

- High tensile lead free brass -

HR7

Material designation		Chemical composition*			
CuZn19Al6		Elements	% mean	Impurities	% max.
		Cu	66	Pb	0.1
		Al	6.5		
		Fe	3.1	Other	0.5
		Mn	4.8		
		Zn	balance		
NFL 14-707	CuZn19Al6				





* Reference values in % by weight

Properties and typical applications
This alloy presents an excellent mechanical and wear resistance. It is especially known for its excellent resistance to friction under heavy loads. CuZn19Al6 is quite used in components of landing gears.

Physical properties at 20°C		Heat treatment	
Density (g/cm ³)	7.6	Melting range (°C)	875-900
Young modulus (GPa)	92	Hot working (°C)	670-750
Thermal expansion coefficient (20-300°C) (10 ⁻⁶ /K)	20	Annealing temperature (°C)*	500-600
Thermal conductivity (W/m.K)	64	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	Soldering	
Cold forming	Poor	Soft	Not recommended
Machinability	55% (CuZn39Pb3 = 100%)	Hard	Not recommended
Corrosion resistance		Welding	
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 14-107						
Condition of material	Diameter [mm]		Rp0,2 [Mpa] min.	Rm [Mpa] min.	A(%) min.	Hardness HB
	from	to				
M	6	50	590	830	10	225
	50	80	540	780	7	225

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	