wieland

Wieland-GA9

CuSn5PB20-C-GC | Cast bronze

Material designation

EN	CuSn5PB20-C-GC CC497K
UNS	–

Chemical composition*

Cu	73 %
Pb	20 %
Sn	5 %
Ni	1.5 %

**Reference values in % by weight*

Material properties and typical applications

Wieland-GA9 is a very soft material with excellent emergency running properties. It can, therefore, be used in case of insufficient lubrication over a short time period. It is mainly used for water lubrication. However, in case of mixed friction increased wear is possible. Wieland-GA9 is highly resistant to sulphuric acid. It is also used for
bearings with high sliding speeds, for example, bearings for milling machinery, water pumps, cold and foil rolling mills as well as for highly stressed composite bearings in combustion engines, for example, piston pin bushings.

Physical properties*

Electrical conductivity	MS/m %IACS	7.2 12
Thermal conductivity	W/(m·K)	70
Thermal expansion coefficient (0–300 °C)	10^{-6}/K	19.3
Density	g/cm³	9.2
Moduls of elasticity	GPa	80

**Reference values at room temperature*

Types of delivery

The BU Extruded Products 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

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

Heat treatment

Melting range	915–980 °C
Melting point of lead	327.5 °C
Thermal stress relieving	200–300 °C 1–3 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.

Mechanical properties, refernce values

	Tensile strength R_m MPa	Yield strength $R_{p0,2}$ MPa	Elongation A %	Hardness HBW
Continous casting	180	90	7	50

Product standards

Cast calloys	EN 1982

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