

Wieland-K65 is a high copper alloy with high mechanical strength.

Material designation	
Wieland-K65	
EN	CuFe2P
	CW107C
UNS*	C19400

* *Unified Numbering System (USA)*

Typical applications
Tubes for air conditioning and refrigeration
Tubes for high-pressure applications
Brake line tubing

Physical properties*		
Thermal conductivity	W/(m·K)	>260
Coefficient of thermal expansion	(between 0 and 300 °C)	17.6x 10 ⁻⁶ /K
Density	g/cm ³	8.91
Modulus of elasticity	GPa	123
Specific heat capacity	J/(g·K)	0.385

* *Reference values at room temperature*

According to DIN EN 12449			
Chemical composition		Mechanical properties (annealed)	
Fe	2.10–2.60 %	R _m min.	>300 N/mm ²
Zn	0.05–0.20 %	R _{p0.2} max.	250 N/mm ²
P	0.015–0.15 %	A min.	>25 %
Pb	max. 0.03 %		
Cu	balance		

For the calculation of the required wall thickness see VdTÜV Material Sheet 567

Temper (DIN EN12449)	
R300	soft annealed
R420	hard

Joining	
Brazing	excellent
Soft soldering	excellent
Inert gas shielded arc welding	excellent
Resistance welding	good
Laser welding	good

Corrosion resistance
Wieland-K65 is insensitive to stress corrosion cracking. Wieland-K65 exhibits good resistance in natural atmosphere (also marine atmosphere) and industrial atmosphere. It has a better resistance to erosion and pitting corrosion than Cu-DHP in different types of water and neutral saline solutions.

Fabrication properties	
Cold working	excellent
Electroplating	excellent
Hot-dip tinning	excellent
Machinability	poor

Sizes available					
Type of delivery		Outside diameter mm*	Manufacture	Temper	Identification
Straight lengths (max. 7800 mm)	plain	5–54	seamless	hard or annealed	The tubes are marked (see Wieland company standards)
	inner-grooved	5–16	seamless	hard or annealed	
Level-wound coils (LWC) (coil weight on request)	plain	5–16	seamless	hard or annealed	
	inner-grooved	5–16	seamless	hard or annealed	

* *Wall thicknesses and other sizes on request*

Relevant standards and specifications
VdTÜV Material Sheet 567 Seamless drawn tubes in CuFe2P (CW107C) Wieland K65
DIN EN 12449 Seamless, round tubes for general purposes
Wieland R-1084 Seamless drawn plain or inner-grooved copper tubes in K65 in LWC for pressure vessels and piping
Wieland R-1085 Seamless drawn plain or inner-grooved copper tubes in K65 in straight lengths for pressure vessels and piping