Wieland-G22
CuSn7Pb15-C-GC
Lead bronze

Extruded and drawn products

Wieland

Material designation	
EN	CuSn7Pb15-C-GC CC496K
UNS	–

Chemical composition*	
Cu	77.5 %
Pb	15 %
Sn	7 %
Ni	0.8 %

** Reference values in % by weight*

Material properties and typical applications

Wieland-G22 is the standard 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, as for this application no surface hardened spindles are employed. It is widely used in textile machinery and pump construction. Especially in pump construction, Wieland-G22 is suitable for "water lubrication".

Physical properties*		
Electrical conductivity	MS/m %IACS	7 12
Thermal conductivity	W/(m·K)	59
Thermal expansion coefficient (0–300 °C)	10^{-6}/K	18.8
Density	g/cm³	9,2
Modulus of elasticity	GPa	82

** Reference values at room temperature*

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.

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.

Fabrication properties

Forming	
Machinability (CuZn39Pb3 = 100 %)	90 %
Capacity for being cold worked	not possible
Capacity for being hot worked	not possible

Heat treatment	
Melting range	905 °C
Thermal stress relieving	400–600 °C 2–6 h

Mechanical properties, reference values

	Tensile strength R_m MPa min.	Yield strength $R_{p0,2}$ MPa min.	Elongation at rupture A % min.	Hardness HBW min.
Continuous casting	200	90	7	65

Product standards	
Cast alloys	EN 1982

Wieland-Werke AG **www.wieland.com**

Graf-Arco-Str. 36, 89079 Ulm, Germany, Phone +49 (0)731 944-0, Fax +49 (0)731 944-2772, info@wieland.de

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