Wieland-Z45/46
CuZn36Pb2As | Dezincification resistant machining brass

Material designation
EN CuZn36Pb2As
UNS C35330

Chemical composition*
Cu 6 %
Pb max. 2.2 %
As max. 0.1 %
Zn balance
*Reference values in % by weight

Physical properties*
Electrical conductivity MS/m 14.7
% IACS 25
Thermal conductivity W/(m·K) 114
Thermal expansion coefficient (0–300 °C) 10^-6/K 20.3
Density g/cm³ 8.46
Moduls of elasticity GPa 105
*Reference values at room temperature

Material properties and typical applications
Wieland-Z45, a dezincification-resistant machining brass, is particularly suitable for use in warm, acidic waters. This material passes the dezincification test according to ISO 6509.
For the manufacture of hot-stamped parts Wieland-Z46 with better hot-working properties is recommended. To achieve dezincification resistance a heat treatment may be necessary after hot working.

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 %) 80 %
Capacity for being cold worked good
Capacity for being hot worked good*

Joining
Resistance welding (butt weld) fair*
Inert gas shielded arc welding poor*
Gas welding poor*
Hard soldering fair*
Soft soldering excellent
* see section „Corrosion resistance“

Surface treatment
Polishing mechanical electrolytic
Electroplating excellent
Heat treatment
Melting range 885–910 °C
Hot working 720–830 °C
Soft annealing 450–550 °C 1–3 h
Thermal stress relieving 250–350 °C 1–3 h

Corrosion resistance
Machining brass is generally quite resistant against organic substances as well as neutral or alkaline compounds.
Stress corrosion cracking should be taken into account, especially in an ammoniacal atmosphere and whilst under mechanical stress.
Dezincification in warm, acidic waters should also be taken into consideration.

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Product standards
Rod EN 12164
EN 12165
Wire EN 12166
Section EN 12167
Hollow rod EN 12168
Tube EN 12449

Trademarks
Wieland-PSR
Further information is provided in our brochure on PSR.
### Wieland-Z45/46
CuZn36Pb2As | Dezincification resistant machining brass

### Mechanical properties according to EN

#### Round rods/polygonal rods acc. to EN 12164

<table>
<thead>
<tr>
<th>Temper</th>
<th>Diameter</th>
<th>Width across flats</th>
<th>Tensile strength $R_m$</th>
<th>Yield strength $R_{p0.2}$</th>
<th>Elongation %</th>
<th>Hardness</th>
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#### Rectangular rods acc. to EN 12167

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#### Tubes acc. to EN 12449

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