High Temperature Electric Resistance Fecral Alloy 0Cr23Al5 Heating Coil

Our Product Introduction

Basic Information

- Place of Origin: China
- Brand Name: Victory
- Certification: ISO/ROHS
- Model Number: 0Cr23Al5
- Minimum Order Quantity: 3kgs
- Price: Negotiable
- Packaging Details: Put wire into cartons, then put cartons onto pallet
- Delivery Time: 10-25 days
- Payment Terms: L/C, T/T, Paypal, Western Union
- Supply Ability: 80 Tons Per Month

Product Specification

- Material: FeCrAl
- Chemical Composition: Fe Cr Al,Ferro Chrome Aluminium,Cr,Ni,Iron-chromium-aluminum
- Density: 7.25 G/cm3
- Melting Point: 1500°C
- Thermal Conductivity: 13-15 W/m Kelvin
- Tensile Strength: 600-800 MPa
- Yield Strength: 280-450 MPa
- Elongation: 10-25%
- Specification: 0.025-10mm
- Application: High Temperature Heater
- Shape: Strip,wire,ribbon,plate,Wire Strip Round Ribbon
- Highlight: **High Temperature Heating Coil**, **0Cr23Al5 Heating Coil**, **Electric Resistance Heating Coil**

More Images

Product Description

Our Product Introduction

for more products please visit us on victory-alloy.com

Introduction:

0Cr23Al5 furnace wire is a high-temperature alloy material commonly used in applications such as electric furnace heating elements, thermocouples, and resistance wires. It is composed of elements such as chromium (Cr) and aluminum (Al), of which the chromium content accounts for about 23% and the aluminum content accounts for about 5%. This furnace wire is known for its excellent antioxidant properties and high temperature resistance.
0Cr23Al5 furnace wire has excellent high temperature resistance and can operate stably for a long time in high temperature environments. It has a high melting point (about 1500 degrees Celsius) and can withstand extremely high operating temperatures. In addition, the furnace wire has excellent anti-oxidation ability and can resist oxidation, corrosion and deformation at high temperatures, extending its service life.
The alloy furnace wire also has a low linear expansion coefficient, allowing it to maintain good stability during thermal cycling. Its thermal conductivity is high, which helps to conduct heat quickly and improve heating efficiency. In addition, 0Cr23Al5 furnace wire also has high tensile strength and yield strength, and can withstand mechanical stress in high temperature environments.

Parameter:

Chemical composition:
Chromium (Cr): approximately 23% by mass
Aluminum (Al): approximately 5% by mass
Other elements: mainly iron (Fe) and impurity elements, such as manganese (Mn), silicon (Si), etc.
Physical properties:
Density: approximately 7.25 g/cm3
Melting point: approximately 1500 degrees Celsius
Thermal Conductivity: Approximately 13-15 Watts/meter Kelvin (around room temperature)
Linear expansion coefficient: approximately 1
Mechanical behavior:
Tensile strength: about 600-800 MPa
Yield strength: about 280-450 MPa
Elongation: approximately 10-25% (at room temperature)

item	value
Place of Origin	Jiangsu,China
Type	Fe-Cr-Aluminum Ribbon
Application	Industry Furnace
Conductor Material	ferro alloy
Certificate	ISO9001
Thermal conductivity:	15 W/(m.K) (20ºC)
Executive standard	GB/T1234-2012
Dimensions	User's Demand
Size	0.56-5mm
shape	shaped strip
width	6-50mm
Packing	Pallet
highest temperature	1400ºC
melting point	1520ºC

