Wieland-GD1
CuSn5Zn5Pb2-C-GC | Cast bronze

Material designation
EN  CuSn5Zn5Pb2-C-GC
     CC499K
UNS –

Chemical composition*
Cu   86 %
Pb   max. 3 %
Ni   2 %
Zn   6 %
Sn   4 %
*Reference values in % by weight

Physical properties*
Electrical conductivity MS/m 11.5
%IACS 20
Thermal conductivity W/(m·K) 80
Density g/cm³ 8.7
Moduls of elasticity GPa 100
*Reference values at room temperature

Material properties and typical applications
Wieland-GD1 is a cast copper-tin-zinc alloy. The material is mainly used in the fittings industry as well as for tube connectors. With the low lead and nickel content the requirements for components in drinking water installations are met.

The material is accepted for products in contact with drinking water as per 4 MS positive list.

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 %) 70 %
Capacity for being cold worked not possible
Capacity for being hot worked not possible

Heat treatment
Melting range 960–1032 °C
Thermal stress relieving 250–400 °C 2–4 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>250</td>
<td>110</td>
<td>13</td>
<td>65</td>
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</tbody>
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Product standards
Cast calloys EN 1982