

Lead free brass

Z36




Material designation		Chemical composition*			
CuZn36 / CuZn37		Elements	% mean	Impurities	% max.
		Cu	63.7	Pb	0.008
		Zn	Balance	Other	0.2
EN12163 / 12167	CW507 & CW508L	* Reference values in % by weight			
NF A 51-104	CuZn37				
DIN 17660	CuZn36-2.0335				
ASTM B134	C27000				

Properties and typical applications
Lead free brass with excellent cold forming capacity. Connectors, stamped parts, metal goods...

Physical properties at 20°C		Heat treatment	
Density (g/cm ³)	8.45	Melting range (°C)	905-920
Young modulus (GPa)	109	Hot working (°C)	750-850
Thermal expansion coefficient (20-300°C) (10 ⁻⁶ /K)	21	Annealing temperature (°C)*	450-650
Thermal conductivity (W/m.K)	120	Stress relieving treatment (°C)**	200-300
Thermal capacity (J/Kg.K)	377	* <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.)	26		

Forming		Joining	
Hot forming	Good	Soldering	
Cold forming	Excellent	Soft	Very good
Machinability	40% (Ref : CuZn39Pb3 = 100%)	Hard	Very good
Corrosion resistance		Welding	
Lead-free brasses generally have good resistance to corrosion. 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 (if Zn > 15%) in the presence of hot and acidic water.		Gaz welding	Fair
		Inert gas shielded arc welding	Fair
		Resistance welding	Fair

Mechanical properties according to EN12163						
Condition of material	Diameter [mm]		Rp0,2 [Mpa] min. or max.	Rm [Mpa] min.	A(%) min.	Hardness HB
	from	to				
M	All		As extruded - without specific mechanical properties			
R290	6	80	< 230	290	45	-
H070			-	-	-	70-110
R370	6	40	> 240	370	14	-
H105			-	-	-	105-145
R460	6	8	> 330	460	8	-
H140			-	-	-	> 140

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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