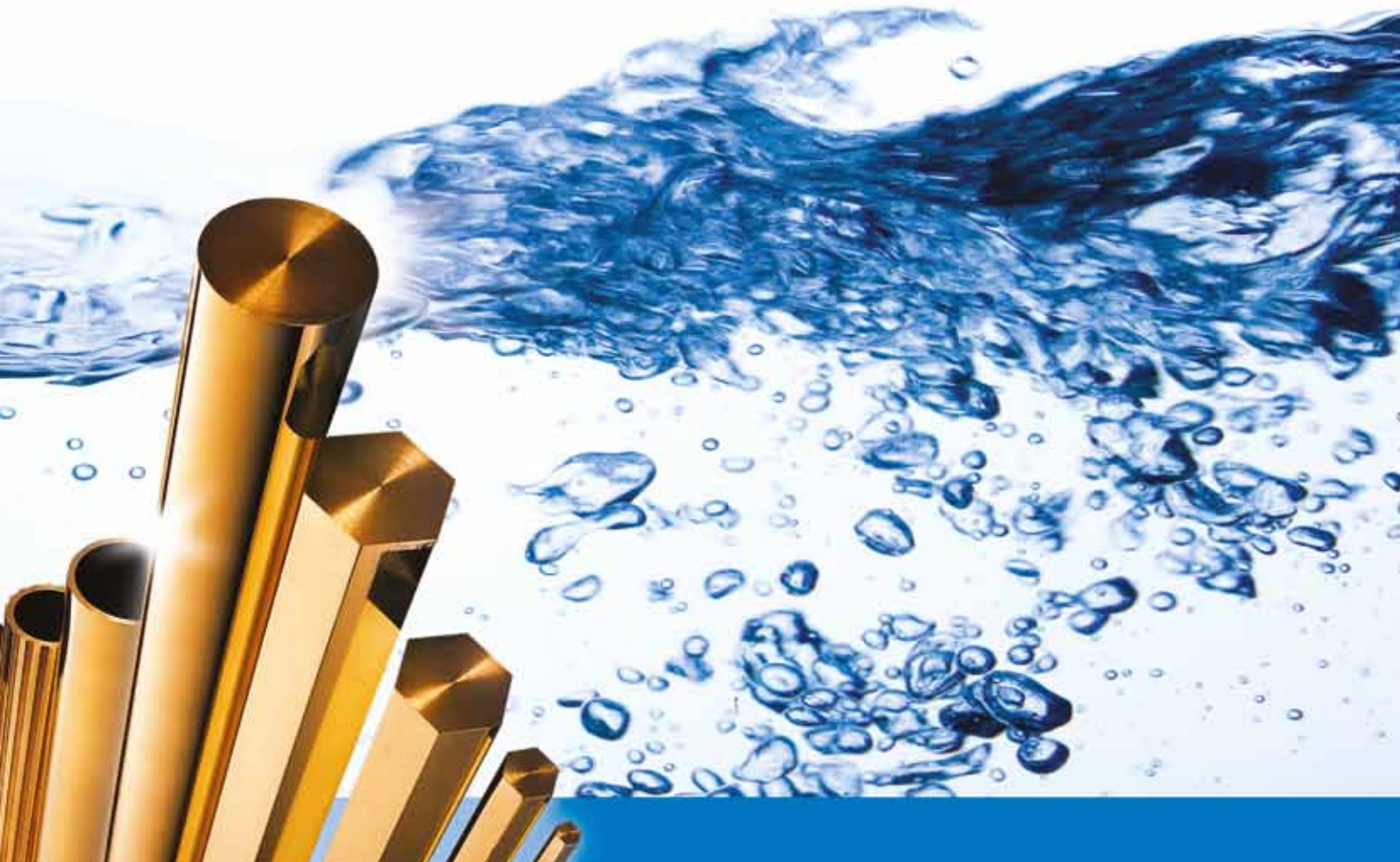
AQCUARIN®

FOR DRINKING WATER APPLICATIONS

DEZINCIFICATION-RESISTANT BRASS OF THE NEXT GENERATION



AQCUARIN®

Our dezincification-resistant brass of the next generation represents:

- EXCELLENT DEZINCIFICATION-RESISTANCE
- GOOD MACHINABILITY
- LEAD EMITTING INTO DRINKING WATER CONSIDERABLY REDUCED

Dezincification-resistant brasses have been well-established during the last years and decades. The dezincification-resistance in aggressive water qualities has also been proven.

However, for the established DZR alloys eg. CW 602 N, the lead emitting into drinking water is still too high and needs to be reduced to comply with the most recent drinking water regulations. Therefore, AQCUARIN has been developed to fulfill the stricter requirements for drinking water applications and to maintain the well-established properties of dezincification-resistant brasses.

Chemical Composition:

There are two versions of AQCUARIN available — as already known of CuZn36Pb2As. One version is optimized for hot-forming processes, the other is ideally suited for machining operations.

(reference values in % by weight)

Cu	64.4[1] resp. 65.7[2]	Al	0.2
Pb	max. 0.6	Si	0.2
As	0.06	Zn	rem.

1) optimized for hot-forming processes
2) optimized for machining operations

AQCUARIN is standardized as CW725R and listed in both UBA- and 4MS list.

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Processing Properties:

Since AQCUARIN does have a reduced lead content, good machinability can be achieved using adjusted cutting parameters.

Machinability	good
Hot Workability	good
Cold Workability	moderate

AQCUARIN as semi-finished product for machining is dezincification-resistant according to EN ISO 6509. After cold forming an annealing of < 300°C for 1–2 hours is recommended. After processing at temperatures > 600° C (forging as well) a heat treatment of 500–550 °C is essential to restore dezincification resistance.

CuZn36Pb2As

AQCUARIN

Physical Properties:

(reference values)

Density	8.47 g/cm³
Electrical Conductivity	12.8 m/Ohm · mm²
Thermal Conductivity	101 W/mK

Mechanical Properties:

Mechanical properties are similar to those of alloy CuZn36Pb2As and can be taken from the corresponding product standards. The properties of all dezincification-resistant brasses — as well as of AQCUARIN — depend on product and dimensions.

Corrosion Properties:

Brass alloys show in general a good corrosion-resistance in neutral, alkaline and organic fluids. Furthermore, AQCUARIN has an excellent dezincification-resistance according to the dezincification test ISO 6509 and the standards EN 12164, 12165, 12167, 12168 and 12449.

HYGIENE AND HEALTHINESS

Although AQCUARIN has a lead content of max. 0.6 % and therefore a good machinability, lead emitting into drinking water is by far reduced due to the alloy composition in comparison to CuZn36Pb2As.

ECOLOGY

AQCUARIN as a typical brass material prevents the shortage of our limited natural resources.

It is long-lasting and does not wear out. AQCUARIN is environment-friendly as it is totally recyclable.

Recycling does not only help to protect our raw materials but saves energy as well. By recycling copper and copper alloys the energy required for mining, refining and transporting can be omitted.

Furthermore, the energy consumption which is necessary for melting the scrap is minimal compared with the energy required for ore mining.

AQCUARIN has a very favourable energy balance which is well-known for copper materials.

AQCUARIN®

Support us!

Take your part in the positive energy balance of AQCUARIN. Please separate this alloy from all other materials during each step of the recycling process.

For a better environment!

Products and Dimensions:
(in accordance with CuZn36Pb2As)

Rods drawn	EN 12164
Rods extruded	EN 12165
Profiles	EN 12167
Hollow Rods	EN 12168
Tubes	EN 12449

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