

# Wieland-Z40

CuZn43Pb2Al | Machining brass

## Material designation

EN	CuZn43Pb2Al CW624N
UNS	no EN standard

## Chemical composition\*

Cu	57.5 %
Pb	2.5 %
Zn	Rest

\*Reference values in % by weight

## Material properties and typical applications

Wieland-Z40 has excellent hot working properties due to its high zinc content and is particularly used for extruded sections with thin wall thicknesses and/or complex geometries.

## Physical properties\*

Electrical conductivity	MS/m %IACS	16.4 28
Thermal conductivity	W/(m·K)	126
Thermal expansion coefficient (0–300 °C)	10 <sup>-6</sup> /K	21.4
Density	g/cm <sup>3</sup>	8.46
Modulus of elasticity	GPa	96

\*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 80 %  
(CuZn39Pb3 = 100 %)

Capacity for being cold worked	poor
Capacity for being hot worked	excellent

### Joining

Resistance welding (butt weld)	fair
Inert gas shielded arc welding	poor
Gas welding	poor
Hard soldering	fair
Soft soldering	excellent

### Surface treatment

Polishing	
mechanical	good
electrolytic	poor
Electroplating	excellent

### Heat treatment

Melting range	880–895 °C
Hot working	650–800 °C
Soft annealing	450–600 °C 1–3 h
Thermal stress relieving	200–300 °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.

## Product standards

Section	EN 12167
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