

Wieland-SW1 Lead-free special brass

Wieland-SW1 is a lead-free special brass resisting high load and exhibiting good corrosion resistance as well as excellent machinability.

This alloy is suited to the production of machined and drop-forged parts.

ECOBASS® is approved for drinking water applications.

Extruded/drawn products

Chemical composition*		Material designation	
Cu	76%	UNS	C69300
Si	3%		
P	0.03%		
Zn	balance		

* Reference values in % by weight

Physical properties*			Fabrication properties		Corrosion resistance	
Electrical conductivity	MS/m	4.5	Forming	80%	Special brass generally exhibits good corrosion resistance due to alloying additions.	
	% IACS	7.8				
Thermal conductivity	W/(m*K)	33	Capacity for being cold worked	good	The addition of silicon improves resistance to tarnishing and reduces resistance to stress corrosion cracking and dezincification.	
Density	g/cm³	8,25	Capacity for being hot worked	excellent		
Modulus of elasticity	GPa	approx. 85	Joining			
			Resistance welding	good		
			Inert gas shielded arc welding	good		
			Hard soldering	excellent	The material is resistant to seawater.	
			Soft soldering	excellent		

* Reference values at room temperature
 1 GPa = 1 kN/mm²
 1 MS/m = 1 m/Ω • mm²

Surface treatment		Product standards	
Polishing	mechanical		good
Electroplating			good (like Z33)
Heat treatment			
Melting range			860-925 °C
Hot working			750-800 °C
Soft annealing			530-700 °C
Thermal stress-relieving			300-400 °C

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

Reference values	≤10 mm	10 - 30 mm	30 - 40 mm	40 - 70 mm
R _m [MPa]	min. 700	min. 650	min. 600	min. 530
R _{p0,2} [MPa]	min. 450	min. 400	min. 350	min. 300
A ₅ [%]	10	18	20	20

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
SW1	~CuZn21Si3P	not standard.	15	155	2	10				
Round tubes			15	155	2	10				
Drawn sections							6	100		
Extruded sections								130		
Sectional tubes										
Round and polygonal rods									2	70
Round wires									2	
Polygonal wires									2	

All values in mm

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

Wieland - SW1

Wieland

Wieland-Werke AG

89070 Ulm

Germany

Telephone:

+49 (0) 731 944 - 0

Telefax:

+49 (0) 731 944 - 28 79

info@wieland.de

www.wieland.de

This leaflet is for your general information only and is not subject to revision. No claims can be derived from it unless there is evidence of intent or gross negligence. The data given are no warranty that the product is of a specified quality and they cannot replace expert advice or the customer's own tests.

1008 ZMT/Er