



Cr30Ni70 Nichrome Wire Exceptional Thermal Stability for Long Lasting Industrial Heating

Our Product Introduction

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Basic Information

- Place of Origin: China
- Brand Name: Victory
- Certification: CE
- Model Number: Cr30Ni70
- Minimum Order Quantity: 5
- Packaging Details: Spool package with Carton box, Coil package with polybag for Resistance wire
- Delivery Time: 5-21 days
- Payment Terms: L/C, T/T, Western Union, MoneyGram
- Supply Ability: 300 tons per month



Product Specification

- Max. Continuous Service Temp. Of Element(°C): 1100
- Melting Point: 1390
- Resistivity: 1.04 ± 0.05
- Density(g/cm³): 7.9
- Thermal Conductivity (KJ/m·h·°C): 43.8
- Coefficient Of Lines Expansion($\alpha \times 10^{-6}/^{\circ}\text{C}$): 19
- Melting Point Approx.(°C): 1390
- Elongation At Rupture(%): >20
- Highlight: Long Lasting Nichrome Wire,
Cr30Ni70 Nichrome Wire,
Industrial Heating Nichrome Wire



More Images



Product Description

Cr30Ni70 Nichrome Wire: Exceptional Thermal Stability for Long-Lasting Industrial Heating

NiCr Series

Cr30Ni70 nickel-chromium alloy wire is a high-performance resistance heating material with excellent high-temperature stability and oxidation resistance, and is widely used in the field of industrial heating. Its chemical composition mainly includes 70% nickel and 30% chromium, with a melting point of about 1380°C, a maximum operating temperature of up to 1250°C, a resistivity of $1.18 \pm 0.05 \mu\Omega \cdot \text{m}$ (at 20°C), a tensile strength of 810 MPa, and an elongation of 30%, showing good mechanical properties.

The high-temperature stability of Cr30Ni70 alloy wire makes it not easy to deform during long-term use and has a long service life. In addition, the alloy wire also has good weldability and forming ability, suitable for manufacturing heating elements of various shapes.

Cr30Ni70 alloy wire is widely used in industrial furnaces, electric heating elements, heat treatment equipment,


Our Product Introduction

and other fields that require high-temperature stability, especially in reducing atmospheres and high-temperature oxidizing environments. Its excellent performance makes it an indispensable material in industries such as aerospace, energy, and metallurgy.

Performance material		Cr10Ni90	Cr20Ni80	Cr30Ni70	Cr15Ni60	Cr20Ni35	C
Composition	Ni	90	Rest	Rest	55.0~61.0	34.0~37.0	30
	Cr	10	20.0~23.0	28.0~31.0	15.0~18.0	18.0~21.0	18
	Fe		≤1.0	≤1.0	Rest	Rest	Rest
Maximum temperature °C		1300	1200	1250	1150	1100	1100
Melting point °C		1400	1400	1380	1390	1390	1390
Density g/cm3		8.7	8.4	8.1	8.2	7.9	7.9
Resistivity at 20°C(μΩ·m)			1.09±0.05	1.18±0.05	1.12±0.05	1.00±0.05	1.00
Elongation at rupture		≥20	≥20	≥20	≥20	≥20	≥20
Specific heat							
J/g.°C			0.44	0.461	0.494	0.5	0.5
Thermal conductivity							
KJ/m.h°C			60.3	45.2	45.2	43.8	43.8
Coefficient of lines expansion							
α×10-6/			18	17	17	19	19
(20~1000°C)							
Micrographic structure			Austenite	Austenite	Austenite	Austenite	Austenite
Magnetic properties			Non-magnetic	Non-magnetic	Non-magnetic	Weak magnetic	Weak magnetic
Micrographic structure		Ferrite	Ferrite	Ferrite	Ferrite	Ferrite	Ferrite
Magnetic properties		Magnetic	Magnetic	Magnetic	Magnetic	Magnetic	Magnetic

Form	Specification	
Wire	Diameter=0.025mm~8mm	
Flat wire	Width=0.40~6.0mm	Thick=0.03~0.50mm
Strip	width=8~250mm	Thick=0.05~3.0mm
Bar	Diameter=8~100mm	Long=50~1000

Size Range		
Wire	dia 0.03-7.5mm	
	dia 8.0-12.0mm	

Ribbon	(0.05-0.35)*(0.5-6.0)mm	
Strip	(0.50-2.5)*(5-180)mm	
Rod	8-50mm	

Feature

High temperature performance:

It has excellent high temperature strength and oxidation resistance, and can work stably at 1000°C or even higher.

The chromium oxide protective film formed on the alloy surface can effectively prevent further oxidation.

Corrosion resistance:

It has strong corrosion resistance to chemical media such as acids and alkalis, especially in high temperature corrosion environments.

Thermal stability:

It has a low thermal expansion coefficient (about $14 \times 10^{-6}/K$) and good dimensional stability when the temperature changes.

It has a moderate specific heat capacity (about 0.4 J/g·K), which is suitable for applications that respond quickly to temperature changes.

Resistance performance:

The room temperature resistivity is about $1.1-1.3 \times 10^{-6} \Omega \cdot m$, and the resistivity changes little at high temperatures.

Processing performance:

Although the hardness is high, it can be finely processed through appropriate heat treatment and processing technology.

Q&A

Which industries is Cr30Ni70 wire suitable for?

Cr30Ni70 wire is widely used in electric heating, chemical industry, metallurgy, aerospace and other industries, especially for high-temperature furnaces, electric heating elements, chemical reactors and aerospace high-temperature parts.

What are its welding methods?

Cr30Ni70 wire welding methods include argon arc welding (TIG), metal arc welding (MIG) and laser welding, etc. The specific selection depends on the thickness of the workpiece and the welding requirements.

How is the oxidation resistance of Cr30Ni70 wire?

Cr30Ni70 wire has excellent oxidation resistance and can form a dense chromium oxide protective film at high temperature to prevent further oxidation. At 1000°C, its oxidation rate is extremely low, which is suitable for long-term high-temperature use.



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