

## CW710R

## - High Tensile Brass -

## HR1

Material designation		Chemical composition*			
<b>CuZn35Ni3Mn2AlPb</b>		Elements	% mean	Impurities	% max.
EN 12163 / 12165 / 12167		Cu	58.5	Sn	0.3
DIN 17660		Pb	0.65	Si	0.1
CW710R		Mn	2	Other	0.3
CuZn35Ni2-2.0540		Fe	0.3		
		Ni	2.2		
		Al	0.7		
		Zn	balance		

\* Reference values in % by weight

### Properties and typical applications

High tensile brass for machining and hot working. It is used in connections for fluids, bearings, pistons parts, wear parts ...

Physical properties at 20°C		Heat treatment	
Density (g/cm <sup>3</sup> )	8.3	Melting range (°C)	900-920
Young modulus (GPa)	93	Hot working (°C)	650-750
Thermal expansion coefficient (20-300°C) (10 <sup>-6</sup> /K)	21	Annealing temperature (°C)*	450-550
Thermal conductivity (W/m.K)	50	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.)	11	<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	Good	<b>Soldering</b>	
Cold forming	Fair	Soft	Fair
Machinability	80% (CuZn39Pb3 = 100%)	Hard	Fair
<b>Corrosion resistance</b>		<b>Welding</b>	
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 EN12163						
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			
R490	6	40	290	490	15	-
H120			-	-	-	120-160

### 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.

[info@m-lego.com](mailto:info@m-lego.com)