

## Wieland-GC9 Lead Brass

## Extruded/drawn products

**Wieland-GC9** is an alloy among cast copper-lead-tin alloys that has excellent emergency running properties and is largely insensitive to edge pressure. It is used for main spindles in machine tools.

It is widely used in textile machinery and pump construction. Especially in pump construction, Wieland-G22 is suitable for "water lubrication".

### Chemical composition\*

Cu	78%
Pb	16%
Sn	6%

### Material designation

EN	not standardized
UNS	-

\* Reference values in % by weight

### Physical properties\*

Electrical conductivity	MS/m	6.6
	% IACS	11
Thermal conductivity	W/(m*K)	46.0
Thermal expansion coefficient	(0-300°C) 10 <sup>-6</sup> /K	18.5
Density	g/cm <sup>3</sup>	9.3
Modulus of elasticity	GPa	75.8

\* Reference values at room temperature  
1 GPa = 1 kN/mm<sup>2</sup>  
1 MS/m = 1 m/Ω • mm<sup>2</sup>

### Fabrication properties

<b>Forming</b>	
Machinability	80%
(CuZn39Pb3 = 100 %)	
Capacity for being cold worked	not possible
Capacity for being hot worked	not possible
<b>Heat treatment</b>	
Lower melting point	854°C
Notice: Melting point of Pb	328 °C

### 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.

### Product standards

none

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

Reference values		
R <sub>m</sub>	[MPa]	220
R <sub>p0,2</sub>	[MPa]	
A	[%]	7
HB		63

## Forms and sizes available

**Wieland - GC9**

Material								
Wieland	EN designation		Outside diameter		Inside diameter	Wall thickness	Diameter / width across flats	
	Brief designation	Number	from	to	from	from*	from	to
GC9	---	---	18	142	9	■		
Round tubes								
Sections			on request					
Sectional tubes								
Round and polygonal rods							10	142

All values in mm

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

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