High Temperature Furnace Monel K500 Wire With High Temperature Resistance

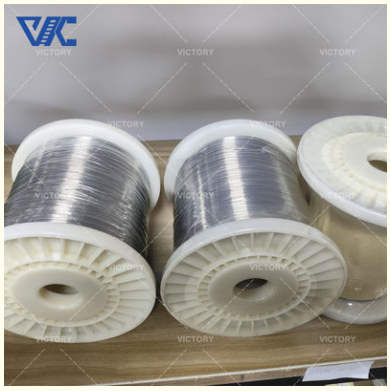
Our Product Introduction

Basic Information

- Place of Origin: China
- Brand Name: Victory
- Certification: CE,ROHS,ISO 9001
- Model Number: Monel 400/K500
- Minimum Order Quantity: 5 Kg
- Price: Negotiable
- Packaging Details: Special packaging requirements can also be accommodated. OEM is also acceptable.
- Delivery Time: 5-21 days
- Payment Terms: L/C, T/T, Western Union, MoneyGram
- Supply Ability: 300 tons per month

Product Specification

- Product Name: Monel Wire
- Material: Nickel Base Alloy
- Nickel(Min): 63%
- Melting Point: 1288-1343 °C
- Density: 8.05 G/cm3
- Application: Furnace
- Thermal Conductivity: 17.2 Watts/meter-Kelvin
- Linear Expansion Coefficient: 13.9 X 10^-6 Degrees
- Yield Strength: 790 MPa
- Tensile Strength: 1100 MPa
- Elongation (≥ %): 20%
- Sureface: Bright,Oxided
- Highlight: **Nickel Based Monel Alloy**, **nickel copper Monel Alloy**, **anti corrosion monel 400 material**



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Product Description

Our Product Introduction

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Introduction:

Monel K500 wire is an alloy material widely used in the field of high temperature furnaces. It is a nickel-copper alloy with excellent high-temperature properties and corrosion resistance, so it is widely used in high-temperature furnace equipment and systems.

First, Monel K500 wire has excellent high temperature performance. In a high-temperature furnace environment, the temperature is usually very high, which places strict requirements on the heat resistance of the material. Monel K500 wire can maintain its stable performance under high temperature conditions and is not easy to soften, deform or fail. It can withstand high temperature thermal cycles and thermal expansion in high temperature furnaces, ensuring the reliability and long-term stable operation of the equipment.

Secondly, Monel K500 wire has excellent corrosion resistance. In the operation of high-temperature furnaces, various corrosive gases, acid and alkali solutions and chemical reaction substances are often involved. Monel K500 wire can resist the erosion of these corrosive media and is not prone to corrosion, oxidation or sulfurization reactions, maintaining its stable performance and extending its service life. For some highly corrosive media, Monel K500 wire exhibits high corrosion resistance, making it an ideal choice for high-temperature furnace equipment.

In addition, Monel K500 wire also has good mechanical properties and thermal expansion characteristics. It has high strength and excellent plasticity, and can withstand the stress and pressure in high-temperature furnaces. At the same time, the thermal expansion coefficient of Monel K500 wire matches that of some commonly used high-temperature furnace materials, which can reduce the occurrence of thermal stress and thermal cracks caused by differences in thermal expansion and improve the stability and reliability of the equipment.

Parameter:

Chemical composition:

Nickel (Ni): about 63%
Copper (Cu): about 29.5%
Aluminum (Al): about 2.7%
Titanium (Ti): about 0.6%
Iron (Fe): about 2%
Manganese (Mn): about 1.5%
Silicon (Si): about 0.5%
Carbon (C): up to 0.25%

Physical properties:

Density: about 8.05g/cubic centimeter
Melting point: about 1288-1343 degrees Celsius
Thermal Conductivity: Approximately 17.2 Watts/meter-Kelvin
Linear expansion coefficient: approximately 13.9 x 10^-6 degrees Celsius^-1 (room temperature to 100 degrees Celsius)

Mechanical behavior:

Yield Strength (Tensile Strength): Minimum approximately 790 MPa (80,000 psi)
Tensile Strength: Minimum approximately 1100 MPa (110,000 psi)
Elongation: minimum value is about 20%

