Vacuum Heat Treatment Cr20Ni80 Nickel Chromium Strip With Resistivity 1.09+/-0.05

Our Product Introduction

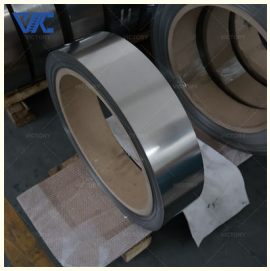
Basic Information

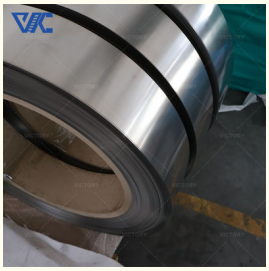
- Place of Origin: China
- Brand Name: Victory
- Certification: CE,ROHS,ISO 9001
- Model Number: Cr20Ni80
- Minimum Order Quantity: 5 Kg
- Price: Negotiable
- Packaging Details: Spool package with Carton box, Coil package with polybag for Resistance wire
- Delivery Time: 7 to 20 Days
- Payment Terms: L/C, T/T, Western Union, MoneyGram
- Supply Ability: 300 tons per month

Product Specification

- Product Name: Nichrome Alloy Strip
- Material: Nickel, Chromium
- Nickel(Min): 77%
- Melting Point: 1400-1450°C
- Electrical Resistivity: 1.1-1.2 μΩm
- Resistivity: 1.09+/-0.05
- Tensile Strength: 637MPA
- Hardness: HV400-500
- Thermal Conductivity: 15-20 W/mK
- Elongtation: ≥20%
- Condition: Hard / Soft
- Sureface: Bright, Oxided, Acide
- Application: Vacuum Furnace, Heat Treatment Room, Temperature Control System, Etc
- Highlight: **Cr20Ni80 Nickel Chromium Strip**,

More Images





Product Description

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Vacuum Heat Treatment Cr20Ni80 Nickel Chromium Strip With Resistivity 1.09+/-0.05

Product Description:

Cr20Ni80 nickel chromium alloy strip is a highly favored high-quality material in the field of vacuum heat treatment. Its composition contains at least 77% nickel and a certain proportion of chromium, which gives it excellent high-temperature stability. Its melting point can reach as high as 1400-1450 ° C, and it can still maintain the stability and performance of its structure under extreme heating conditions.
This type of alloy strip has good electrical resistivity, about 1.1-1.2 μ Ω m, and is suitable for various high-temperature electric heating processing processes. Meanwhile, its strength is also very impressive, with a tensile strength of 637MPA and a hardness of HV400-500. Not only that, it also has a elongation rate of over 20%, making it more resilient in processing and application processes. In terms of heat conduction, The Cr20Ni80 alloy strip exhibits excellent performance with a thermal conductivity of 15-20 W/mK, which is crucial for uniformly heating the sample in a high-temperature environment.

In addition, this alloy strip provides a choice of hardness or softness state, and can be subjected to surface treatment as needed, such as brightening and oxidation treatment. This makes it very suitable for various applications such as vacuum furnaces, heat treatment rooms, temperature control systems, etc.

Overall, Cr20Ni80 nickel chromium alloy strip has become one of the preferred materials in the field of vacuum heat treatment due to its excellent performance characteristics, providing reliable guarantee and flexible selection for high-temperature processing.

Size dimension range:

Wire: 0.01-10mm
Ribbons: 0.05*0.2-2.0*6.0mm
Strip: 0.05*5.0-5.0*250mm
NiCr series: Cr10Ni90,Cr20Ni80, Cr30Ni70, Cr15Ni60, Cr20Ni35, Cr20Ni30

Technical Parameters:

Performance material		**Cr20Ni80**
Composición	**Ni**	Rest
	Cr	20.0 23.0
	Fe	≤1.0
Temperatura máxima°C		1200
Punto de fusion °C		1400
Densidad g/cm3		8.4
Resistividad μΩ·m,20°C		1.09±0.05
Alargamiento a la ruptura		≥20
Calor especifico J/g.°C		0.44
Conductividad térmica KJ/m.h°C		60.3
Coeficiente de expansión de líneas a×10-6/(20 1000°C)		18
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

Characteristics:

Excellent high-temperature stability: able to maintain stable performance at high temperatures, not easily oxidized or deformed.
Good antioxidant performance: able to maintain stable chemical properties in high temperature and vacuum environments, extending service life.
Efficient heating performance: able to provide uniform and stable heating capacity, ensuring the accuracy of the heat treatment process.
High purity nickel: 80% nickel content provides extremely high melting point and excellent oxidation resistance.

Corrosion resistance: The addition of chromium enhances the corrosion resistance of the material, making it suitable for use in various chemical and vacuum environments.
Stable resistivity: Over a wide temperature range, The Cr20Ni80 alloy strip exhibits stable electrical resistivity, ensuring consistent performance of heating elements.

Application:

Cr20Ni80 nickel chromium alloy strip plays an important role in vacuum heat treatment. Vacuum heat treatment is a heat treatment process carried out in anaerobic or low oxygen environments, usually used to improve the mechanical properties, corrosion resistance, and thermal stability of metal materials. In this process, The Cr20Ni80 alloy strip has the following key application aspects:
Heating element manufacturing: Cr20Ni80 alloy strip is commonly used in the manufacturing of heating elements in vacuum furnaces. In a vacuum environment, this alloy strip can withstand high temperature heating, allowing the furnace temperature to reach the required processing temperature, thereby achieving heat treatment of the material.
Heat treatment sample heating: During vacuum heat treatment, the sample usually needs to be uniformly heated at high temperatures to achieve the required phase transition or structural adjustment. The Cr20Ni80 alloy strip, as a heating element, can provide stable heating capacity, ensuring that the temperature of the sample is uniform and stable throughout the entire heating process.
Antioxidant protection in high-temperature environments: Metal materials are prone to oxidation at high temperatures, reducing their performance and lifespan. Cr20Ni80 alloy strip has good oxidation resistance and can maintain stable chemical properties in high temperature and vacuum environments, extending the service life of heating elements.
Temperature control and monitoring: In vacuum heat treatment, temperature control and monitoring are crucial. Cr20Ni80 alloy strip is usually used as a material for thermocouple protective sleeves, to measure and monitor temperature changes during the heating process, ensuring accuracy and stability of the heating process.
In summary, Cr20Ni80 nickel chromium alloy strip plays an important role in vacuum heat treatment, mainly used in heating element manufacturing, sample heating, oxidation protection, temperature control and monitoring, providing a reliable heating solution and temperature monitoring means for vacuum heat treatment.

FAQ :

Why is Cr20Ni80 nickel chromium alloy strip widely used in vacuum heat treatment?
The Cr20Ni80 alloy strip has excellent high-temperature stability and oxidation resistance, and can maintain stable chemical properties in high-temperature vacuum environments. It is suitable for heating and temperature monitoring during heat treatment.

What is its role in the manufacturing of vacuum furnace heating elements?
Cr20Ni80 alloy strip is commonly used in the manufacturing of heating elements for vacuum furnaces, to achieve high-temperature treatment of materials, such as annealing, sintering, etc.

During sample heating, What are the characteristics of Cr20Ni80 alloy strip?
The Cr20Ni80 alloy strip can provide stable heating capacity, making the temperature of the sample uniform and stable throughout the heating process, thereby achieving the required phase transformation or structural adjustment.

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