

## CW713R

## - High tensile lead free brass -

## L56

Material designation		Chemical composition*			
<b>CuZn37Mn3Al2Si</b>		Elements	% mean	Impurities	% max.
		Cu	58	<b>Pb</b>	<b>0.1</b>
EN 12164	Unleadet CW713R	Mn	2.3		
EN 12165		Si	0.5	Other	0.3
EN 12167		Al	1.6		
		Zn	balance		

\* Reference values in % by weight

### Properties and typical applications

Special lead free brass with excellent mechanical and wear resistance. It can be used if Pb ≤ 0,1% is requested with a high level of mechanical properties. L56 is used for slide bearings and valve guides as well as for construction components in mechanical engineering.

Physical properties at 20°C		Heat treatment	
Density (g/cm <sup>3</sup> )	8.1	Melting range (°C)	875-910
Young modulus (GPa)	92	Hot working (°C)	670-750
Thermal expansion coefficient (20-300°C) (10 <sup>-6</sup> /K)	20	Annealing temperature (°C)*	450-600
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	<b>Soldering</b>	
Cold forming	Poor	Soft	Not recommended
Machinability	70% (CuZn39Pb3 = 100%)	Hard	Not recommended
<b>Corrosion resistance</b>		<b>Welding</b>	
High tensile brasses generally exhibit good corrosion resistance to organic materials and neutral or alkaline compounds due to alloying elements.		Gaz welding	Fair
		Inert gas shielded arc welding	Good
		Resistance welding	Good

### Mechanical properties according to EN12164 (CW713R)

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