

Wieland-LV7

Wire

Wieland-LV7 is a copper-nickel-manganese alloy which is hardening, easily reaching the strength of high strength steel and beryllium-copper.

LV7 combines high strength, non-magnetizability and corrosion resistance. Spring properties are excellent. Its colour resembles stainless steel.

Chemical Composition

Cu	balance
Mn	20 %
Ni	20 %

Material Designation

Wieland-LV7 is not standardized.

Physical Properties

Electrical conductivity MS/m % IACS	1,3 2
Thermal conductivity W/(m•K)	10
Density g/cm ³	8,25
Modulus of elasticity kN/mm ²	125

* Reference values at room temperature
1 N/mm² = 1 Mpa
1 MS/m = 1 m/Ω • mm²

Processing Properties

Machining and Forming

Machinability
Cold workability
Hot workability

Surface Treatment

Mechanical polishing
Electro plating

Heat Treatment

Hot working	800 - 850 °C
Soft annealing	650 °C
Hardening	on request
Thermal stress release	250 - 280 °C

Corrosion Resistance

The corrosion resistance of Wieland-LV7 is as good as that of lead-free nickel silvers.

Mechanical Properties (indicated for wire)

Reference values*	soft	as-drawn	spring hard	extra spring hard
R _m [N/mm ²]	450	> 990	> 1250	> 1550
R _{p0,2} [N/mm ²]	180	> 940	> 1150	> 1500
A ₅ [%]	35	> 4,0	1,0 ± 0,5	ca. 0,3
HB	120	230		

*Reference values can be achieved with standard production.

LV7 wire is available in sizes Ø 0.3 mm up to Ø 4.5 mm.

Further cold work to smaller diameters and profiled wire is easily possible.

Sizes available

Material			wire	
Wieland	EN-designation	Number	Diameter mm	
	Brief designation		from	to
LV7			0.3	4,5

Wieland

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