

Iron-chromium-aluminium (FeCrAl) alloys

FeCrAl alloys are characterized by excellent oxidation resistance and very good form stability resulting in long element life. They are typically used in electrical heating elements in industrial furnaces and home appliances.

FeCrAl alloys have higher service temperature than NiCr Alloys and much lower prices. But they have lower stability and flexibility, easily to be fragile after a time circle.

Main grades and properties

Grades		0Cr21A16Nb
Properties		
Chemical composition %	Cr	21.0-23.0
	Al	5.0-7.0
	Fe	Balance
	Other	Nb 0.5
Highest service temperature °C		1350
Resistivity $\mu\Omega.m, 20^\circ C$		1.45
Density (g/cm ³)		7.10
Thermal conductivity KJ/m.h.°C		46.1
Coefficient of linear extensibility $\alpha \times 10^{-6}/^\circ C$		16.0
Melting point °C		1510
Tensile Mpa		650-800
Elongation %		>12
Reduction %		65-75
Hardness H.B.		200-260
Microstructure		Ferrite
Magnetic property		magnetic