

**- High tensile lead free brass -**

**BL6**

Material designation		Chemical composition*			
<b>CuZn23Al4</b>		Elements	% mean	Impurities	% max.
		Cu	66	<b>Pb</b>	<b>0.1</b>
		Al	4.3		
		Fe	2	Other	0.4
		Mn	2.8		
		Ni	1		
		Zn	balance		
NFL 14-708	CuZn23Al4				

\* Reference values in % by weight

**Properties and typical applications**

This alloy presents an excellent mechanical and wear resistance. It is especially known for its good resistance to friction under heavy loads. CuZn23Al4 is used in aerospace, shipbuilding, water industry, screws & bolts...

Physical properties at 20°C		Heat treatment	
Density (g/cm <sup>3</sup> )	7.8	Melting range (°C)	880-900
Young modulus (GPa)	103	Hot working (°C)	670-750
Thermal expansion coefficient (20-300°C) (10 <sup>-6</sup> /K)	17	Annealing temperature (°C)*	500-600
Thermal conductivity (W/m.K)	38	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.)	13	<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	Fair	Soft	Not recommended
Machinability	55% (CuZn39Pb3 = 100%)	Hard	Not recommended
<b>Corrosion resistance</b>		<b>Welding</b>	
High tensile brasses generally exhibit good corrosion resistance to organic materials and neutral or alkaline compounds due to alloying elements.		Gaz welding	Fair
		Inert gas shielded arc welding	Not recommended
		Resistance welding	Not recommended

Mechanical properties according to NFL 14-108				
Condition of material	Rp0,2 [Mpa]	Rm [Mpa]	A(%)	Hardness HB
	min.	min.	min.	min.
<b>As extruded with or without heat</b>	270	590	15	170

**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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