

Copper-Magnesium SF02



Material Designation		Nominal Composition (mass content in %)		About the Alloy
Sundwiger	SF02	Cu	Balance	Wire made of the copper magnesium alloy SF02 belong to low-alloyed copper materials which are characterized by very good electrical conductivity as well as by excellent mechanical properties.
DIN-EN Symbol	CuMg0,2	Mg	0,2	
DIN-EN	CW127C	P	≤ 0,01 %	
UNS	C18661	Others	≤ 0,1 %	

Typical Applications	Mechanical Properties*
<ul style="list-style-type: none"> Conductor and connector wire Pins Telecommunications cable Wire harnesses 	Tensile strength in N/mm ² , soft
	270 - 340
	Elongation A100 in %, soft
	> 30
	Tensile strength in N/mm ² , hard
	≥ 670

Physical Properties*		
Electrical conductivity	≥45,2 ≥78	MS/m % IACS
Thermal conductivity	310	W/(m·K)
Thermal expansion coefficient**	17	10 ⁻⁶ /K
Density	8.9	g/cm ³
Modulus of elasticity	125	GPa = kN/mm ²
* Reference values at room temperature		
** Between 20 and 300 °C		

Compared to copper, SF02 in cold work-hardened condition is characterized by significant higher strength, essentially better softening performance, and outstanding behaviour under reversed bending stresses. SF02 offers good cold forming performance and fine drawability.

Due to its physical properties this wire material is predestined to be used in automotive power systems, e.g. in terms of miniaturized cross sections of wiring harnesses. SF02 does not contain any cadmium and is characterized by high purity of its alloy components. As many other copper alloys produced by Sundwiger Messingwerk, SF02 is also one of the „green materials“ and can be recycled easily.

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Available Dimensions		
Round wire	1,2 - 2 mm in coils	max. 100 kg
	0,5 - 2 mm on reels	max. 1000 kg
	1,5 - 3 mm on acropaks	max. 400 kg
	On request: in drums	max. 400 kg

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