

Tensile Strength And High Temperature Resistance Cr30Ni70 Nichrome Alloy Wire In The Metallurgical Industry

Basic Information

 Place of Origin: 	China
Brand Name:	Victory
Certification:	CE,ROHS,ISO 9001
Model Number:	Cr30Ni70
Minimum Order Quantity:	5 Kg
Price:	Negotiable
 Packaging Details: 	Plastic film or waterproof woven bag inside, wire packed in spool put into carton,coil wire or strip wire put into wooden case
Delivery Time:	7 to 20 Days
 Payment Terms: 	L/C, T/T, Western Union, MoneyGram
 Supply Ability: 	300 tons per month



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Product Specification

- Product Name:
- Material:
- Nickel(Min):
- Resistivity:
- Tensile Strength:
- Elongtation:
- Condition:
- Surface:
- Application:
- Highlight:

Melting Furnace, Vacuum Furnace, Hightemperature Heat Treatment Equipment Cr30Ni70 Nichrome Alloy Wire, Metallurgical Industry Nichrome Alloy Wire, High Temperature Resistance Nichrome Alloy

Resistance Heating Wire

Nickel, Chromium

1.03 ± 0.05 μΩ⋅m

Bright, Oxided, Acide

70%

700 MPa

Hard / Soft

≥25%

Wire



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Product Description:

Cr30Ni70 nickel chromium alloy wire, as a high-performance resistance heating material, is mainly composed of nickel and chromium, with a nickel content of not less than 70%. Its stable electrical resistivity is about 1.03 \pm 0.05 μ Ω · m, coupled with excellent mechanical properties, including a tensile strength of 700 MPa and a elongation rate of no less than 25%, making it an ideal choice in fields such as smelting furnaces, vacuum furnaces, and high-temperature heat treatment equipment. It can be provided in hard or soft state, and surface treatment can be carried out as needed, such as bright, oxidized or acidic treatment, to meet various application needs.

In the metallurgical industry, Cr30Ni70 nickel chromium alloy wire plays a crucial role. Its high resistivity and excellent high-temperature resistance make it an ideal heating element in equipment such as melting furnaces, vacuum furnaces, and high-temperature heat treatment equipment. Whether used for melting metal materials or high-temperature heat treatment, this alloy wire can operate stably and provide the required heating support. Its reliable performance and diverse application scenarios make it an indispensable material in the metallurgical industry.

Basic performance:

Chemical composition: Cr30Ni70 alloy wire is mainly composed of 70% nickel (Ni) and 30% chromium (Cr). Chromium content: The chromium content ranges from 28% to 31%. Physical performance: Density: 8.1 g/cm³. Electrical resistivity (20 °C): 1.18 $\mu \Omega \cdot m$. Melting point: 1370-1410 °C. Thermal conductivity: 14 W/(m · K). Mechanical performance: Tensile strength (σ b): \geq 650 MPa. Elongation rate (A5): \geq 25%.

Technical Parameters:

Performance material	Cr30Ni70	
	Ni	Rest
Composición	Cr	28.0 31.0
	Fe	≤1.0
Temperatura máxima°C	1250	
Punto de fusion °C	1380	
Densidad g/cm3	8.1	
Resistividad $\mu\Omega$ ·m,20°C	1.18±0.05	
Alargamiento a la ruptura	≥20	
Calor especifico J/g.°C	0.461	
Conductividad térmica KJ/m.h°C	45.2	
Coeficiente de expansión de líne	17	
Estructura micrográfica	Austenite	
Propiedades magnéticas	Nonmagnetic	

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	

High temperature resistance: Cr30Ni70 alloy wire can work stably at temperatures up to 1250 ° C, suitable for high-temperature heating applications in the metallurgical industry.

Corrosion resistance: The high content of chromium and nickel gives Cr30Ni70 alloy wire good corrosion resistance, which can resist oxidation and chemical corrosion.

Mechanical strength: It has high tensile strength and good elongation, ensuring stability during mechanical processing and use.

Stable resistivity: Over a wide temperature range, The Cr30Ni70 alloy wire exhibits stable electrical resistivity, ensuring consistent performance of the heating element.

Good processing performance: The alloy wire is easy to process into the desired shape and size, meeting the diverse needs of the metallurgical industry.

Application:

Resistance heating furnace components: In the metallurgical industry, resistance heating furnaces are one of the common equipment used for heating, melting, or sintering processes of metal materials. Cr30Ni70 alloy wire is often used as a heating element in resistance heating furnaces due to its high electrical resistivity and good high-temperature resistance. It can quickly convert electrical energy into thermal energy, providing the required heating temperature for metal materials.

Heating element of smelting furnace: In the process of metal smelting, Cr30Ni70 alloy wire is also commonly used as a heating element in melting furnaces. Whether used for the smelting of iron ore or other metal materials, this alloy wire can withstand high temperature environments and quickly convert electrical energy into thermal energy, achieving the melting or heating of metal materials to the required temperature. Vacuum furnace heating element: In metallurgical processes, some special materials require heating treatment in a vacuum environment. At this time, Cr30Ni70 alloy wire can be used as a heating element for vacuum furnaces. Its stable electrical resistivity and high temperature resistance enable it to operate stably under

vacuum conditions, providing necessary heating support for the material. High temperature heat treatment equipment: High temperature heat treatment equipment commonly used in the metallurgical industry, such as high-temperature sintering furnaces, heat treatment furnaces, etc., also uses Cr30Ni70 alloy wires as heating elements. It can withstand high temperature environments and has high tensile

strength and certain ductility, making it suitable for stable operation at high temperatures.

Q&A

Q1: What are the main applications of Cr30Ni70 nickel chromium alloy wire in the metallurgical industry? A1: Cr30Ni70 nickel chromium alloy wire is mainly used in the metallurgical industry to manufacture heating elements for industrial electric furnaces, such as induction furnaces, resistance furnaces, and annealing furnaces, as well as temperature control elements used in heat treatment processes.

Q2: How is the corrosion resistance of Cr30Ni70 alloy wire, and where is its importance reflected in the metallurgical industry? A2: The corrosion resistance of Cr30Ni70 alloy wire is excellent, and it can maintain stability even in high-temperature and chemically complex metallurgical environments. This makes it of great value in ensuring long-term stable operation of equipment and reducing maintenance costs.

Q3: Do metallurgical equipment using Cr30Ni70 nickel chromium alloy wire require special maintenance measures? A3: Due to the high stability and corrosion resistance of Cr30Ni70 alloy wire, metallurgical equipment using it usually does not require special maintenance. However, regular inspections and cleaning are still recommended practices to ensure the best performance and longest service life of the equipment.





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