</b>	<b>2.5-3.5%</b>	<b>0.3%</b>	<b>0.3%</b>	<b>0.05%</b>	<b>rest</b>

### MECHANICAL PROPERTIES

Tensile strength (N/mm <sup>2</sup> )	<b>330-520</b>
Yield strength (N/mm <sup>2</sup> )	<b>110-450</b>
Elongation (% at break)	<b>30-50</b>
Hardness - Brinell (HB) tube	<b>70-115</b>
Hardness - Vickers (HV)	<b>70-140</b>

### PHYSICAL PROPERTIES

Density (kg/m <sup>3</sup> )	<b>8470</b>	
Modulus of elasticity (Gpa)	<b>100</b>	
Mean coefficient of thermal expansion	0-100°C (µm/m/°C)	<b>21.0</b>
	0-350°C (µm/m/°C)	<b>22.2</b>
	0-538°C (µm/m/°C)	<b>23.1</b>
Thermal conductivity	at 100°C (W/m.K)	<b>118</b>
	at 500°C (W/m.K)	<b>102</b>
Specific Heat 0-100°C (J/kg.K)	<b>377</b>	
Electrical conductivity (IAPS)	<b>28</b>	
Melting point (°C)	<b>935</b>	

### 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