

- High Tensile Brass -

BL5

Material designation		Chemical composition*			
CuZn + Classe 2		Elements	% mean	Impurities	% max.
		Cu	59,3	Si	0,015
NF A 51 - 106		Pb	0,95		
		Fe	1,1		
		Ni	1,5		
		Mn	1,25		
		Al	1,6		
		Zn	balance		
CuZn + Classe 1					

* Reference values in % by weight

Properties and typical applications

High tensile brass for machining and hot working. It is used in architecture, mechanical parts (gas valves ...)

Physical properties at 20°C		Heat treatment	
Density (g/cm ³)	8.3	Melting range (°C)	900-920
Young modulus (GPa)	100	Hot working (°C)	650-750
Thermal expansion coefficient (20-300°C) (10 ⁻⁶ /K)	20	Annealing temperature (°C)*	450-550
Thermal conductivity (W/m.K)	88	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.)	18	<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	Soldering	
Cold forming	Not recommended	Soft	Fair
Machinability	80% (CuZn39Pb3 = 100%)	Hard	Fair
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	Not recommended
		Inert gas shielded arc welding	Not recommended
		Resistance welding	Not recommended

Mechanical properties according to NFA 51-106					
	Diameter [mm]		Rp0,2 [Mpa] min.	Rm [Mpa] min.	A(%) min.
	from	to			
	6	12	300	600	7
	12	25	280	570	8
	25	50	260	550	9
	50	80	250	530	10

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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