Resistant Alloys
Iron-Chromium-Aluminium Alloys

1. Chemical composition

	Ni	Cr	Fe	Cu	Others
%	-	23	Bal.	-	Al: 6, ++

2. Physical properties

- Resistivity (Ω mm²/m) : **1.45**
- Temperature coefficient (K x 10- 6/°C) from 20 to 1000 °C : **33**
- Thermal conductivity at 120 °C (Wm- 1° C-1) : **16**
- Coefficient of linear expansion (coeff. 10-6/°C) from 20 to 1000 °C : **15.10**
- Density (g/cm^3) : **7.10**
- Creeping point in
  - at 800 °C : **8**
  - at 1 000°C : **1.5**
- Melting point (°C) : **1 500**
- Maximal operating temperature (°C) : **1 400**

Standard mechanical properties

- Tensile Strength (daN/mm²) : **75.0**
- Yield Strength (daN/mm²) : **55.0**
- Elongation (A% on 100 mm) : **≥ 18**
- Hardness (HV) : **230**

3. Typical Applications

This alloy finds his ideal application area for the manufacture of heating elements for industrial furnaces until temperature of 1400 °C.

It allows loading rates of about 30 % more than the other FeCrAl alloys. His exceptional life time is due to a very high purity of the metal used which has been melted by electroslag.

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