

## Resistant Alloys

### Nickel Chromium Alloys



#### 1. Chemical composition

	Ni	Cr	Fe	Cu	Others
%	20	25	Bal.	-	Si +

#### 2. Physical properties

- Resistivity ( $\Omega \text{ mm}^2/\text{m}$ )	: <b>0.95</b>
- Temperature coefficient ( $\text{K} \times 10^{-6}/^\circ\text{C}$ ) from 20 to 1000 °C	: <b>330</b>
- Thermal conductivity at 120 °C ( $\text{Wm}^{-1} \text{ } ^\circ\text{C}^{-1}$ )	: <b>11.50</b>
- Coefficient of linear expansion (coeff. $10^{-6}/^\circ\text{C}$ ) from 20 to 1000 °C	: <b>10.50</b>
- Density ( $\text{g}/\text{cm}^3$ )	: <b>7.80</b>
- Creeping point in	
- at 800 °C	: <b>20</b>
- at 1 000°C	: <b>4</b>
- Melting point (°C)	: <b>1 390</b>
- Maximal operating temperature (°C)	: <b>1 000</b>

#### Standard mechanical properties

- Tensile Strength ( $\text{daN}/\text{mm}^2$ )	: <b>75</b>
- Yield Strength ( $\text{daN}/\text{mm}^2$ )	: <b>40</b>
- Elongation (A% on 100 mm)	: <b>≥ 30</b>
- Hardness (HV)	: <b>220</b>

#### 3. Typical Applications

Resistohm 20 is placed at the limit between heat-resistant alloys and stainless steels. It can be used for heating elements at low temperature, or as cold connections of a furnace.

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.