

Wieland-SD4

Lead free special brass

Extruded and drawn products

Material designation	
EN	not standardized
UNS	not standardized

Chemical composition*	
Cu	58 %
Mn	2 %
Al	1.5 %
Pb max.	0.1 %
Si	0.5 %
Zn	balance

* Reference values in % by weight

Physical properties*		
Electrical conductivity	MS/m %IACS	7.8 13
Thermal conductivity	W/(m·K)	81.7
Thermal expansion coefficient (20–300 °C)	10 ⁻⁶ /K	20.4
Density	g/cm ³	8.1
Modulus of elasticity	GPa	93

* Reference values at room temperature

Corrosion resistance

Special brass generally exhibits excellent corrosion resistance due to alloying additions. Wieland-SD4 is characterized by good resistance to organic substances and neutral or alkaline compounds.

Product standards

not standardized

Material properties and typical applications

Wieland-SD4 is a special brass with very high wear resistance due to silicides embedded in the structure. This alloy is used for slide bearings and valve guides as well as for construction components in mechanical engineering. Wieland-SD4 is also highly suitable for hot stamped parts requiring higher mechanical strength and higher wear resistance.

The material is lead free according to ELV-directive (Pb max. 0.1 %).

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 %)	45 %	Polishing	
Capacity for being cold worked	poor	mechanical	good
Capacity for being hot worked	excellent	electrolytic	poor
		Electroplating	fair
Joining		Heat treatment	
Resistance welding (butt weld)	good	Melting range	875–910 °C
Inert gas shielded arc welding	good	Hot working	600–700 °C
Gas welding	fair	Soft annealing	500–650 °C 1–3 h
Hard soldering	poor	Thermal stress relieving	350–450 °C 1–3 h
Soft soldering	poor		

Mechanical properties

The mechanical properties are equivalent to Wieland-S40 / CW713R.

Trademarks

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Further information is provided in our brochure on ECOSLIDE.