Wieland-K55
CuNi3SiMg | High copper alloy

Material designation
EN –
UNS C70250

Chemical composition*
Cu balance
Ni 3 %
Si 0.65 %
Mg 0.15 %
Pb < 0.05 %
* Reference values in % by weight

Physical properties*
electrical conductivity in precipitation hardened condition MS/m 29
%IACS 50
Thermal conductivity W/(m·K) 190
Thermal expansion coefficient (0–300 °C) 10^-6/K 17.6
Density g/cm³ 8.82
Modulus of elasticity GPa 130
* Reference values at room temperature

Material properties and typical applications
Wieland K55 is a high-performance alloy with low contents of nickel and silicon. It is precipitation hardened and exhibits high strength, good electrical conductivity and good bending properties. Moreover, it possesses excellent resistance to stress relaxation at elevated temperatures of up to 200 °C.

The material is lead free according to RoHS and ELV.

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 good
Capacity for being hot worked poor

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

Corrosion resistance
Wieland-K55 has good corrosion resistance in natural atmosphere. It is insensitive to stress corrosion cracking.

Surface treatment
Polishing mechanical good
electrolytic good

Heat treatment
Melting range 1,040–1,085 °C
Hot working 800–950 °C
Soft annealing 600–700 °C 1–3 h
Thermal stress relieving –

Forming
Polishing mechanical good
electrolytic good
Electroplating good

Surface treatment
Polishing mechanical
electrolytic good

Heat treatment
Melting range 1,040–1,085 °C
Hot working 800–950 °C
Soft annealing 600–700 °C 1–3 h
Thermal stress relieving –

Product standards
nicht genormt

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Inert gas shielded arc welding excellent
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Tradesmarkens

Further information is provided in our brochures on WITRONIC and WI-CONNEX.

Wieland-Werke AG | Graf-Arco-Straße 36 | 89079 Ulm | Germany
info@wieland.com | wieland.com

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