

MATERIAL DATASHEET

ALLOY 057 (ECOMERICA)



Designation	
Diehl Brass Solutions	057 (ECOMERICA)
DIN EN symbol	CuZn42
DIN EN	CW510L(-DW)
UNS	C28500

Composition (mass as %, reference values)	
Cu	58.0
Pb	< 0.2
Zn	remainder

Application

- Low-lead material for automated machining.
- Suitable for all types of turned parts. Very suitable for forgings.
- 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 (general purposes)	EN 12163
Rods (free machining purposes)	EN 12164
Rods (forging stock)	EN 12165
Profiles (general purposes)	EN 12167
Seamless, round tubes (general purposes)	EN 12449

Physical properties

Density	g/cm ³	8.5
Coefficient of linear thermal expansion: 20 – 200 °C	• 10 ⁻⁶ /K	21.4

Processing properties

Machinability (CuZn39Pb3 = 100%)	moderate
Hot formability	good
Cold formability	less suitable

Heat treatment

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

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.

Corrosion resistance

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

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Risk Disclosure

The tests took place under the test conditions mentioned here. In these tests, selected properties of the alloy can be investigated. The test results are based on the test setup shown, which has specific laboratory conditions. Deviating conditions in the field may have significant effects. Aspects which play a decisive role include, in particular, but not exhaustively, the design of the components, the further processing of the alloy, the processing of the finished parts made with the alloy, transport and storage, the manner and location of use, the installation and the installation situation.

When it comes to properties, the corrosion resistance of the material is a key factor. The DIN standard DIN EN ISO 8044 (formerly DIN 50900) defines corrosion as a reaction of a metallic material with its environment that causes a measurable change in the material and can impair the function of a metal component or an entire system. From a technical point of view, corrosion is a reaction of a material with its environment that causes a measurable change in the material. Corrosion can impair the function of a component or system. Corrosion, as a complex system of interactions, depends on a large number of factors which, in their multifariousness, cannot be fully reproduced under test conditions. The type of corrosion known as dezincification, which occurs with zinc-containing copper alloys that are in contact with drinking water, is familiar to the broad expert public.

The purchaser of the alloy is responsible for determining and testing the design, further processing, application areas of products made from the alloy, and any other relevant factors. This is also applicable when determining the dezincification depth that is considered reasonable for the selected area of application. Diehl cannot accept any liability for this, but solely for the information contained in the enclosed product