

BRASS

CZ121 - CW614N



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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)
57-59%	2.5-3.5%	0.3%	0.3%	0.05%	rest

MECHANICAL PROPERTIES

Tensile strength (N/mm ²)	380-480
Yield strength (N/mm ²)	140-200
Elongation (% at break)	15-30
Hardness - Brinell (HB) tube	100-150
Hardness - Vickers (HV)	90-130

PHYSICAL PROPERTIES

Density (kg/m ³)	8470	
Modulus of elasticity (Gpa)	95-110	
Mean coefficient of thermal expansion	0-100°C (µm/m/°C)	20.5
	0-350°C (µm/m/°C)	22.9
	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)	385	
Electrical conductivity (IACS %)	26	
Melting point (°C)	900	

MARKET SECTORS



Manufacturing & Engineering

Precision turned components, valves, connectors, fittings



Electrical Industry

Electrical connectors, terminals, contacts



Heating & Plumbing

Valves, fittings, fluid handling components



Automotive Industry

Valves, connectors, fittings, gears, bearings



Construction & Architectural

Door handles, knobs, hardware



Aerospace Industry

Valves, connectors, fittings, gears, bearings