FeCrAl H

Iron-Chromium-Aluminium Alloy

W.N: ~
DIN: CrAl 27 7
UNS: ~

FeCrAl H

FeCrAl H is a ferritic iron-chromium-aluminium alloy (Cr content is around 27%) with high resistivity and good oxidation resistance suitable for high temperature applications up to 1400°C.

Being alloyed by more than 6% of aluminum and around 2% of molybdenum FeCrAl H ensures excellent surface oxide properties, which gives good protection in vacuum, in different corrosive environments as well as in atmospheres with high carbon and sulphur rate. The unique combination of excellent oxidation properties and form stability contributes to long element service life.

FeCrAl H is specified for such applications as: high-temperature industrial and laboratory furnaces for heat treatment, furnaces for electronic industries, diffusion furnaces, resistance elements, radiant (quartz tube) heaters, ceramic kilns, etc.

1. Chemical composition

Nom. composition, %	C	Si	Mn	Fe	Cr	Ni	Al	Mo
min	-	-	-	Bal.	26.50	-	6.00	1.80
max	0.05	0.60	0.30		27.80	0.50	7.00	2.20

2. Mechanical properties

Wire size, mm	Yield Strength, $R_{p0.2}$ (MPa)	Tensile Strength, R_m (MPa)	Hardness, HV	Elongation, A (%)
1.00	620	770	220	≥ 10

3. Physical properties

Density, g/cm^3	7.10
Electrical resistivity at 20°C, Ω mm^2/m	1.53
Thermal conductivity at 20°C, W/mk	16.00
Melting point, °C	1520
Max operating temperature, °C	1400

Creep strength, MPa R_p 1.0/10^3 h	600°C	40.00
	800°C	4.00
	1000°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	1300
Kt	1.000	0.992	0.986	0.981	0.978	0.976	0.974	0.972	0.970	0.969	0.968	0.968	0.967	0.967

5. Coefficient of liner thermal expansion

Temperature, °C	20	200	400	500	600	800	1000	1200	1300
a x 10^{-6}/K	-	11.00	12.00	-	-	14.00	-	-	16.00

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.