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CW713R

- High Tensile Brass -

HR3

Material designation		Chemical composition*			
CuZn37Mn3Al2PbSi		Elements	% mean	Impurities	% max.
EN 12164 / 12165 / 12167		Cu	58.6	Ni	0.2
BS 2872 - 2874		Pb	0.45	Other	0.2
NF A 51 - 106		Mn	2		
		Si	0.7		
		Al	1.5		
		Sn	0.25		
		Fe	0.5		
DIN 17660		Zn	balance		
CW713R					
CZ135					
CuZn - classe 1					
CuZn40Al2-2.0550					

* Reference values in % by weight

Properties and typical applications

High tensile brass for machining and hot working with excellent wear resistance. Valve guides, bearings...

Physical properties at 20°C		Heat treatment	
Density (g/cm3)	8.2	Melting range (°C)	875-910
Young modulus (GPa)	92	Hot working (°C)	650-700
Thermal expansion coefficient (20-300°C) (10 ⁻⁶ /K)	20	Annealing temperature (°C)*	450-550
Thermal conductivity (W/m.K)	64	Stress relieving treatment (°C)**	300-400
Thermal capacity (J/Kg.K)	380	* <i>Annealing treatment of a material leads to reduce its hardness and increase its ductility.</i>	
Electrical conductivity (% I.A.C.S.)	13		
		** <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	Not recommended
Machinability	80% (CuZn39Pb3 = 100%)	Hard	Not recommended
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	Fair
		Inert gas shielded arc welding	Good
		Resistance welding	Good

Mechanical properties according to EN12164

Condition of material	Diameter [mm]		Rp0,2 [Mpa] min.	Rm [Mpa] min.	A(%) min.	Hardness HB
	from	to				
M	All		As extruded - without specific mechanical properties			
R540	6	80	280	540	15	-
H130			-	-	-	130-170
R590	6	50	370	590	10	-
H150			-	-	-	150-220

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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