Nuclear Industry Nickel Copper Alloy Monel K500 Wire with Anti Corrosion Resistant

Our Product Introduction

Basic Information

- Place of Origin: China
- Brand Name: Victory
- Certification: CE,ROHS,ISO 9001
- Model Number: Monel 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 K500 Wire
- Material: Nickel Base Alloy
- Nickel(Min): 63%
- Melting Point: 1288-1343 °C
- Application: Nuclear Industry
- Density: 8.05 G/cm3
- 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: **Nuclear Industry Monel K500 Wire**

More Images

Product Description

Our Product Introduction

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Introduction:

Monel K500 wire is an alloy material widely used in the nuclear industry. As a nickel-copper alloy, Monel K500 wire has excellent properties and characteristics and is therefore widely used in various areas of the nuclear industry.
First, Monel K500 wire has excellent corrosion resistance. In the nuclear industry, nuclear reactors and nuclear facilities face harsh working environments, including high temperature, high pressure, radiation and various corrosive media. 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. It has high corrosion resistance to strong acids, strong bases, salt water and radioactive substances, making it an ideal material choice for nuclear reactors and nuclear facilities in the nuclear industry.
Secondly, Monel K500 wire has excellent mechanical properties. In the nuclear industry, structures and components in nuclear reactors and facilities face the challenges of high temperatures, pressures and radiation, requiring materials with high strength and durability. Monel K500 wire has high strength and excellent plasticity, and can withstand the stress and pressure in the nuclear industry environment while maintaining its stable performance, ensuring the reliability and safety of nuclear facilities.
In addition, Monel K500 wire also has good thermal stability and radiation resistance. In the nuclear industry, high temperatures and radiation are common working conditions. Monel K500 wire can maintain its stable performance in high temperature and radiation environments, is not easy to soften, deform or fail, and can withstand the high temperature thermal cycle and radiation effects of nuclear reactors, ensuring long-term stable operation of the facility.

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

Shape	Size(mm)
Wire	0.15-7.5
Rod/Bar	8.0-200
Strip	(0.5-2.5)*(5-180)
Plate	custom made

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 nuclear industry mainly due to the following characteristics and advantages:
Corrosion resistance: Monel K500 alloy wire exhibits excellent corrosion resistance and can resist corrosive media in the nuclear industry, such as acidic solutions, salt water and radioactive substances. This makes it important in the manufacture of critical components in nuclear reactors and facilities, providing long-term stable performance.
Radiation resistance: Monel K500 alloy wire has good radiation resistance and can withstand working conditions in radiation

environments in the nuclear industry. Radiation can damage materials and cause performance degradation, but Monel K500 alloy wire can maintain stable mechanical and corrosion resistance properties in a radiation environment.
Resistance to thermal stress corrosion: Monel K500 alloy wire can maintain stable performance under high temperature and high stress conditions and is not prone to thermal stress corrosion damage. This makes it suitable for high temperature and high stress conditions in the nuclear industry, such as fuel elements and structural materials in nuclear reactors.
High-Strength Performance: Monel K500 alloy wire has excellent high-strength properties and is able to withstand the high pressure and mechanical loads found in the nuclear industry. This makes it widely used in critical parts such as pipelines, vessels and structural components in nuclear facilities.

Application:

In the nuclear industry, specific applications of Monel K500 alloy wire include but are not limited to the following aspects:
Nuclear reactor components: used to manufacture key components of nuclear reactors, such as fuel elements, fuel rods, and reactor vessels.
Radiation shielding materials: used to manufacture radiation shielding materials in nuclear facilities, such as radiation shielding panels and radiation protection devices.
Nuclear facility piping: Used to manufacture piping systems in the nuclear industry, such as coolant pipes and pipes for handling liquid waste.

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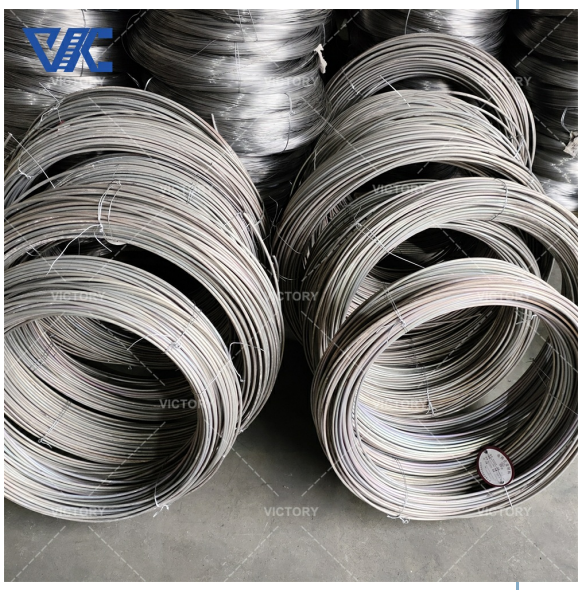

Q&A:

Q: What services can a company provide for Monel K500 wire?
A: A company specializing in Monel K500 wire can offer services such as custom wire manufacturing, precision cutting, spooling, and packaging to meet specific customer requirements.

Q: How can a company ensure the quality of Monel K500 wire?
A: A company can ensure the quality of Monel K500 wire by implementing strict quality control measures, conducting thorough material testing, adhering to industry standards, and providing certifications such as material test reports and compliance documentation.