

## Resistant Alloys

### Nickel Alloys



#### 1. Chemical composition

	Ni	Mn	Fe	Cu	Others
%	97 mini.	1.5- 2.5	0.25 max.	0.20 max.	Si

#### 2. Physical properties

- Resistivity ( $\Omega$ mm <sup>2</sup> /m)	: <b>0.109</b>
- Temperature coefficient (K x 10 <sup>-6</sup> /°C) from 20 to 100 °C	: <b>4 500</b>
- Thermal conductivity at 120 °C (Wm <sup>-1</sup> C <sup>-1</sup> )	: <b>44.0</b>
- Coefficient of linear expansion (coeff. 10 <sup>-6</sup> /°C) from 20 to 100 °C	: <b>12.90</b>
- Density (g/cm <sup>3</sup> )	: <b>8.86</b>
- Melting point (°C)	: <b>1 440</b>
- Maximal operating temperature (°C)	: <b>315</b>

#### Standard mechanical properties

- Tensile Strength (daN/mm <sup>2</sup> )	: <b>50</b>
- Yield Strength (daN/mm <sup>2</sup> )	: <b>30</b>
- Elongation (A% on 100 mm)	: <b>25</b>

#### 3. Typical Applications

This nuance of nickel preserves all the particularities of pure nickel but has been light strengthened with an addition of manganese.

This is mainly used for cold connections but also for electrical and electronic applications such as lead wires, supporting components in lamps and cathode-ray tubes, and electrodes in glow-discharge lamps.

April 2012 - The data enclosed in this document are only given as indicative values and correspond to our standard products. Different specific requirements are subject to discussion and formal approval by Aperam Alloys Rescal. For further information or special request, please contact us.