FeCrAl S

Iron-Chromium-Aluminium Alloy

W.N: 1.4765
DIN: CrAl 25 5
UNS: K92500

FeCrAl S

FeCrAl S is a ferritic iron-chromium-aluminium alloy (Cr content is around 25%) with high resistivity and very good oxidation resistance suitable for temperature applications up to 1300°C.

This alloy has a better life time in sulfur atmospheres than nickel-chromium alloys.

FeCrAl S is specified for electric furnaces in ceramic, chemical and metallurgic industries, and for all applications where it is necessary to apply a very high temperature of use.

1. Chemical composition

Nom. composition, %	C	Si	Mn	Fe	Cr	Ni	Al
min	-	-	-	Bal.	23.00	-	4.50
max	0.06	0.60	0.50		26.00	0.40	6.50

2. Mechanical properties

Wire size, mm	Yield Strength, $R_{p0.2}$ (MPa)	Tensile Strength, R_m (MPa)	Hardness, HV	Elongation, A (%)
1.00	550	725	210	≥ 12

3. Physical properties

Density, g/cm^3	7.10
Electrical resistivity at 20°C, Ω mm^2/m	1.42
Thermal conductivity at 20°C, W/mk	13.00
Melting point, °C	1500
Max operating temperature, °C	1300

Creep strength, MPa R_p 1.0/10^3 h	600°C	40.00
	800°C	6.00
	1000°C	1.00
Magnetic properties		magnetic

4. Temperature factor of resistivity

Temperature, °C	100	200	300	400	500	600	700	800	900	1000	1100	1200	1300
Kt	1.002	1.005	1.008	1.013	1.021	1.030	1.038	1.040	1.042	1.044	1.046	1.047	1.047

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.