Wieland-S37

CuZn38Mn1Al | Special brass

Material designation

EN	CuZn38Mn1Al CW716R
UNS	–

Chemical composition*

Cu	60 %
Al	1 %
Mn	1 %
Fe	1 %
Ni	0.5 %
Pb	1 %
Zn	balance

**Reference values in % by weight*

Physical properties*

Electrical conductivity	MS/m %IACS	7.8 13
Thermal conductivity	W/(m·K)	63
Thermal expansion coefficient (0–300 °C)	10^{-6}/K	21.1
Density	g/cm³	8.24
Moduls of elasticity	GPa	93

**Reference values at room temperature*

Material properties and typical applications

Wieland-S37 is a special brass with medium strength, high resistance to atmospheric corrosion as well as good sliding properties due to the alloying constituents manganese and aluminium.

Wieland-S37 is used as standard bearing alloy for medium load applications in machine construction.

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 %)	40 %
Capacity for being cold worked	poor
Capacity for being hot worked	good

Surface treatment

Polishing mechanical electrolytic	 good poor
Electroplating	fair

Joining

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

Heat treatment

Melting range	860–910 °C
Hot working	600–700 °C
Soft annealing	500–650 °C 1–3 h
Thermal stress relieving	300–430 °C 1–3 h

Corrosion resistance

Special brass generally exhibits excellent corrosion resistance due to alloying elements. Wieland-S37 is characterized by good resistance to organic substances and neutral or alkaline compounds. Stress corrosion cracking should be taken into account, especially in an ammoniacal atmosphere in the presence of mechanical stress.

Product standards

Tube	EN 12449

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Mechanical properties according to EN

Tubes								acc. to EN 12449
Temper	Wallthickness	Tensile strength R_m	Yield strength $R_{p0.2}$	Elongation %	Hardness			
	mm	MPa	MPa	A100	HV		HB	
	max.	min.	min.	min.	min.	max.	min.	max.
M	20	as manufactured – without specific mechanical properties						
R440	8	440	200	15	–	–	–	–
H115	8	–	–	–	115	155	110	150
R510	8	510	270	10	–	–	–	–
H140	8	–	–	–	140	–	135	–

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