

## - High Tensile Brass -

## HM6

Material designation	Chemical composition*			
<b>C67600 - ASTM B138</b>	Elements	% mean	Impurities	% max.
	Cu	58.5	Ni	0,2
	Pb	0.9	Si	0.1
	Fe	0.65		
	Mn	0.25	Other	0.5
	Sn	0.65		
	Zn	balance		

\* Reference values in % by weight

### Properties and typical applications

High tensile brass for machining and hot forging. It is used for mechanical parts such as valve stems, bearings, pump components...

Physical properties at 20°C		Heat treatment	
Density (g/cm <sup>3</sup> )	8.3	Melting range (°C)	890-910
Young modulus (GPa)	103	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)	105	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> ** <i>Stress relieving treatment allows to eliminate the residual stresses present in the material in order to avoid the stress corrosion cracking.</i>	
Electrical conductivity (% I.A.C.S.)	24		

Forming		Joining	
Hot forming	Good	<b>Soldering</b>	
Cold forming	Fair	Soft	Excellent
Machinability	60% (CuZn39Pb3 = 100%)	Hard	Excellent
Corrosion resistance		<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	Not recommended
		Resistance welding	Not recommended

### Mechanical properties (indicatives values)

Yield Strength Rp <sub>0.5</sub> [Mpa]	> 240
Tensile Strength Rm [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.

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