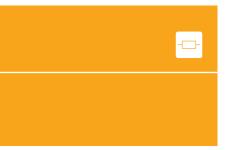
Brand Name	NOVISTHERM®					
Material Code						
Abbreviation	CuMn25Ni10					
Chemical Composition (mass components) in %. Average values of alloy components						
<b>Cu</b> Rest	<b>Mn</b> 25	<b>Ni</b> 10				



## **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. The maximum working temperature in air is 400  $^{\circ}$ C.

Many applications can be found in the plastic sealing and cabling industry, where high-prized 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  $\emptyset$  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	Electrical resistivity tolerance ±5 %				
+20 °C and +50 °C 10 <sup>-6</sup> /K		+20°C Nom. value	+100°C	+200°C Reference values	+300°C
±10	μΩ х ст	90	90	89	90
	CMF	540	541	535	541

# Physical Characteristics (Reference Values)

Density at		Melting point	Specific heat at +20 °C	Thermal conductivity at +20 °C	Average linear thermal expansion coefficient between +20 °C and	Thermal EMF against copper at
					+100 °C	+20 °C
g/cm³	lb/cub in	°C	J/g K	W/m K	10 <sup>-6</sup> /K	μV/K
8.1	0.291	+940	0.47	12.5	18.5	± 0.5

### Strength Properties at +20 °C in Annealed Condition

550	80,000	≈ 18	≈ 20	≥ 20		
MPa	psi	> 0.063 to 0.125	> 0.125 to 0.50	> 0.50 to 1.00		
Tensile Stre	ength <sup>2)</sup>	Elongation ( $L_0 = 100$ mm) % at nominal diameter in mm				

<sup>2)</sup> This value applies to wires of 1.0 mm diameter. For thinner wires the minimum values will substantially increase, depending on the dimensions.



<sup>1)</sup> NOVISTHERM® is a registered trademark of Isabellenhütte Heusler GmbH & Co. KG.