wieland

Wieland-K88

CuCrAgFeTiSi | High copper alloy

Material designation

EN	not standardized
UNS	C18080

Chemical composition*

Cr	0.5 %
Ag	0.2 %
Fe	0.08 %
Ti	0.06 %
Si	0.03 %
Cu	balance

**Reference values in % by weight*

Material properties and typical applications

Wieland-K88 is a high-copper and precipitation hardened alloy. It provides an optimised combination of good electrical and thermal conductivity as well as a high strength. Another important advantage of this alloy is the good stress relaxation resistance at elevated temperatures up to 200 °C.

This material can be optimised in terms of its conductivity or its strength when applying different hardening methods. Therefore, conductivity and strength should be agreed when ordering.

Physical properties*

Electrical conductivity	MS/m %IACS	46 79
Thermal conductivity	W/(m·K)	320
Thermal expansion coefficient (0–300 °C)	10^{-6}/K	17.6
Density	g/cm³	8.92
Moduls of elasticity	GPa	140

**Reference values at room temperature*
*** depending on dimension and shape; see back side of this data sheet)*

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 %)	30 %
Capacity for being cold worked	excellent
Capacity for being hot worked	poor

Surface treatment

Polishing	
mechanical	good
electrolytic	good
Electroplating	good

Joining

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

** high temperatures have an impact on the precipitation hardening*

Heat treatment

Melting range	1,080–1,100 °C
Hot working	800–1,000 °C

Corrosion resistance

Wieland-K88 has good corrosion resistance in natural atmosphere (including seawater atmosphere) and industrial atmosphere. In different waters and neutral saline solutions, it exhibits better resistance to corrosion through abrasion and pitting than Cu-DHP. Wieland-K88 is unsusceptible to stress corrosion cracking.

Product standards

not standardized

Trademarks

WITRONIC®

Further information is provided in the brochure on WITRONIC.

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