LAP

Material designation		Chemical composition*			
CuZn40Pb1Al		Elements	% mean	Impurities	% max.
		Cu	58.3	Fe	0.2
		Pb	1.85	Sn	0.2
EN 12165	CW616N	Al	0.17	Ni	0.1
ASTM B455	C38000			Mn	0.1
		Zn	balance	Other	0.2

* Reference values in % by weight

Properties and typical applications

Brass for free cutting and hot forging. Aluminum gives a shiny appearance to the material and facilitates stamping. Architecture, building materials…

Physical properties at 20°C		Heat treatment	
Density (g/cm3)	8.3	Melting range (°C)	885-900
Young modulus (GPa)	85	Hot working (°C)	650-800
Thermal expansion coefficient (20-300°C) (10^{-6}/K)	20	Annealing temperature (°C)*	450-600
Thermal conductivity (W/m.K)	80	Stress relieving treatment (°C)**	250-350
Thermal capacity (J/Kg.K)	380		
Electrical conductivity (% I.A.C.S.)	18		

* Annealing treatment of a material leads to reduce its hardness and increase its ductility.

** Stress relieving treatment allows to eliminate the residual stresses present in the material in ordrer to avoid the stress corrosion cracking.

Forming		Joining	
Hot forming	Excellent	**Soldering**	
Cold forming	Not recommanded	Soft	Excellent
Machinability	90% (Ref: CuZn39Pb3 = 100%)	Hard	Good
Corrosion resistance			
Free-cutting brasses generally have good resistance to corrosion in organic materials and neutral or alkaline compounds. However, they may present a problem of cracking corrosion in an aggressive environment in the presence of internal stresses, but also a risk of dezincification in the presence of hot and acidic water.		**Welding**	
		Gaz welding	Not recommanded
		Inert gas shielded arc welding	Not recommanded
		Resistance welding	Not recommanded

Mechanical properties according to EN12165

Condition of material	Section		Rp0,2 [Mpa]	Rm [Mpa]	A(%)	Hardness HB
M	All		As extruded - without specific mechanical properties			
H080	6	80	/	/	/	80-125

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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