

Wieland-K30 Copper Cu-OF

Extruded/drawn products

Wieland-K30 is a very pure, oxygen-free copper with high electrical and thermal conductivity. The material is resistant to heat treatment in reducing atmosphere. Therefore, joining operations such as soldering and welding are possible without restriction.

Chemical composition*

Cu	≥99.95 %
oxygen-free	
non-deoxidized	

Material designation

EN	Cu-OF, CW008A
UNS	C10200
DIN*	OF-Cu, 2.0040
BS*	C103
NF*	Cu-c1

* Reference values in % by weight

* Former national standards

Physical properties*

Electrical conductivity	MS/m	≥58
	% IACS	100
Thermal conductivity	W/(m*K)	>394
Thermal expansion coefficient (0-300°C)	10 ⁻⁶ /K	17.7
Density	g/cm ³	8.94
Modulus of elasticity	GPa	127

Fabrication properties

Forming

Machinability	20%
(CuZn39Pb3 = 100 %)	
Capacity for being cold worked	excellent
Capacity for being hot worked	fair

Joining

Resistance welding	good
Inert gas shielded arc welding	excellent
Hard soldering	excellent
Soft soldering	excellent

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.

* Reference values at room temperature

1 GPa = 1 kN/mm²

1 MS/m = 1 m/Ω • mm²

Surface treatment

Polishing	mechanical	good
	electrolytic	excellent
Electroplating		excellent

Heat treatment

Melting point	1083°C liquidus
Hot working	750 - 900°C
Soft annealing	250 - 500°C, 1-3h
Thermal stress-relieving	150 - 200°C, 1-3h

Product standards

Rod	EN 13601
Wire	EN 13601
Section	EN 13605
Tube	EN 13600

Mechanical properties (values can be achieved and are a function of size and form)

Reference values	from (soft)	to (hard)
R _m [MPa]	230	390
R _{p0.2} [MPa]	70	350
A ₁₀ [%]	50	3
HB	50	110

Forms and sizes available

Material										
Wieland	EN designation		Outside diameter		Wall thickness		Circumscribing diameter		Diameter / width across flats	
	Brief designation	Number	from	to	from	to	from*	to	from	to
K30	Cu-OF	CW008A	6	300	0,3	20				
Round tubes										
Drawn sections							2.5	150		
Extruded sections								150		
Sectional tubes								230		
Round and polygonal rods									2	250
Round wires									0.3	
Polygonal wires									2	

All values in mm

* Depending on the form, cross-sections in the lower size range are also available as wire.

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