

Brand Name	NICKEL 99.2			
Material Code	2.4066			
Abbreviation	Ni 99.2			
Chemical Composition (mass components) in %				
Ni				
≥ 99.2				

Form of Delivery

NICKEL 99.2 is supplied in the form of round wires in the range 5,0 to 0,05 mm Ø in bare or enamelled condition, also with

rayon or silk covering, and in the form of stranded wires.

Properties and Application Notes

NICKEL 99.2 is especially characterized by very high resistance to oxidation and chemical corrosion, relatively low resistivity and a very high temperature coefficient. The material is used in many different applications, for example for the manufacture of connections for heating elements. NICKEL 99.2 is magnetic up to approx. 360 °C. The maximum working temperature in air is 700 °C.

Electrical Resistance in Annealed Condition

Temperature coefficient of electrical resistance between 0° C and 100° C 10 ⁻⁶ /K	Electrical resistivity in: µΩ x cm (first line) and Ω / CMF (second line) Reference Values					
	20 °C	100 °C	200 °C	300 °C	400 °C	500 °C
+ 4700 to + 5800	tolerance ± 10 %					
	9	13	19	26	33	38
	54	78	114	156	199	229

Physical Characteristics (Reference Values)

Density at 20 °C		Melting Point °C	Specific heat at 20 °C J/g K	Thermal conductivity ¹⁾ at 20 °C W/m K	Average linear thermal expansion coefficient between 20 °C and		Thermal EMF against copper at 20 °C µV/K
g/cm ³	lb/cub in				100 °C 10 ⁻⁶ /K	400 °C 10 ⁻⁶ /K	
8,9	0.32	1440	0.47	69	13	14	- 23

Strength Properties at 20 °C in Annealed Condition

Tensile Strength ²⁾		Elongation (L ₀ = 100 mm) % at nominal diameter in mm				
MPa	psi	0.02 to 0.063	> 0.063 to 0.125	> 0.125 to 0.5	> 0.5 to 1	> 1
450	65250	≈ 10	≈ 15	≈ 18	≥ 20	≥ 25

1) As with all pure metals, the thermal conductivity strongly depends on the purity and temperature.

2) This value applies to wires of 2 mm diameter. For thinner wires the minimum values will substantially increase, depending on the dimensions.

General Note

NICKEL 99.2 is not a standard resistance alloy. Therefore no resistance values are quoted. The weight values correspond to those of ISOTAN® wires of the same diameter.

Notes on Treatment

NICKEL 99.2 can be worked easily. This alloy can be soldered and brazed without difficulty. All known welding methods can be used.