

## - High Tensile Brass -

## HR2

Material designation	Chemical composition*			
<b>C67300 - SAE J463</b>	Elements	% mean	Impurities	% max.
	Cu	59.2	Fe	0.35
	Pb	1.05	Sn	0.25
	Mn	3	Ni	0.25
	Si	1	Al	0.25
	Zn	balance	Other	0.5

\* Reference values in % by weight

### Properties and typical applications

This alloy combines high impact resistance with good machinability making it well suited for shaft rings, bearings, pump parts, wear plates...

Physical properties at 20°C		Heat treatment	
Density (g/cm <sup>3</sup> )	8.3	Melting range (°C)	890-910
Young modulus (GPa)	117	Hot working (°C)	650-750
Thermal expansion coefficient (20-300°C) (10 <sup>-6</sup> /K)	20	Annealing temperature (°C)*	500-600
Thermal conductivity (W/m.K)	95	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.)	22	<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	Not recommended	Soft	Not recommended
Machinability	70% (CuZn39Pb3 = 100%)	Hard	Not recommended
<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	Fair
		Inert gas shielded arc welding	Fair
		Resistance welding	Not recommended

### Mechanical properties (indicatives values)

Yield Strength R <sub>p0.5</sub> [Mpa]	> 240
Tensile Strength R <sub>m</sub> [Mpa]	> 480
Elongation [%]	> 15
Hardness [HB]	> 120

### 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)