

FeCrAl 140

Iron-Chromium-Aluminium Alloy

RESISTANCE ALLOYS

W.N: 1.4767
DIN: CrAl 20 6
UNS: K92400

FeCrAl 140

FeCrAl 140 is a ferritic iron-chromium-aluminium alloy (Cr content is around 20%) suitable for temperature applications up to 1250°C.

This alloy is characterized by excellent heat resistance and

high resistivity.

FeCrAl 140 is used in high-temperature industrial furnaces in the heat treating of ceramics, glass and steel; radiant heaters (quartz tube), ceramic kilns, etc.

1. Chemical composition

Nom. composition, %	C	Si	Mn	Fe	Cr	Ni	Al
min	-	-	-	Bal.	19.00	-	5.00
max	0.04	0.40	0.50		21.00	0.60	6.00

2. Mechanical properties

Wire size, mm	Yield Strength, $R_{p0.2}$ (MPa)	Tensile Strength, R_m (MPa)	Hardness, HV	Elongation, A (%)
1.00	450	640	200	≥ 14

3. Physical properties

Density, g/cm ³	7.20	Creep strength, MPa R_p 1.0/10 ³ h	600°C	40.00
Electrical resistivity at 20°C, Ω mm ² /m	1.40		800°C	15.00
Thermal conductivity at 20°C, W/mk	13.00		1000°C	6.00
Melting point, °C	1500		1200°C	1.00
Max operating temperature, °C	1250		Magnetic properties	magnetic

4. Temperature factor of resistivity

Temperature, °C	20	100	200	300	400	500	600	700	800	900	1000	1100	1200
Kt	1.000	1.002	1.003	1.006	1.011	1.021	1.037	1.043	1.046	1.049	1.052	1.055	1.057

5. Coefficient of liner thermal expansion

Temperature, °C	20	200	400	500	600	800	1000	1200
$\alpha \times 10^{-6}/K$	-	11.00	12.00	-	13.00	14.00	15.00	-

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.