

# Wieland-Z14

CuZn37Pb2  
Machining brass

# Extruded and drawn products



Material designation	
EN	CuZn37Pb2/CW606N
UNS	C35300

Chemical composition*	
Cu	61.5 %
Pb	2 %
Zn	balance

\* Reference values in % by weight

Physical properties*		
Electrical conductivity	MS/m %IACS	14 24
Thermal conductivity	W/(m·K)	105
Thermal expansion coefficient (0–300 °C)	10 <sup>-6</sup> /K	20.4
Density	g/cm <sup>3</sup>	8.45
Modulus of elasticity	GPa	105

\* 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	
Rod	EN 12164
Wire	EN 12166
Section	EN 12167
Hollow rod	EN 12168

**Material properties and typical applications**  
**Wieland-Z14** is a material which has been successfully used in the UK. It has both good machining and good cold working properties.

**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 %)	85 %	<b>Polishing</b>
Capacity for being cold worked	fair	mechanical good
Capacity for being hot worked	excellent	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 650–750 °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	

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Further information is provided in the brochure on WICONNEC.

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## Mechanical properties according to EN

### Round rods/polygonal rods acc. to EN 12164

Temper	Diameter		Width across flats		Tensile strength	Yield strength		Elongation			Hardness	
	mm from	mm to	mm from	mm to	R <sub>m</sub> MPa min.	R <sub>p0.2</sub> MPa min.    MPa max.		A100 %	A11.3 %	A %	HB	
M	all		all		as manufactured – without specified mechanical properties							
R340	10	80	10	60	340	–	280	–	–	20	–	–
H070	10	80	10	60	–	–	–	–	–	–	70	120
R400	2	25	2	20	400	200	–	4	8	12	–	–
H100	2	25	2	20	–	–	–	–	–	–	100	140
R480	2	14	2	10	480	350	–	3	5	8	–	–
H125	2	14	2	10	–	–	–	–	–	–	125	–

### Rectangular rods acc. to EN 12167

Temper	Thickness		Tensile strength	Yield strength		Elongation			Hardness		
	mm from	mm to	R <sub>m</sub> MPa min.	R <sub>p0.2</sub> MPa min.    MPa max.		A100 %	A11.3 %	A %	HB		
M	all		as manufactured – without specified mechanical properties								
R340	3	20	340	–	280	10	15	20	–	–	
H070	3	20	–	–	–	–	–	–	70	120	
R400	3	10	400	200	–	4	8	12	–	–	
H100	3	10	–	–	–	–	–	–	100	140	
R480	3	10	480	350	–	2	5	8	–	–	
H125	3	10	–	–	–	–	–	–	125	–	

### Round wires acc. to EN 12166

Temper	Diameter		Tensile strength	Yield strength		Elongation			Hardness		
	mm from	mm to	R <sub>m</sub> MPa min.	R <sub>p0.2</sub> MPa min.    MPa max.		A100 %	A11.3 %	A %	HB		
M	all		as manufactured – without specified mechanical properties								
R340	0.5	20	340	–	280	10	15	20	–	–	
H080	1.5	20	–	–	–	–	–	–	80	130	
R400	0.5	14	400	200	–	4	8	12	–	–	
H100	1.5	14	–	–	–	–	–	–	100	150	
R480	0.5	8	480	350	–	2	5	–	–	–	
H135	1.5	8	–	–	–	–	–	–	135	–	