

Wieland-GB1 Cast bronze

Extruded/drawn products

Wieland-GB1 is a very wear-resistant, tough-hard and corrosion-resistant material. It is mainly used in worm and spiral gears, fittings and pump castings, couplings, nuts subjected to high loads and in construction elements subjected to cavitation.

Chemical composition*

Cu	85%
Sn	12%
Ni	2%

* Reference values in % by weight

Material designation

EN	CuSn12Ni2-C-GC, CC484K
UNS	-
DIN*	GC-CuSn12Ni, 2.1060.04
BS*	CT2

* Former national standards

Physical properties*

Electrical conductivity	MS/m	6
	% IACS	10
Thermal conductivity	W/(m*K)	50
	Thermal expansion coefficient (0-300°C) 10 ⁻⁶ /K	18.3
Density	g/cm ³	8.9

Fabrication properties

Forming	
Machinability	70%
(CuZn39Pb3 = 100 %)	
Capacity for being cold worked	not possible
Capacity for being hot worked	not possible
Heat treatment	
Lower melting point	800 °C
Stress relieving	400-600 °C, 2-6 h

Corrosion resistance

Cast alloys belong to the most corrosion-resistant copper alloys. They exhibit excellent resistance to atmospheric influences, carbonic acid and saline water. Also important is their resistance to seawater and their insensitivity to stress corrosion cracking.

* Reference values at room temperature

1 GPa = 1 kN/mm²

1 MS/m = 1 m/Ω • mm²

Product standards

Cast alloys	EN 1982
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Mechanical properties (values can be achieved and are a function of size and form)

Reference values		
R _m	[MPa]	360
R _{p0.2}	[MPa]	170
A	[%]	20
HB		110

Forms and sizes available

Wieland - GB1

Material								
Wieland	EN designation		Outside diameter		Inside diameter	Wall thickness	Diameter / width across flats	
	Brief designation	Number	from	to	from	from*	from	to
GB1	CuSn12Ni2-C-GC	CC484K	18	404	9	■		
Round tubes								
Sections			on request					
Sectional tubes								
Round and polygonal rods							10	354

All values in mm

- Wall thickness min. 4 mm, with an outside diameter >50 mm: 9 % of the outside diameter.

Wieland

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