

Wieland-K41
CuNi1Pb1P
Machinable high-copper alloy

**Extruded and
drawn products**



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 %IACS	32 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 in 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 Extruded and Drawn Products Division 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		Surface treatment	
Machinability (CuZn39Pb3 = 100 %)	70 %	Polishing	
Capacity for being cold worked	good	mechanical	good
Capacity for being hot worked	fair	electrolytic	good
		Electroplating	excellent
Joining		Heat treatment	
Resistance welding (butt weld)	fair	Melting range	1074–1080 °C
Inert gas shielded arc welding	fair	Hot working	700–900 °C
Gas welding	fair	Soft annealing	700–750 °C 1–3 h
Hard soldering	fair		
Soft soldering	good		

Trademarks



Further information is provided in our brochure on WICONNEC.