

# Wieland-Z10

CuZn37Pb0.5  
Machining brass

## Extruded and drawn products



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 %IACS	14.7 25
Thermal conductivity	W/(m·K)	113
Thermal expansion coefficient (0–300 °C)	10 <sup>-6</sup> /K	20.4
Density	g/cm <sup>3</sup>	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

### 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 Extruded and Drawn Products Division 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		Surface treatment	
Machinability (CuZn39Pb3 = 100 %)	60 %	<b>Polishing</b>	
Capacity for being cold worked	good	mechanical	excellent
Capacity for being hot worked	good	electrolytic	fair
		Electroplating	excellent
Joining		Heat treatment	
Resistance welding (butt weld)	fair	Melting range	885–910 °C
Inert gas shielded arc welding	poor	Hot working	720–820 °C
Gas welding	poor	Soft annealing	450–650 °C 1–3 h
Hard soldering	fair	Thermal stress relieving	200–300 °C 1–3 h
Soft soldering	excellent		

### Trademarks



Further information is provided in the brochure on WICONNEC.

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## Mechanical properties according to EN

Tubes											acc. to EN 12449	
Temper	Wall thickness		Tensile strength $R_m$ MPa min.	Yield strength $R_{p0,2}$ MPa min.    MPa max.		Elongation $A$ %	Hardness HV		HB			
	mm from	mm to		min.	max.		min.	max.	min.	max.		
M	–	20	–	–	–	–	–	–	–	–		
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	320	–	10	–	–	–	–		
H115	–	5	–	–	–	–	115	–	110	–		