

- High Tensile Brass -

HR5

Material designation	Chemical composition*			
C67300 - SAE J463	Elements	% mean	Impurities	% max.
	Cu	62.3	Fe	0.35
	Pb	0.65	Sn	0.25
	Mn	2.5	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 ³)	8.3	Melting range (°C)	890-910
Young modulus (GPa)	117	Hot working (°C)	650-750
Thermal expansion coefficient (20-300°C) (10 ⁻⁶ /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	Very good	Soldering	
Cold forming	Fair	Soft	Not recommended
Machinability	60% (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	Fair
		Resistance welding	Not recommended

Mechanical properties (indicative values)

Yield Strength Rp _{0.5} [Mpa]	> 200
Tensile Strength Rm [Mpa]	> 400
Elongation [%]	> 10
Hardness [HB]	> 100

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