

# Wieland-M41

CuZn38As | Low leaded brass

## Material designation

EN CuZn38As  
CW511L

UNS C27453

## Chemical composition\*

Cu 63 %

Zn balance

Pb 0.2 %

As 0.1 %

\*Reference values in % by weight

## Physical properties\*

Electrical conductivity MS/m 14.7  
%IACS 25.4

Thermal conductivity W/(m·K) 114

Thermal expansion coefficient (0–300 °C) 10<sup>-6</sup>/K 21.7

Density g/cm<sup>3</sup> 8.41

\*Reference values at room temperature

## Corrosion resistance

Brass is generally quite resistant against organic substances as well as neutral or alkaline compounds. After exposure to temperatures > 600 °C a thermal treatment at 500–550°C / 2–3 h is necessary to ensure optimal dezincification resistance. Stress corrosion cracking should be taken into account, especially in an ammoniacal atmosphere and whilst under mechanical stress.

## Product standards

Rod EN 12163  
EN 12164

En 12165

Wire EN 12167

Tube EN 12168

## Material properties and typical applications

**Wieland-M41** is a low leaded material suited for the use in drinking water applications. It can be used for water qualities that require dezincification resistant material. M41 can be used where no high mechanical stresses occur. This alloy meets the requirements for dezincification resistant material according to ISO 6509.

Material accepted for products in contact with drinking water as per 4 MS positive list.

## Types of delivery

The BU Extruded Products supplies bars, wire, sections and tubes. Please get in touch with your contact person regarding the available delivery forms, dimensions and tempers.

## Fabrication properties

### Forming

Machinability 50 %  
(CuZn39Pb3 = 100 %)

Capacity for being cold worked good

Capacity for being hot worked fair\*

### Joining

Resistance welding (butt weld) fair\*

Inert gas shielded arc welding fair\*

Gas welding fair\*

Hard soldering excellent\*

Soft soldering excellent

\* see section „Corrosion resistance“

### Surface treatment

Polishing mechanical excellent

electrolytic good

Electroplating excellent

### Heat treatment

Melting range 850–900 °C

Hot working 600–800 °C

Soft annealing 450–550 °C  
1–3 h

Thermal stress relieving 200–250 °C  
1–3 h

## Trademarks



Further information is provided in the brochures on Ecomerica and on drinking water.

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## Mechanical properties according to EN

Round rods/polygonal rods												acc. to EN 12163	
Temper	Diameter		Width across flats		Tensile strength R <sub>m</sub>	Yield strength R <sub>p0.2</sub>		Elongation %			Hardness		
	mm		mm		MPa	MPa		A100	A11.3	A	HB		
	from	to	from	to	min.	min.	max.	min.	min.	min.	min.	max.	
M	all		all		as manufactured – without specified mechanical properties								
R280	6	80	5	60	280	–	200	–	25	30	–	–	
H070	6	80	5	60	–	–	–	–	–	–	70	110	
R320	6	60	5	50	320	200	–	–	15	20	–	–	
H090	6	60	5	50	–	–	–	–	–	–	90	135	
R400	4	15	4	13	400	250	–	–	5	8	–	–	
H105	4	15	4	13	–	–	–	–	–	–	105	–	

Rods					acc. to EN 12165	
Temper	Diameter			Hardness		
	mm			HB		
	from	to		min.	max.	
M	20					
H070	8	120		70	150	