Wieland-Z43
CuZn33Pb1AlSiAs | Dezincification resistant special brass

Material designation
EN CW725R
UNS not standardized

Chemical composition*
Cu 64.4 %
Pb 0.5 %
Al 0.15 %
Si 0.1 %
As 0.06 %
Zn balance

Physical properties*
Electrical conductivity MS/m 12.8
%IACS 22.1
Thermal conductivity W/(m·K) 101
Thermal expansion coefficient (0–300 °C) 10^-6/K 20
Density g/cm³ 8.42

Material properties and typical applications
Wieland-Z43 is a dezincification resistant alloy suited for the application in drinking water in Europe. The mechanical properties and the machinability are comparable to CuZn36Pb2As. Wieland-Z43 can be used for turned or hot-stamped parts. It is dezincification resistant with a maximum depth of 100 µm (test according to ISO 6509). After the hot stamping a thermal treatment must be performed to ensure dezincification resistance.

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 %) 75 %
Capacity for being cold worked good
Capacity for being hot worked good*

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

Surface treatment
Polishing
mechanical electrolytic good poor
Electroplating good

Heat treatment
Melting range 850–950 °C
Hot working 650–750 °C
Soft annealing 450–550 °C 1–3 h
Thermal stress relieving 200–300 °C 1–3 h

Corrosion resistance
Brass is generally quite resistant against organic substances as well as neutral or alkaline compounds. After exposure to temperatures > 600 °C a thermal treatment at 500–550 °C/2–3 h is necessary to ensure optimal dezincification resistance.

Stress corrosion cracking should be taken into account, especially in an ammoniacal atmosphere and whilst under mechanical stress.

Product standards
Rod EN 12164
EN 12165
Section EN 12167
Hollow rod EN 12168

 Trademarks
Further information is provided in our brochure on drinking water.
### Wieland-Z43

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#### Mechanical properties according to EN

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<tr>
<th>Round rods/polygonal rods</th>
<th>acc. to EN 12164</th>
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