

Copper Alloy CuNi2SiCr

CuNi2SiCr is a thermal curable copper alloy. Typical for CuNi2SiCr is a favorable combination of **electrical and thermal conductivity** accompanied by high stiffness, also at elevated temperatures. This copper alloy features a high corrosion resistance and is very well suited for wear and sliding applications. Furthermore, CuNi2SiCr fulfills the requirements of a conductive contact material in electrical engineering and for electrodes in welding.

CuNi2SiCr is used for tooling because of its strong hardness and its high level of wear resistance. Furthermore, CuNi2SiCr-alloy is very well suited for **highly thermally-stressed construction elements and for the use of a beryllium-free copper alloy.**

Mechanical Properties			
	Test Method	As Built	Precipitation Hardening
Tensile Strength	DENI EN 10002	Approx. 250 ± 10 MPa	Approx. 630 ± 50 MPa
Yield Strength (Rp 0.2%)	DENI EN 10002	Approx. 190 ± 10 MPa	Approx. 580 ± 50 MPa
Elongation at Break	DENI EN 10002	Approx. 34 ± 5%	Approx. ~ 10 %
Young's Modulus	-----	Approx. 90 ± 5 GPa	Approx. 130 ± 10 GPa
Hardness	-----	-----	HB 220
Thermal Properties			
Thermal Conductivity		90 W/mK	190 W/mk
Electrical Properties			
Electrical Conductivity		8 MS/m	23 MS/m

Chemical Composition	
Cu	Balance
Ni	2 - 2,5 %
Si	0,65 %
Cr	0,45 %
Ti	< 0,03 %
Co	< 0,02 %
Fe	< 0,02 %

Physical Composition	
Relative Density	Approx. 99,8 %
Density	8,85 g/cm ³