Alloy Nomenclature Performance		1Cr13AL4	0Cr25Al5	0Cr21AL6	0Cr23Al5	0Cr21Al4	0Cr21Al6Nb	0Cr27Al7Mo2
Main Chemical composition	Cr	12.0-15.0	23.0-26.0	19.0-22.0	20.5-23.5	18.0-21.0	21.0-23.0	26.5-27.8
	Al	4.0-6.0	4.5-6.5	5.0-7.0	4.2-5.3	3.0-4.2	5.0-7.0	6.0-7.0
	Re	opportune	opportune	opportune	opportune	opportune	opportune	opportune
	Fe	Rest	Rest	Rest	Rest	Rest	Rest	Rest
							Nb0.5	Mo1.8-2.2
Max. continuous service temp. of element(°C)		950	1250	1250	1250	1100	1350	1400
Resistivity at 20ºC(μΩ·m)		1.25	1.42	1.42	1.35	1.23	1.45	1.53
Density(g/cm3)		7.4	7.1	7.16	7.25	7.35	7.1	7.1

Thermal conductivity(KJ/m·h·ºC)	52.7	46.1	63.2	60.2	46.9	46.1	--
Coefficient of lines expansion(α×10-6/ºC)	15.4	16	14.7	15	13.5	16	16
Melting point approx.(ºC)	1450	1500	1500	1500	1500	1510	1520
Tensile strength(N/mm2)	580-680	630-780	630-780	630-780	600-700	650-800	680-830
Elongation at rupture(%)	>16	>12	>12	>12	>12	>12	>10
Variation of area(%)	65-75	60-75	65-75	65-75	65-75	65-75	65-75
Repeat Bending frequency(F/R)	>5	>5	>5	>5	>5	>5	>5
Hardness(H.B.)	200-260	200-260	200-260	200-260	200-260	200-260	200-260
continuous service time(Hours/ ºC)	--	≥80/1300	≥80/1300	≥80/1300	≥80/1250	≥50/1350	≥50/1350
Micrographic structure	Ferrite	Ferrite	Ferrite	Ferrite	Ferrite	Ferrite	Ferrite
Magnetic properties	Magnetic	Magnetic	Magnetic	Magnetic	Magnetic	Magnetic	Magnetic

Characteristic:

High-temperature stability: 0Cr23Al5 furnace wire can maintain excellent stability in high-temperature environments, and the maximum operating temperature can reach 1250°C.
Antioxidant performance: Under high temperature conditions, it forms a dense oxide protective film, which effectively prevents further oxidation reactions and improves service life.
Excellent resistance characteristics: 0Cr23Al5 furnace wire has moderate resistivity, which can provide stable resistance value to meet different heating needs.
Corrosion resistance: This furnace wire has good corrosion resistance to common corrosive media and can be used for a long time in harsh environments.

Specific applications:

Industrial heating equipment: used for heating elements such as various industrial electric furnaces, hot air stoves and ovens to provide uniform high-temperature heating effects.
Home appliance field: used as heating elements in electric water heaters, electric stoves and other household appliances to provide fast and efficient heating functions.
Heat treatment industry: Used as heating elements in metal heat treatment equipment to ensure precise heating temperature and treatment effects of metal materials.
Laboratory equipment: Heating equipment, test furnaces, etc. used in laboratories to provide reliable heating control and stability.

Customization:

Diameter: The common diameter range of 0Cr23Al5 heater wire is from 0.5mm to 10mm.
Width and thickness: The common width range of rectangular heater wire is from 0.1mm to 10mm, and the thickness is determined according to needs.
Length: The length of the heater wire can be customized according to the customer's specific needs.

Q&A:

What is the maximum operating temperature of 0Cr23Al5 furnace wire?
The maximum operating temperature of 0Cr23Al5 furnace wire can generally reach about 1250 degrees Celsius.

In what fields is 0Cr23Al5 furnace wire often used?
0Cr23Al5 furnace wire is often used in electric furnace heating elements, thermocouples, industrial heat treatment equipment and other fields.

What is the difference between 0Cr23Al5 furnace wire and 0Cr21Al6 furnace wire?
The chemical composition of 0Cr23Al5 furnace wire and 0Cr21Al6 furnace wire is slightly different, mainly reflected in the chromium and aluminum content. In addition, the physical properties and mechanical properties of the two may also differ

Changzhou Victory Technology Co., Ltd

+8619906119641 victory@dlx-alloy.com victory-alloy.com

NO.32 West Taihu Road, Xinbei District, Changzhou, Jiangsu