ISABELLENHÜTTE

A-COPPER 11

Form of Delivery

A-COPPER 11 is supplied in the form of wires with dimensions from 0.05 to 12 mm Ø in bare condition. Enamelled wires are available in dimensions between 0.05 and 1.5 mm Ø. A-COPPER 11 can also be supplied in form of stranded wire, ribbon, flat wire and rods. Please contact us for the range of dimensions.

Brand Name	A-COPPER 11
Material Code	
Abbreviation	SNCA / SNCB RNCA / RNCB

Chemical Composition (mass components) in %.
Average values of alloy components

Cu	Ni	Mn
Balance	3	2

Thermoelectrical and Electrical Values in Soft-Annealed Condition[1)]

EMF versus Cu/NIST 175 0 – 100 °C / mV	EMF versus Pt67/NIST 175 0 – 100 °C / mV	EMF versus Cu 0 – 200 °C / mV	EMF versus Pt67/NIST 175 0 – 200 °C / mV	Electrical resistivity in µΩ x cm at 20 °C
– 0.645 / – 0.646	+ 0.128 / + 0.127	– 1.441 / –1.469	+ 0.396 / + 0.368	12
SC/RC	SC/RC	SC/RC	SC/RC	

Physical Characteristics (Reference Values)

Density at 20 °C	Melting point	Specific heat at 20 °C	Thermal conductivity at 20 °C	Average linear thermal expansion coefficient between 20 °C and 100 °C	Magnetic at room temperature
g/cm^3	°C	J/g K	W/m K	10^{-6}/K	
8.9	1080	0.38	around 200	18.0	no

Mechanical Properties at 20 °C in Annealed Condition [2)]

	Tensile strength MPa	Elongation %	Hardness HV10
hard	> 500	2	> 170
soft	320	33	90

1) The exact EMF values according to NIST 175 can be calculated with the "EMF-Software", which can be downloaded from our homepage.
2) The mechanical values considerably depend on dimension. The indicated values refer to a dimension of 1 mm diameter.

Notes on Treatment

A-COPPER 11 is easy to process. The alloy can be soldered and brazed without difficulty.
All known welding methods are applicable.

Features and Application Notes

A-COPPER 11 is used as negative leg for the compensating lead for thermocouple types Pt10Rh-Pt and Pt13Rh-Pt. A-COPPER 11 is standardized in the temperature range between 0 and 200 °C.

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