Wieland-Z10

CuZn37Pb0.5 | Machining brass

Material designation

| EN      | CuZn37Pb0.5
| CW604N  |
| UNS     | C33500

Chemical composition*

| Cu     | 57.5 % |
| Pb     | 0.3 %  |
| Zn     | balance |

*Reference values in % by weight

Physical properties*

| Electrical conductivity | MS/m | 14.7 |
| %IACS                  | 25   |
| Thermal conductivity   | W/(m·K) | 113 |
| Thermal expansion coefficient (0–300 °C) | 10^-6/K | 20.4 |
| Density                | g/cm³ | 8.44 |
| Moduls of elasticity   | GPa | 110 |

*Reference values at room temperature

Material properties and typical applications

Wieland-Z10 is a high-copper machining brass which has excellent cold working properties and can still be machined. It is ideal for producing components which are primarily coined, riveted, crimped or flanged and, to a small extent, machined.

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 ammonical atmosphere and whilst under mechanical stress. Dezincification in warm, acidic waters should also be taken into consideration.

Forms 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 %) | 60 % |
| 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 |

Surface treatment

| Polishing                        | excellent |
| mechanical electrolytic          | fair      |
| Electroplating                   | excellent |

Heat treatment

| Melting range                    | 885–910 °C |
| Hot working                      | 720–820 °C |
| Soft annealing                   | 450–650 °C |
| Thermal stress relieving         | 200–300 °C |

Product standards

| Tube | EN 12449 |

Trademarks

Further information is provided in our brochure on Wiconnec.
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## Mechanical properties according to EN

<table>
<thead>
<tr>
<th>Temper</th>
<th>Wall thickness mm</th>
<th>Tensile strength $R_m$ MPa</th>
<th>Yield strength $R_p0.2$ MPa</th>
<th>Elongation $A100$ %</th>
<th>Hardness HV</th>
<th>Hardness HB</th>
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