

Wieland-MA1

CuZn30As | Brass (lead free/dezincification resistant)

Material designation

EN	CuZn30As CW707R
UNS	not standardized

Chemical composition*

Cu	70 %
Pb	< 0.07 %
As	0.02 – 0.06 %
Zn	balance

*Reference values in % by weight

Physical properties*

Electrical conductivity	MS/m %IACS	16.3 28
Thermal conductivity	W/(m·K)	126
Thermal expansion coefficient (0–300 °C)	10 ⁻⁶ /K	19.7
Density	g/cm ³	8.55
Modulus of elasticity	GPa	114

*Reference values at room temperature

Corrosion resistance

Brass with medium copper content is generally resistant to fresh water, organic substances, neutral or alkaline compounds as well as land, marine and industrial atmospheres. Furthermore, resistance to dezincification has been improved through the addition of arsenic.

Product standards

Tube	EN 12451
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Material properties and typical applications

Wieland-MA1 is a dezincification resistant brass with excellent cold working properties and a pure α -structure. This alloy is used for applications in warm, acidic waters. It is standardized according to EN 12451 for heat exchanger tubes and is increasingly used in the UK and Australian markets.

Wieland-MA1 is also suitable for coining, riveting, crimping, flanging, cold extrusion or other cold working operations.

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 (CuZn39Pb3 = 100 %)	25 %
Capacity for being cold worked	excellent
Capacity for being hot worked	fair

Surface treatment

Polishing	
mechanical	excellent
electrolytic	excellent
Electroplating	excellent

Joining

Resistance welding (butt weld)	good
Inert gas shielded arc welding	fair
Gas welding	good
Hard soldering	excellent
Soft soldering	excellent

Heat treatment

Melting range	910–965 °C
Hot working	750–870 °C
Soft annealing	450–680 °C 1–3 h
Thermal stress relieving	200–300 °C 1–3 h

Wieland-MA1

CuZn20 | Brass (lead free/ dezincification resistant)

Mechanical properties according to EN

Tubes						acc. to EN 12451	
Temper	Tensile strength R_m	Yield strength $R_{p0.2}$	Elongation %	Expansion %	Hardness		
	MPa	MPa	A100		HV		
	min.	min.	min.	min.	min.	max.	
R340	340	130	45	30	-	-	
H075	-	-	-	30	75	105	