

Wieland-K41

CuNi1Pb1P | Machinable high copper alloy

Material designation

EN	–
UNS	C19150/C19160

Chemical composition*

Cu	balance
Ni	1 %
Pb	1 %
P	0.25 %

*Reference values in % by weight

Physical properties*

Electrical conductivity	MS/m	32
	%IACS	55
Thermal conductivity	W/(m·K)	245
Thermal expansion coefficient (0–300 °C)	10 ⁻⁶ /K	18
Density	g/cm ³	8.92
Modulus of elasticity	GPa	124

*Reference values at room temperature at the precipitation hardened condition

Corrosion resistance

Pure copper and high-copper alloys generally exhibit good corrosion resistance due to their precious character and are practically insensitive to stress corrosion cracking.

Product standards

not standardized

Material properties and typical applications

Wieland-K41 is a high-copper alloy combining high strength with high electrical conductivity and good machining properties. The alloy is delivered in the precipitation hardened condition and, due to its lead content, particularly suitable for machined connector pins in the electrical and electronic industry.

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 %)	70 %
Capacity for being cold worked	good
Capacity for being hot worked	fair

Surface treatment

Polishing	
mechanical	good
electrolytic	good
Electroplating	excellent

Joining

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

Soft soldering good*

*high temperatures can change material properties

Heat treatment

Melting range	1,074–1,080 °C
Hot working	700–900 °C
Soft annealing	700–750 °C 1–3 h

Trademarks



Further information is provided in our brochure on Wiconnec.