

MATERIAL DATASHEET
ALLOY 002



Designation	
Diehl Metall	002
DIN EN symbol	CuZn39Pb3
DIN EN	CW614N
UNS	C38500

Composition (mass as %, reference values)	
Cu	58.0
Pb	3.0
Zn	remainder

Application

- Standard material for automated machining. Suitable for all types of turned parts.
- The alloy can be cold formed only to a limited extent.
- The alloy can be used in drinking water installations.

Products and relevant standards

Rods (free machining purposes)	EN 12164
Rods (forging stock)	EN 12165
Hollow rods (free machining purposes)	EN 12168
Profiles (general purposes)	EN 12167

Physical properties

Density	g/cm ³	8.5
Coefficient of linear thermal expansion: 20 – 200 °C	• 10 ⁻⁶ /K	19.97

Processing properties

Machinability (CuZn39Pb3 = 100%)	very good
Hot formability	very good (650 – 760 °C)
Cold formability	less suitable

Mechanical properties and hardness

- The strength properties and hardness values are specified in the relevant product standards.
- The properties depend on the product, the condition and the dimensions.

Heat treatment

Soft annealing	450 – 550 °C	1 – 2 h
Stress relief annealing	280 – 330 °C	1 – 2 h

Corrosion resistance

Generally good resistance to neutral, alkaline and organic aqueous solutions.

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