FeCrAl 135

Iron-Chromium-Aluminium Alloy

W.N: 1.4765
DIN: CrAl 23 5
UNS: K92500

FeCrAl 135

FeCrAl 135 is a ferritic iron-chromium-aluminium alloy (Cr content is around 22%) suitable for temperature applications up to 1250°C.

This alloy has an excellent life time in sulfur environments and particularly when atmosphere is also oxidizing.

FeCrAl 135 is used in domestic appliances, toasters, fan heaters, laboratory furnaces, etc.

Due to its resistance to carbonaceous atmospheres this alloy is widely used in production of fuel burners and cigarette lighters.

1. Chemical composition

Nom. composition, %	C	Si	Mn	Fe	Cr	Ni	Al
min	-	-	-	Bal.	20.50	-	4.20
max	0.06	0.60	0.70		23.50	0.60	5.30

2. Mechanical properties

Wire size, mm	Yield Strength, $R_{p0.2}$ (MPa)	Tensile Strength, R_m (MPa)	Hardness, HV	Elongation, A (%)
1.00	460	630	210	≥ 12

3. Physical properties

Density, g/cm^3	7.25
Electrical resistivity at 20°C, Ω mm^2/m	1.35
Thermal conductivity at 20°C, W/mk	13.50
Melting point, °C	1500
Max operating temperature, °C	1250

Creep strength, MPa R_p 1.0/10^3 h	600°C	40.00
	800°C	15.00
	1000°C	6.00
	1200°C	1.00
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	1.007	1.014	1.024	1.036	1.050	1.062	1.070	1.074	1.078	1.081	1.084

5. Coefficient of liner thermal expansion

Temperature, °C	20	200	400	500	600	800	1000
a x 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.