



Brand Name	ISA®-SIL				
Material Code					
Abbreviation	NNC / CPC				
Chemical Composition (mass components) in %. Average values of alloy components					
Cu	Ni	Mn	Fe		
Balance	44	3	2		

Features and Application Notes

ISA®-SIL is used as negative leg for the compensating lead type NC and as positive leg for the compensating lead type CC. ISA®-SIL is standardized in the temperature range between 0 and +150 °C. Isabellenhütte supplies ISA®-SIL in standardized tolerances up to +200 °C.

Form of Delivery

ISA®-SIL is supplied in the form of wires from 0.05 to 8.00 mm Ø in bare condition. Enamelled wires are available in dimensions between 0.05 and 1.50 mm Ø. ISA®-SIL can also be supplied in form of stranded wire, flat wire and rods. Please contact us for the range of dimensions.

Thermoelectrical and Electrical Values in Soft-Annealed Condition

EMF versus Cu/NIST 175 at +100 °C / mV ¹⁾	EMF versus Pt67/NIST 175 at +100 °C / mV ¹⁾	EMF versus Cu at +200 °C / mV ¹⁾	EMF versus Pt67/NIST 175 at +200 °C / mV ¹⁾	Electrical resistivity in μΩ x cm at +20 °C
-2.770	-2.000	-5.920	-4.070	52

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	
8.90	+1,280	0.41	23.00	13.50	no

Mechanical Properties at +20 °C in Annealed Condition²⁾

	Tensile strength MPa	Elongation %	Hardness HV10
hard	> 840	< 2	> 240
soft	500	30	120

Notes on Treatment // ISA®-SIL is easy to process. The alloy can be soldered and brazed without difficulty. All known welding methods are applicable.

1) Reference at 0 °C.

2) The mechanical values considerably depend on dimension. The indicated values refer to a dimension of 1.0 mm diameter.