Item	Ni	Cu	Al	Ti	Fe	Mn	S	C	Si
Monel K500	≥63	27-33	2.3-3.15	0.35-0.85	≤2	≤1.5	≤0.01	≤0.25	≤0.5

Item	Density	Melting point	Tensile Strength	Yield Strength	Elongation
Monel K500	8.05 g/cm3	1288-1343℃	1100	790	20%

Monel K500	Bar/Rod	Forging	Pipe	Sheet/Strip	Welding Wire
Standard	ASTM B864	AMS4676	ASTM B865	ASTM B564	ErNiCu-7

Advantage:

Monel K500 alloy wire is a high-strength, corrosion-resistant alloy material composed of elements such as nickel and copper. It is widely used in the field of high temperature furnaces, mainly due to the following characteristics and advantages:

High temperature resistance: Monel K500 alloy wire can maintain good mechanical properties and corrosion resistance in high temperature environments. It can withstand the high temperature atmosphere and thermal cycle in the high temperature furnace, is not prone to deformation and rupture, and has a long service life.

Anti-oxidation properties: Monel K500 alloy wire exhibits excellent anti-oxidation properties and can resist oxidation reactions at high temperatures. This enables it to maintain stable performance in high-temperature furnaces for a long time and is less prone to oxidation and corrosion.

Thermal fatigue resistance: Monel K500 alloy wire has good thermal fatigue resistance and can withstand cyclic thermal loads at high temperatures. In high-temperature furnaces, materials are often subject to thermal expansion and contraction, which can lead to thermal fatigue damage. Monel K500 alloy wire can effectively reduce the risk of thermal fatigue and improve the reliability and durability of high-temperature furnace components.

Corrosion resistance: Monel K500 alloy wire has good corrosion resistance in high temperature furnaces. It can withstand corrosive media in high-temperature environments, including oxidizing atmospheres, acidic and alkaline atmospheres, etc. This makes Monel K500 alloy wire an ideal material for manufacturing internal components of high-temperature furnaces and heat treatment tools.

Application:

In the field of high-temperature furnaces, the specific applications of Monel K500 alloy wire include but are not limited to the following aspects:

Furnace components: Furnace components used to manufacture high-temperature furnaces, such as furnace walls, furnace tops, furnace doors, and furnace bottoms.

Heating elements: Heating elements used in the manufacture of high-temperature furnaces, such as resistance wires, heaters, and heating coils.

Heat treatment equipment: used in the manufacture of heat treatment equipment in high-temperature furnaces, such as furnace baskets, furnace plates, and furnace meshes.

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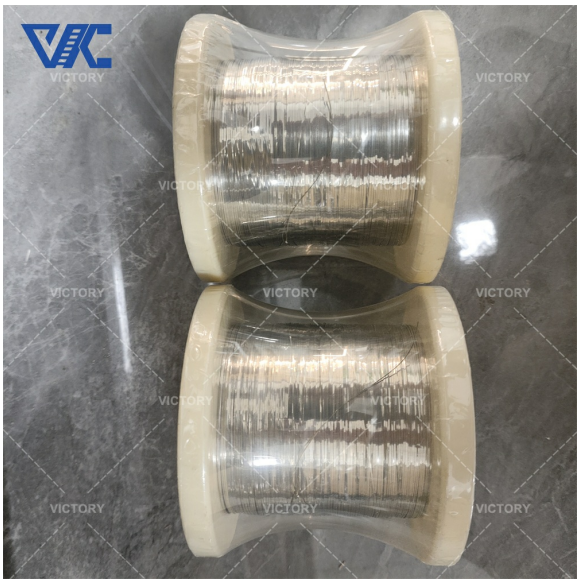

Q&A:

Q: What are the differences between Monel 400 and K500 wire?
A: The main difference lies in their composition and mechanical properties. Monel 400 wire is primarily composed of nickel and copper, offering excellent corrosion resistance in various environments.

Q: What are the advantages of using Monel 400 and K500 wire?
A: The advantages include exceptional corrosion resistance, high mechanical strength, and durability. Monel 400 wire is highly resistant to seawater, acids, and alkalis, making it ideal for marine and chemical applications.

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