

Resistant Alloys

Iron-Chromium-Aluminium Alloys



1. Chemical composition

	Ni	Cr	Fe	Cu	Others
%	-	22	Bal.	-	Al: 5, ++

2. Physical properties

- Resistivity (Ω mm ² /m)	: 1.40
- Temperature coefficient (K x 10 ⁻⁶ /°C) from 20 to 1000 °C	: 60
- Thermal conductivity at 120 °C (Wm ⁻¹ C ⁻¹)	: 16
- Coefficient of linear expansion (coeff. 10 ⁻⁶ /°C) from 20 to 1000 °C	: 15
- Density (g/cm ³)	: 7.15
- Creeping point in	
- at 800 °C	: 6
- at 1 000°C	: 1
- Melting point (°C)	: 1 500
- Maximal operating temperature (°C)	: 1 280

Standard mechanical properties

- Tensile Strength (daN/mm ²)	: 75.0
- Yield Strength (daN/mm ²)	: 55.0
- Elongation (A% on 100 mm)	: ≥ 18
- Hardness (HV)	: 230

3. Typical Applications

It is possible with this alloy to reach very high use temperature.

It is particularly useful for heating elements of industrial furnaces where a high head rate is necessary. A very long life time of the elements operating at high temperatures up to 1280°C is guaranteed when using Resistohm 140.

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.