



Brand Name	NOVISTHERM				
Material Code					
Abbreviation	CuMnNi 25-10				
Chemical Composition (mass components) in %.					
Average values of alloy components					
Cu	Mn	Ni			
Rest	25	10			

Features and Application Notes

NOVISTHERM is especially characterized by a high resistivity. With its high specific electrical resistance, NOVISTHERM closes the gap between Cu- and Ni-based heating conductor alloys.

NOVISTHERM is non-magnetic and possesses a low temperature coefficient and EMF values. The alloy shows better welding properties and workability than Ni-alloys.

NOVISTHERM is suitable for heating wires of any application, also for heating cords and cables. The alloy is well known for heating elements with low conductor temperatures up to 400 °C in non-oxidizing atmosphere.

Many applications can be found in the plastic sealing and cabling industry, where high-priced Ni-based alloys can be replaced.

Due to its low melting point, NOVISTHERM is also proved successfully in powder metallurgical manufacturing processes.

Form of Delivery

NOVISTHERM is supplied in the form of round wires in the range 0.10 to 5.00 mm Ø in bare or enamelled condition. The product line includes sheets, ribbons, flat wires, stranded wires and rods.

Electrical Resistance in Annealed Condition

Temperature coefficient of the electrical resistance at 10 ⁻⁶ /K	Electrical resistivity in: μΩ x cm (first line) and Ω /CMF (second line)				
	Reference Values				
+20 °C and +50 °C	+20 °C	+100 °C	+200 °C	+300 °C	+400 °C
±10	90	90	89	90	95
	540	541	535	541	449

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	Thermal EMF against copper at +20 °C
g/cm ³	°C	J/g K	W/m K	10 ⁻⁶ /K	μV/K
8.1	+940	0.47	12.5	18.5	± 0.5

Strength Properties at +20 °C in Annealed Condition

Tensile Strength ¹⁾		Elongation (L ₀ = 100 mm) % at nominal diameter in mm		
MPa	psi	> 0.063 to 0.125	> 0.125 to 0.50	> 0.50 to 1.00
550	80,000	≈ 18	≈ 20	≥ 20

1) This value applies to wires of 1.0 mm diameter. For thinner wires the minimum values will substantially increase, depending on the dimensions.