

# Ni30Cr20

Nickel-Chromium Alloy

RESISTANCE ALLOYS

W.N: 1.4860  
DIN: NiCr3020  
UNS: -

## Ni30Cr20

Ni30Cr20 is an austenitic nickel-chromium alloy suitable for temperature applications up to 1100°C.

This alloy is characterized by high resistivity, good oxidation resistance, good ductility after use and excellent weldability.

Ni30Cr20 is used for a wide range of electric heating elements in domestic appliances.

Typical applications: hot plates, heavy-duty rheostats, storage heaters, convection heaters, fan heaters, heating cables, electric blankets and pads, car seats, resistors, etc.

### 1. Chemical composition

Nom. composition, %	C	Si	Mn	Ni	Cr	Al	Fe
min	-	1.00	-	30.00	18.00	-	Bal
max	0.08	2.00	1.00	34.00	21.00	0.30	

### 2. Mechanical properties

Wire size, mm	Yield Strength, $R_{p0.2}$ (MPa)	Tensile Strength, $R_m$ (MPa)	Hardness, HV	Elongation, A (%)
1.00	340	675	180	≥ 18

### 3. Physical properties

Density, g/cm <sup>3</sup>	7.90
Electrical resistivity at 20°C, $\Omega$ mm <sup>2</sup> /m	1.06
Thermal conductivity at 20°C, W/mk	13.00
Melting point, °C	1390
Max operating temperature, °C	1100

Creep strength, MPa $R_p$ 1.0/10 <sup>3</sup> h	600°C	100.00
	800°C	20.00
	1000°C	4.00
Magnetic properties		nonmagnetic

### 4. Temperature factor of resistivity

Temperature, °C	20	100	200	300	400	500	600	700	800	900	1000	1100
Kt	1.00	1.023	1.052	1.079	1.103	1.125	1.141	1.158	1.173	1.187	1.201	1.214

### 5. Coefficient of liner thermal expansion

Temperature, °C	20	200	400	500	600	800	1000
$\alpha \times 10^{-6}/K$	-	15.00	16.00	-	17.00	18.00	19.00

Note: All information enclosed in this datasheet is based on our best knowledge and is given as indicative. Other special requirements are subject to prior discussion and approval of Vojay. Please contact us for any additional information or request.