

Resistant Alloys

Iron-Chromium-Aluminium Alloys



1. Chemical composition

	Ni	Cr	Fe	Cu	Others
%	-	17	Bal.	-	Al: 3, ++

2. Physical properties

- Resistivity ($\Omega \text{ mm}^2/\text{m}$)	: 1.25
- Temperature coefficient ($\text{K} \times 10^{-6}/^\circ\text{C}$) from 20 to 1000 °C	: 110
- Thermal conductivity at 120 °C ($\text{Wm}^{-1} \text{ } ^\circ\text{C}^{-1}$)	: 16.70
- Coefficient of linear expansion (coeff. $10^{-6}/^\circ\text{C}$) from 20 to 1000 °C	: 14
- Density (g/cm^3)	: 7.35
- Creeping point in	
- at 800 °C	: 4
- at 1 000°C	: 1
- Melting point (°C)	: 1 520
- Maximal operating temperature (°C)	: 1 100

Standard mechanical properties

- Tensile Strength (daN/mm^2)	: 70
- Yield Strength (daN/mm^2)	: 50
- Elongation (A% on 100 mm)	: ≥ 18
- Hardness (HV)	: 210

3. Typical Applications

Resistohm 125 is a ferritic alloy of the FeCrAl family, which can be used at temperatures up to 1200°C.

Resistohm 125 is particularly recommended for heating elements operating out in the open, in tubes quartz, in the emergent heaters, in the rheostats and in general where the temperature on the element is under 1100°C.

Although it has a higher resistivity of 20 % than NiCr alloys, Resistohm 125 presents some inconveniences compared with Nickel-Chromium:

- Lower elongation at high temperature
- More important fluctuation.

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.