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CW721R

- High Tensile Brass -

HR9

Material designation		Chemical composition*			
CuZn40Mn1Pb1AlFeSn		Elements	% mean	Impurities	% max.
EN 12164 / 12165 / 12167		Cu	57.6	Ni	0.3
BS 2874		Pb	1.25		
CW721R		Mn	1.5	Other	0.3
CZ114		Fe	0.70		
		Sn	0.5		
		Al	0.8		
		Zn	balance		

* Reference values in % by weight

Properties and typical applications

High tensile brass for machining and hot working. It is used for mechanical components such as gas valves, fittings, pump elements, valve stems, valves, fasteners ...

Physical properties at 20°C		Heat treatment	
Density (g/cm3)	8.4	Melting range (°C)	880-910
Young modulus (GPa)	97	Hot working (°C)	650-750
Thermal expansion coefficient (20-300°C) (10 ⁻⁶ /K)	21	Annealing temperature (°C)*	450-550
Thermal conductivity (W/m.K)	88	Stress relieving treatment (°C)**	300-400
Thermal capacity (J/Kg.K)	377	<i>* Annealing treatment of a material leads to reduce its hardness and increase its ductility.</i>	
Electrical conductivity (% I.A.C.S.)	15	<i>** Stress relieving treatment allows to eliminate the residual stresses present in the material in order to avoid the stress corrosion cracking.</i>	

Forming		Joining	
Hot forming	Excellent	Soldering	
Cold forming	Not recommended	Soft	Good
Machinability	80% (CuZn39Pb3 = 100%)	Hard	Good
Corrosion resistance		Welding	
Special brass alloys show in general a good corrosion resistance in neutral, alkaline and organic fluids due to alloying elements.		Gaz welding	Not recommended
		Inert gas shielded arc welding	Not recommended
		Resistance welding	Not recommended

Mechanical properties according to EN12164						
Condition of material	Diameter [mm]		Rp0,2 [Mpa]	Rm [Mpa]	A(%)	Hardness HB
	from	to	min.	min.	min.	
M	All		As extruded - without specific mechanical properties			
R440	40	80	180	440	20	-
H100			-	-	-	100-140
R500	6	40	270	500	12	-
H130			-	-	-	> 130

Fabrication range

Available forms:



Do not hesitate to contact us for further information regarding the dimensions, tolerances and metallurgical conditions. Our technical teams are by your side to help you succeed in your projects.

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