

Copper-Magnesium SF02



Material Designation	
DMA Symbol	SF02
DIN-EN Symbol	CuMg0,2
DIN-EN	CW127C
UNS	C18661

Nominal Composition (mass content in %)	
Cu	Balance
Mg	0.2
P	≤ 0.01 %
Others	≤ 0.1 %

About the Alloy

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.

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 Diehl Metal Applications, SF02 is also one of the „green materials“ and can be recycled easily.

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

Mechanical Properties*	
Tensile strength soft N/mm ²	270 - 340
Elongation soft A100 in %	> 30
Tensile strength hard N/mm ²	≥ 670

* Reference values

Typical Applications

- Conductor and connector wire
- Pins
- Telecommunications cable
- Wire harnesses

Available Dimensions

Round wire	Dimensions	Weight
	1.2 - 2 mm in coils	max. 100 kg
	0.5 - 2 mm on reels	max. 1000 kg
	1.5 - 2 mm on acropaks	max. 400 kg
	On request: in drums	max. 400 kg

Your Contact Person

Worldwide

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