

Wieland-Z14 Machining brass

Extruded/drawn products

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

Chemical composition*

Cu	61.5%
Pb	2%
Zn	balance

* Reference values in % by weight

Material designation

EN	CuZn37Pb2
	CW606N
UNS	C35300
DIN*	not standardized (~CuZn37Pb2)
BS*	CZ131
NF*	not standardized

* Former national standards

Physical properties*

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

* Reference values at room temperature

1 GPa = 1 kN/mm²

1 MS/m = 1 m/Ω • mm²

Fabrication properties

Forming

Machinability	85%
(CuZn39Pb3 = 100 %)	
Capacity for being cold worked	fair
Capacity for being hot worked	excellent

Joining

Resistance welding	fair
Inert gas shielded arc welding	poor
Hard soldering	fair
Soft soldering	excellent

Corrosion resistance

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

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

Surface treatment

Polishing	mechanical	good
	electrolytic	fair
Electroplating		excellent

Heat treatment

Melting range	885-910 °C
Hot working	650-750 °C
Soft annealing	450-650 °C, 1-3 h
Thermal stress-relieving	200-300 °C, 1-3 h

Product standards

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

Mechanical properties (values can be achieved and are a function of size and form)

Reference values	from (soft/extruded)	to (hard)
R _m [MPa]	360	520
R _{p0.2} [MPa]	150	450
A ₅ [%]	35	15
HB	85	150

Forms and sizes available

Material										
Wieland	EN designation		Outside diameter		Wall thickness		Circumscribing diameter		Diameter / width across flats	
	Brief designation	Number	from	to	from	to	from*	to	from	to
Z14	CuZn37Pb2	CW606N								
Round tubes										
Drawn sections							2.5	100		
Extruded sections								130		
Sectional tubes										
Round and polygonal rods									2	100
Round wires									0.3	
Polygonal wires									2	

All values in mm

* Depending on the form, cross-sections in the lower size range are also available as wire.

Wieland - Z14

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