

Copper Alloy CuNi2SiCr

Properties

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.

Application

- Cooling inserts for tools
- Electromechanical components
- Mold inserts and cores for plastic and die castings
- Valves
- Brackets and fixing elements facing high stresses

Chemical composition

Cu	Ni	Si	Cr
Basis	1,80 – 3,00	0,40 – 0,70	0,10 – 0,80

in wt%

Mechanical Properties

Material Characteristics	Unit	As Built	Precipitation Hardened
Tensile strength	MPa	251 ± 10	595 ± 10
Yield Point (Rp0,2%)	MPa	192 ± 10	508 ± 10
Elongation at break	%	34 ± 5	15 ± 5
E-Modulus	GPa	89 ± 5	97 ± 5

This data sheet contains approximate values. These values are influenced by part's geometry, additives, and environmental influences. They were developed based on current experiences and knowledge. Therefore, the above mentioned properties cannot be claimed legally binding nor can a definite purpose be derived.