

AQCUARIN – DEZINCIFICATION-RESISTANT BRASS

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DEZINCIFICATION-RESISTANT BRASS

MATERIAL AND PROPERTIES

Chemical Composition

As already known from CuZn36Pb2As, there are also two alloy variants for **AQCUARIN**: One type is optimized for hot-working processes, the other is ideally suited for machining operations.

Chemical Composition (mass percentage, reference values)					
Cu	64.4 ¹⁾ or 65.7 ²⁾	Al	0.2		
Pb	0.6	Si	0.2		
As	0.06	Zn	remainder		

alloy variant optimized for hot-working processes
alloy variant optimized for machining

AQCUARIN is standardized as CW725R and included in the Positive List of the German Environment Agency (Umweltbundesamt – UBA) as hygienically suitable for contact with drinking water.

The processability of **AQCUARIN** is similar to that of the alloy CuZn36Pb2As.

Processing Properties		
Machinability	good	
Hot workability	good	
Cold workability	moderate	

EXCELLENT DEZINCIFICATION RESISTANCE

GOOD MACHINABILITY

SIGNIFICANTLY REDUCED LEAD RELEASE TO DRINKING WATER

Dezincification-resistant brasses have proven their worth over the past years and decades. And this is why we developed **AQCUARIN**. This alloy fulfills the legal stipulations for drinking water applications while maintaining the proven properties of dezincificationresistant brasses.



Semi-finished products for machining are resistant to dezincification in the as-delivered condition in accordance with the relevant product standards and test methods. After cold working, stress-relief annealing for 1-2 hours at temperatures of < 300°C is recommended. At processing temperatures of > 600°C (also forging), heat treatment at temperatures of between 500°C and 550°C is essential for restoring dezincification resistance.

CuZn36Pb2As



AQCUARIN



Physical Properties

Physical Properties (reference values)		
Density	g/cm ³	8.47
Electrical conductivity	m/($\Omega \cdot mm^2$)	12.8
Thermal conductivity	W/(m · K)	101

Mechanical Properties

The mechanical properties are similar to those of the alloy CuZn36Pb2As and can be derived from the corresponding product standards. The properties also depend in the case of **AQCUARIN** on the product and dimensions.

Corrosion Properties

Brass alloys generally demonstrate good resistance to neutral, alkaline and organic aqueous solutions. Furthermore, **AQCUARIN** has excellent dezincification resistance according to the relevant product standards and EN ISO 6509.

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HYGIENE & HEALTH

Also due to its low lead content of 0.6%, **AQCUARIN** is excellently suited to drinking water applications, while still retaining its characteristically favorable processing properties.



ECOLOGICAL ASPECTS

As a typical copper material, AQCUARIN conserves our scarce resources. Furthermore, AQCUARIN can be completely recycled, since an outstanding recycling system is already in place.

Recycling not only conserves raw materials, but also helps to save energy. After all, recycling copper means that the energy associated with ore mining as well as with preparation and transport to the processing sites is rendered unnecessary.

For example, the energy input for melting down the scrap material is only a fraction of what is required for metal extraction from ores. Thus, AQ-**CUARIN** has the favorable energy balance typical of copper materials.

Support us!

Contribute to the positive energy balance of AQCUARIN. Ensure that this material is sorted and separated at every stage of the recycling system (from dismantling to raw material recycling).

For the sake of the environment!





Products and Dimensions	
Rods, drawn	EN 12164
Rods, extruded	EN 12165
Profiles (general use)	EN 12167
Rods, hollow	EN 12168
Tubes	EN 12449

Based on the intended application, you can download all relevant specifications from our website. In our material specifications you will find a list of the physical, thermal, mechanical as well as resistance properties. If you have any questions on the materials and the processing thereof, please feel free to call our experts or send us your inquiry directly.

Risk Disclosure

ioned here. In these tests, selected properties of the alloy can be investigated. The test results are based on the test setu nown, 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 chaustively, 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

erties, 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 s 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 poi sion 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 plex system of interactions, depends on a large number of factors which, in their multiformity, cannot be fully re ing copper alloys that are in contact with drinking water, is familiar to the broad exp

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 relev factors. This is also applicable when determining the dezincification depth that is considered reasonable for the selected area of application. Diehl cannot accept any liabit but solely for the information contained in the enclosed product data sheet

You can also find the information here on our website.



ed under test conditions. The type of

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