

Wieland-Z10

CuZn37Pb0.5 | Machining brass

Material designation

EN	CuZn37Pb0.5 CW604N
UNS	C33500

Chemical composition*

Cu	57.5 %
Pb	0.3 %
Zn	balance

*Reference values in % by weight

Physical properties*

Electrical conductivity	MS/m	14.7
	%IACS	25
Thermal conductivity	W/(m·K)	113
Thermal expansion coefficient (0–300 °C)	10 ⁻⁶ /K	20.4
Density	g/cm ³	8.44
Modulus of elasticity	GPa	110

*Reference values at room temperature

Corrosion resistance

Machining brass is generally quite resistant against organic substances as well as neutral or alkaline compounds.

Stress corrosion cracking should be taken into account, especially in an ammoniacal atmosphere and whilst under mechanical stress. Dezincification in warm, acidic waters should also be taken into consideration.

Product standards

Tube	EN 12449
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Material properties and typical applications

Wieland-Z10 is a high-copper machining brass which has excellent cold working properties and can still be machined. It is ideal for producing components which are primarily coined, riveted, crimped or flanged and, to a small extent, machined.

Types of delivery

The BU Extruded Products supplies bars, wire, sections and tubes. Please get in touch with your contact person regarding the available delivery forms, dimensions and tempers.

Fabrication properties

Forming

Machinability (CuZn39Pb3 = 100 %)	60 %
Capacity for being cold worked	good
Capacity for being hot worked	good

Surface treatment

Polishing	
mechanical	excellent
electrolytic	fair
Electroplating	excellent

Joining

Resistance welding (butt weld)	fair
Inert gas shielded arc welding	poor
Gas welding	poor
Hard soldering	fair
Soft soldering	excellent

Heat treatment

Melting range	885–910 °C
Hot working	720–820 °C
Soft annealing	450–650 °C 1–3 h
Thermal stress relieving	200–300 °C 1–3 h

Trademarks



Further information is provided in our brochure on Wiconnec.

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Mechanical properties according to EN

Tubes										acc. to EN 12449		
Temper	Wall thickness		Tensile strength R_m	Yield strength $R_{p0.2}$		Elongation %	Hardness					
	mm		MPa	MPa		A100	HV		HB			
	from	to	min.	min.	max.	min.	min.	max.	min.	max.		
M	-	20	as manufactured – without specified mechanical properties									
R300	-	20	300	-	220	45	-	-	-	-		
H060	-	20	-	-	-	-	60	90	55	85		
R370	-	10	370	200	-	25	-	-	-	-		
H085	-	10	-	-	-	-	85	120	80	115		
R440	-	5	440	340	-	10	-	-	-	-		
H115	-	5	-	-	-	-	115	-	110	-		