

MATERIAL DATASHEET
ALLOY 402



Designation		Composition (mass as %, reference values)	
Diehl Brass Solutions	402	Cu	61.5
DIN EN symbol	CuZn36Pb2As	Pb	1.8
DIN EN	CW602N	As	0.1
UNS	C35330	Zn	remainder

Applications

- Alloy 402 is an engineering material of medium strength and good toughness. The material has good hot formability.
- The alloy is particularly suitable for use in aggressive tap water.
- Note: When using the alloy in drinking water applications, the pertinent national regulations and provisions must be observed. In Germany, the following applies: If the alloy does not appear in the positive list of the German Environment Agency (Umweltbundesamt – UBA), it may no longer be installed in drinking water applications after 10.04.2017.
- Rods and profiles used as forging stock are not dezincification-resistant in the as-delivered condition. In order to achieve dezincification resistance, heat treatment at 500-550 °C is required for a duration of 2 hours following forging.

Products and relevant standards		Physical properties		
Rods (forging stock)	EN 12165	Density	g/cm ³	8.45
Hollow rods (free machining purposes)	EN 12168	Coefficient of linear thermal expansion: 20 – 200 °C		
Profiles (general purposes)	EN 12167		• 10 ⁻⁶ /K	20.0
Seamless, round tubes (general purposes)	EN 12449			

Processing properties

Machinability (CuZn39Pb3 = 100%)	good (Index 80)
Hot formability	good
Cold formability	moderate – good

- 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	250 – 350 °C	1 – 2 h

- Corrosion resistance**
- Generally good resistance to neutral, alkaline and organic aqueous solutions.
 - Dezincification-resistant after suitable heat treatment.

Diehl Brass Solutions Stiftung & Co. KG

Heinrich-Diehl-Str. 9 | D-90552 Röthenbach a. d. Pegnitz | Phone +49 911 5704-0 | Email: dbs-sales@diehl.com

www.diehl.com/metall

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