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

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/cm^3 9.2
Modulus 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 3275 °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, reference values

<table>
<thead>
<tr>
<th></th>
<th>Tensile strength Rm MPa</th>
<th>Yield strength Rm0,2 MPa</th>
<th>Elongation A %</th>
<th>Hardness HBW</th>
</tr>
</thead>
<tbody>
<tr>
<td>Continuous casting</td>
<td>180</td>
<td>90</td>
<td>7</td>
<td>50</td>
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Product standards
Cast alloys EN 1982

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.