

Wieland-BC9

Nickel-free alloy

Material designation	
EN	not standardized
UNS	not standardized

Chemical composition*	
Sn	15 %
Fe	1 %
Ti	0.1 %
Cu	balance
Pb	≤ 90 ppm
Cd	< 50 ppm

*Reference values in % by weight

Physical properties*		
Electrical conductivity	MS/m %IACS	5 8
Thermal conductivity	W/(m·K)	50
Thermal expansion coefficient (0–300 °C)	10 ⁻⁶ /K	
Density	g/cm ³	8.79
Modulus of elasticity	GPa	96

*Reference values at room temperature
 1 GPa = 1 kN/mm²
 1 MS/m = 1 m/(Ohm x mm²)

Corrosion resistance

CuSn alloys exhibit good corrosion resistance to atmospheric influences, organic substances (sweat, environmental influences) as well as alkaline and neutral saline solutions.

Product standards

none

Mechanical properties of wire round rods and sections, typical values			
Temper	Tensile strength [R _m]	Elongation [%]	Hardness
	MPa	A100	HV10
Soft	600	45	140
Hard	750–850	20	180–250

Please ask for available dimensions.

Material properties and typical applications

Wieland-BC9 is nickel-free and therefore highly suitable for products for everyday use that come into direct contact with the skin. The alloy is characterized by very high mechanical strength combined with good elongation. The golden, very decorative surface can easily be polished and coated. Also in the uncoated condition the surface keeps its golden color over longer periods. Processing (cold and hot forming, machining, polishing, joining, coating) is done with usual equipment and tools.

With its reduced contents of lead and cadmium our Wieland-BC9 meets the requirements of the Oeko-Tex Standard 100 product class I and of the CPSIA.

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 tempsers.

Fabrication properties

Forming		Surface treatment	
Machinability (CuZn39Pb3 = 100 %)	40 %	Polishing mechanical	excellent
Capacity for being cold worked	good	electrolytic	excellent
Capacity for being hot worked	good	Electroplating	excellent

Joining

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

Heat treatment

Melting range	900–950 °C
Hot working	640–700 °C
Soft annealing	600–700 °C 1–3 h
Thermal stress relieving	300–400 °C 1–3 h