Brand Name	**ISA®-NICKEL[1)]**
Material Code	**2.4360**
Abbreviation	**NiCu30Fe**

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

Ni	**Cu**	**Fe**	**Mn**		
Rem.	31	1	1		

Features and Application Notes
ISA®-NICKEL is known for its high resistance to oxidation and chemical corrosion. These features govern the application: Wire cloth, connecting braids for heating elements, welding wires and many more applications. The maximum working temperature in air is +700 °C.

Form of Delivery
ISA®-NICKEL is supplied in the form of round wires in the range 0.03 to 8.00 mm Ø and stranded wires in bare condition.

Electrical Resistance in Annealed Condition

Temperature coefficient[2)] of electrical resistance between	Electrical resistivity in: µΩ x cm (first line) and Ω /CMF (second line) Reference Values					
+20 °C and +105 °C 10^{-6}/K	+20 °C tolerance ±10 %	+100 °C	+200 °C	+300 °C	+400 °C	+500 °C
+400 to +600	**49**	**51**	**53**	**55**	**56**	**57**
	295	**307**	**319**	**331**	**337**	**343**

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		Thermal EMF against copper at
					+100 °C	+400 °C	+20 °C
g/cm³	**lb/cub in**	**°C**	**J/g K**	**W/m K**	**10^{-6}/K**	**10^{-6}/K**	**µV/K**
8.90	**0.32**	**+1,360**	**0.42**	**22.00**	**13.50**	**15.00**	**-33.00**

Strength Properties at +20 °C in Annealed Condition

Tensile Strength[3)]		Elongation (L_0 = 100 mm) % at nominal diameter in mm				
MPa	**psi**	0.020 to 0.063	> 0.063 to 0.125	> 0.125 to 0.50	> 0.50 to 1.00	> 1.00
450	**65,250**	**≈ 12**	**≈ 18**	**≈ 20**	**≥ 20**	**≥ 25**

General Note // Since ISA®-NICKEL alloy itself cannot be used as a resistance material, but merely for accessories for resistive components, no resistance values per meter are given. The weight values correspond to those of ISOTAN® wires of the same diameter.

Notes on Treatment // ISA®-NICKEL can be worked easily. It can be soldered and brazed without difficulty. All known welding methods are applicable.

1) ISA®-NICKEL is a registered trademark of Isabellenhütte Heusler GmbH & Co. KG.
2) ISA®-NICKEL is not standardized as a resistance alloy.
3) This value applies to wires of 2.0 mm diameter. For thinner wires the minimum values will substantially increase, depending on the dimensions.

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