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CW713R - High Tensile Brass - BL9

Material designation	
CuZn37Mn3Al2PbSi	
EN 12164 / 12165 / 12167	CW713R
BS 2872 - 2874	CZ135
NF A 51 - 106	CuZn - classe 1
DIN 17660	CuZn40Al2-2.0550

Chemical composition*			
Elements	% mean	Impurities	% max.
Cu	58	Fe	0.25
Pb	0.45	Ni	0.2
Mn	2.5	Other	0.2
Si	0.75		
Al	1.75		
Zn	balance		

* 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	
Density (g/cm3)	8.2
Young modulus (GPa)	92
Thermal expansion coefficient (20-300°C) (10^{-6}/K)	20
Thermal conductivity (W/m.K)	64
Thermal capacity (J/Kg.K)	380
Electrical conductivity (% I.A.C.S.)	13

Heat treatment	
Melting range (°C)	875-910
Hot working (°C)	650-700
Annealing temperature (°C)*	450-550
Stress relieving treatment (°C)**	300-400

**** Annealing treatment of a material leads to reduce its hardness and increase its ductility.***

***** Stress relieving treatment allows to eliminate the residual stresses present in the material in ordrer to avoid the stress corrosion cracking.***

Forming	
Hot forming	Excellent
Cold forming	Not recommanded
Machinability	80% (CuZn39Pb3 = 100%)

Corrosion resistance

Special brass alloys show in general a good corrosion resistance in neutral, alkaline and organic fluids due to alloying elements.

Joining	
Soldering	
Soft	Not recommanded
Hard	Not recommanded
Welding	
Gaz welding	Fair
Inert gas shielded arc welding	Good
Resistance welding	Good

Mechanical properties according to EN12164

Condition of material	Diameter [mm] from	Diameter [mm] to	Rp0,2 [Mpa] min.	Rm [Mpa] min.	A(%) min.	Hardness HB
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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