

Wieland-L72

CuNi7Si2Cr | Age hardening Copper-Nickel alloy

Material designation

EN	not standardized
UNS	not standardized

Chemical composition*

Cu	rest
Ni	7%
Si	2%
Cr	1%
Pb	0,02%

*Reference values in % by weight

Material properties and typical applications

Wieland-L72 is a thermally age-hardenable alloy and can be adjusted to the application in its delivery condition. The alloy has high strength with good thermal conductivity and corrosion resistance. The alloy also offers excellent high-temperature strength and wear resistance.

Typical applications include components for injection mold construction in the plastics industry, die-cast pistons, bearing and guide bushes, guide rails and sliding elements, also in areas subject to high temperatures.

This alloy is also used for highly stressed connection elements with special requirements for corrosion and weather resistance.

Physical properties*

Electrical conductivity	MS/m	>16**
	%IACS	>27**
Thermal conductivity	W/(m·K)	135

Thermal expansion coefficient (0–300°C)	10 ⁻⁶ /K	16
Density	g/cm ³	8,76
Modulus of elasticity	GPa	105

*Reference values at room temperature

** guide value, depend on delivery condition

Types of delivery

The BU Global Extruded & Cast 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%)	30%
Capacity for being cold worked	poor
Capacity for being hot worked	fair

Surface treatment

Polishing mechanical	good
electrolytic	fair
Electroplating	good

Corrosion resistance

Copper alloys generally exhibit good resistance to organic substances and neutral or alkaline compounds. Insensitive to stress corrosion cracking.

Joining

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

* high temperatures change the ageing condition

Heat treatment

Melting range	1060 - 1080°C
Hot working	800 - 900°C
Soft annealing	> 850°C
Age hardening	420 - 500°C

Product standards

Rod	not standardized
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