

DZR Brass

ND4

Material designation		Chemical composition*			
CuZn33Pb1,5AlAs		Elements	% mean	Impurities	% max.
EN 12164 / EN 12165 / EN 12167		Cu	64.5	Fe	0.3
CW626N		Pb	1.5	Sn	0.3
		Al	0.9	Ni	0.2
		As	0.1	Mn	0.1
		Zn	balance	Other	0.25



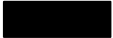

* Reference values in % by weight

Properties and typical applications	
ND4 is a dezincification resistant (DZR) and free cutting brass which can be worked both cold and hot. It is used in taps and components in contact with drinking water.	

Physical properties at 20°C		Heat treatment	
Density (g/cm ³)	8.4	Melting range (°C)	875-900
Young modulus (GPa)	96	Hot working (°C)	700-800
Thermal expansion coefficient (20-300 °C) (10 ⁻⁶ /K)	21	Annealing temperature (°C)*	450-600
Thermal conductivity (W/m.K)	95	Stress relieving treatment (°C)**	250-350
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.)	21	<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	Good	Soldering	
Cold forming	Good	Soft	Excellent
Machinability	80% (Ref: CuZn39Pb3 = 100%)	Hard	Good
Corrosion resistance		Welding	
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.		Gaz welding	Not recommended
		Inert gas shielded arc welding	Not recommended
		Resistance welding	Not recommended

Mechanical properties according to EN12164						
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			
R280	6	80	< 200	280	30	-
H070			-	-	-	70-110
R320	6	60	> 200	320	20	-
H90			-	-	-	90-135
R400	6	15	> 250	400	8	-
H105			-	-	-	> 105

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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