



Marine Industry Nickel Alloy Wire N05500 Monel K500 Wire With High Strength

Our Product Introduction

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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%
- Application: Marine Industry
- Melting Point: 1288-1343°C
- 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: **Monel Nickel Alloy Wire,
Nickel Based Monel Wire,
Corrosion Resistant Monel Wire**



More Images



Product Description

Introduction:

Monel K500 wire is an alloy material widely used in the marine industry. It is a nickel-copper alloy that has excellent corrosion resistance and mechanical properties and is therefore widely used in a variety of applications in marine environments.

First, Monel K500 wire has excellent corrosion resistance. In the marine environment, metal materials are easily corroded by seawater, salt spray, humid climate and marine life. Monel K500 wire can resist the erosion of these corrosive media, maintain its stable performance and extend its service life. It has high resistance to seawater corrosion, sea salt corrosion and marine biological corrosion.

Secondly, Monel K500 wire also has excellent mechanical properties. It has high strength and excellent plasticity, and can withstand the stress and vibration generated in the marine environment. This makes it an ideal material for manufacturing equipment and components in the marine industry, such as offshore platform structures, ship parts, subsea pipelines and valves.

In addition, Monel K500 wire also has good anti-wear and abrasion resistance. In the marine industry, sand and particles in seawater can cause abrasion on material surfaces. Monel K500 wire resists this wear, maintaining its surface integrity and performance, reducing the need for maintenance and replacement.

Finally, Monel K500 wire also has excellent performance under high temperature and pressure conditions. In some applications in the marine industry, such as deep sea mining and oil and gas exploration, extreme temperatures and pressures are encountered. Monel K500 wire can maintain its stable performance in these harsh environments and is not easily deformed or failed, ensuring the reliability and safety 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 13.9×10^{-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°C	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:

Corrosion resistance: Monel K500 alloy wire shows excellent corrosion resistance against sea water, salt water, marine atmospheric environment and other corrosive media. It is resistant to corrosion in seawater, chloride attack and corrosion in the marine atmosphere, giving it long-term durability in marine environments.

High strength: Monel K500 alloy wire can reach a high strength level after proper heat treatment and cold working. This allows it to withstand the high stresses and harsh working conditions commonly found in the marine industry.

Wear resistance: Due to the high hardness and wear resistance of Monel K500 alloy wire, it is used in the marine industry to manufacture parts and equipment that require wear resistance, such as pumps, valves, bearings and agitators.

Dimensional stability: Monel K500 alloy wire has a low thermal expansion coefficient, so it can maintain good dimensional stability when temperature changes. This is important for high and low temperature applications in the marine industry to reduce dimensional deformations and stress concentrations caused by temperature changes.

Resistance to stress corrosion cracking: Monel K500 alloy wire has good resistance to stress corrosion cracking. This is one of the important characteristics in the marine industry, because in high stress and corrosive environments, metal materials are prone to stress corrosion cracking, and Monel K500 alloy wire can effectively alleviate this phenomenon.

Application:

In the marine industry, specific applications of Monel K500 alloy wire include but are not limited to the following:

Marine structures: used to manufacture offshore platforms, offshore buoys, offshore wind power equipment and offshore oil and gas facilities, etc.

Ship construction and repair: Various parts and equipment used to manufacture ships, such as hull structures, ship pipes and valves, etc.

Equipment and components in corrosive environments: used to manufacture corrosion-resistant and wear-resistant equipment, such as pumps, valves, seawater coolers and heat exchangers, etc.

Marine navigation and measuring equipment: used to manufacture marine navigation systems, sonar equipment and measuring instruments, etc.

It should be noted that the specific parameters and specifications will vary depending on the needs of the actual application and the requirements of the specific project. When selecting and applying Monel K500 alloy wire, it is recommended to refer to the detailed technical data and specification sheets provided by the relevant material manufacturer to ensure that the alloy wire selected and applied meets the project needs and standards.

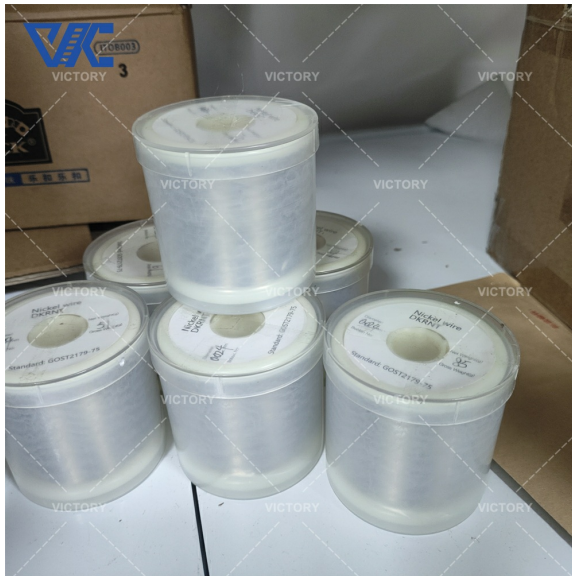
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Q & A:

Q: What are the applications of Monel K500 wire?

A: Monel K500 wire is extensively used in marine engineering, oil and gas extraction, chemical equipment, and more.

Q: Why is Monel K500 wire favored in these applications?

A: Monel K500 wire offers excellent corrosion resistance, high strength, and good mechanical properties.



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