

Wieland-SE1

CuZn34Sn1FeP
Special brass

Extruded and drawn products



Material designation	
EN	not standardized
UNS	not standardized

Chemical composition*	
Cu	63 %
Sn	1 %
Fe	0.5 %
P	0.5 %
Zn	balance

* Reference values in % by weight

Physical properties*		
Electrical conductivity	MS/m %IACS	14.6 25
Thermal conductivity	W/(m·K)	110.8
Thermal expansion coefficient (0–300 °C)	10 ⁻⁶ /K	20.2
Density	g/cm ³	8.33
Modulus of elasticity	GPa	110

* Reference values at room temperature

Corrosion resistance

Special brass generally has excellent corrosion resistance due to alloying additions. Wieland-SE1 exhibits good resistance to sea water and is not susceptible to dezincification.

Product standards
none

Material properties and typical applications

Wieland-SE1 is a special brass with excellent corrosion resistance for the use in brakish water and sea water. The alloy has a high mechanical strength and is appropriate to marine aquaculture applications. Due to the anti-microbial properties of copper the usage of SE1 in Aquaculture stops the bio fouling environmentally friendly on a natural basis. The SE1 copper based alloy is recyclable for 100 % at the end of the product lifetime.

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 %)	30 %	Polishing	
Capacity for being cold worked	excellent	mechanical	excellent
Capacity for being hot worked	fair	electrolytic	poor
		Electroplating	excellent
Joining		Heat treatment	
Resistance welding (butt weld)	good	Melting range	890–945 °C
Inert gas shielded arc welding	fair	Hot working	650–800 °C
Gas welding	good	Soft annealing	450–600 °C 1–3 h
Hard soldering	excellent	Thermal stress relieving	200–300 °C 1–3 h
Soft soldering	excellent		

Trademarks



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Dimensions and mechanical properties, typical values

Round wire

Temper	Diameter		Tensile strength	Yield strength	Elongation
	mm from	mm to	Rm MPa min.	R _{p02} MPa min.	A100 % min
soft	2	5*	> 380	> 140	> 35
1/4 hard	2	5*	> 400	> 200	> 20
1/2 hard	2	5*	> 500	> 400	> 3

*other dimensions and different tempers upon request.