

## NICROSIL NPX STRIP

### DATASHEET

Nicrosil is an austenitic nickel-chromium-silicon alloy (NiCrSi alloy) used for the positive leg of thermocouple type N. It offers a better oxidation resistance in air than type E, J and K thermocouples.

Nicrosil alloy cannot be exposed to reducing or alternatively oxidizing and reducing atmospheres or to vacuum. This thermocouple is the most recent one among the different types covered by the international standards.

#### CHEMICAL COMPOSITION (NOMINAL)

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Cr	Si
14.2	1.5

Balance nickel.

#### MECHANICAL PROPERTIES

Yield strength	Tensile strength	Elongation
R <sub>p0.2</sub>	R <sub>m</sub>	A
MPa	MPa	%
310	800	35

Properties are measured on wire Ø 2 mm

#### PHYSICAL PROPERTIES

Density g/cm <sup>3</sup>	8.53
Electrical resistivity at 20°C Ω mm <sup>2</sup> /m	1.0

##### Coefficient of thermal expansion

Temperature °C	Thermal Expansion x 10 <sup>-6</sup> / K
20 - 100	17

##### Thermal Conductivity

Temperature °C	20
W m <sup>-1</sup> K <sup>-1</sup>	13

Thermoelectric properties  
Nominal EMF values Vs NISIL

Temperature °C	mV
100	2.774
200	5.913

Size range

Standard sizes for thermocouple strip range from thickness 0.10 to 3.0 mm (0.0039 to 0.181 inch) and width from 4 to 195 mm (0.157 to 7.68 inch).

Melting point °C	1420
Magnetic properties	The material is non- magnetic.

Disclaimer: Recommendations are for guidance only, and the suitability of a material for a specific application can be confirmed only when we know the actual service conditions. Continuous development may necessitate changes in technical data without notice. This datasheet is only valid for materials under the trademark Kanthal®.