

HIGH TENSILE BRASS CZ114

CZ114 (CW721R) is the standard grade of high tensile brass and has a duplex structure. It contains alloying additions of aluminum, iron, and manganese to improve the strength levels compared with standard brasses and make this alloy ideal for more exacting applications.

The aluminum content not only assists in increasing the mechanical properties but also improves the general corrosion resistance of the alloy by the natural formation of an adherent aluminum oxide film on the surface of the material. CZ114 (CW721R) offers a reasonable machinability, and its good hot stamping capabilities enable its use for components such as gas valves, fittings, pumps and fasteners.



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Equivalent Specifications:

Specifications	ASTM	BS	EN	IS	JIS	DIN	ISO	Russian
Designation	UNS C67500	CZ114	CW721R	IS320 HT2	-	-	CuZn39AlFeMn	-

Chemical Composition:

	Cu	Pb	Sn	Ni	Zn	Fe	Al	Mn	Other
Min	57	0.80	0.2	-	-	0.2	0.3	0.8	-
Max	59	1.60	1.0	0.3	Rem.	1.2	1.3	1.8	0.3

Fabrication Properties:

Joining Technique	Suitability
Soldering	Excellent
Brazing	Excellent
Oxyacetylene Welding	Good
Gas Shielded Arc Welding	Fair
Coated Metal Arc Welding	Not Recommended
Spot Weld	Good
Seam Weld	Fair
Butt Weld	Good

Capacity for Being Cold Worked	Poor
Capacity for Being Hot Formed	Excellent
Forgeability Rating	80
Machinability Rating	30

Physical Properties:

Melting Point – Liquidus °F	1630
Melting Point – Solidus °F	1590
Density lb/cu in. at 68°F	0.303
Specific Gravity	8.40
Electrical Conductivity% IACS at 68°F	24
Thermal Conductivity Btu/ sq ft/ ft hr/ °F at 68°F	61
Coefficient of Thermal Expansion 68-21210⁻⁶ per °F (68 – 212°F)	11.8
Specific Heat Capacity Btu/ lb /°F at 68°F	0.09
Modulus of Elasticity in Tension ksi	15000
Modulus of Rigidity ksi	5600

Sizes Available:

TUBES	6.35 mm to 110mm
ROUND WIRES	1 mm to 11mm
ROUND RODS	1.2 to 250 mm
HEX RODS	Min. 5 mm to Max. 60 mm
SQUARE RODS	Min. 4 mm to Max. 60 mm
FLATS	Min. 4 mm thickness and max width of 120mm
PROFILES	As per customer drawings
HOLLOW RODS	Min Bore Size 20mm and Max OD 130mm