

Aerospace Industry Nickel Copper Alloy Monel K500 Wire With Better Resistance

 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



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之信科技有限公司

Product Specification

Product Name:	Monel K500 Wire
 Material: 	Nickel Base Alloy
 Nickel(Min): 	63%
 Melting Point: 	1288-1343 °C
 Density: 	8.05 G/cm3
 Application: 	Aerospace Industry
 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%

Bright,Oxided

Monel Nickel Alloy Wire, Nickel Based Monel Wire, Corrosion Resistant Monel Wire



More Images

• Sureface:

• Highlight:



Introduction:

Monel K500 wire is an alloy material widely used in the aerospace industry. It is a nickel-copper alloy that has excellent properties and properties and is therefore widely used in various applications in the aerospace sector.

First, Monel K500 wire has excellent corrosion resistance. In the aerospace industry, aircraft are exposed to extreme environments, including high temperatures, high humidity, air pressure changes, salt spray, etc. 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 oxidation, corrosion and chemical attack in the atmospheric environment.

Secondly, Monel K500 wire also has excellent mechanical properties. It has high strength and excellent plasticity, allowing it to withstand the stresses and vibrations found in the aerospace industry. This makes it an ideal material for manufacturing aerospace devices and structures, such as engine parts, turbine blades, fuselage structures and connectors. At the same time, Monel K500 wire also has good fatigue resistance and can maintain stable performance under long-term use and high-intensity working conditions.

In addition, Monel K500 wire also has good high temperature performance. In the aerospace industry, engines and jet propulsion systems are often exposed to high temperature environments. Monel K500 wire can maintain its stable performance under high temperature conditions and is not easily deformed or failed, ensuring the reliability and safety of aerospace devices.

Finally, Monel K500 wire also has low magnetic properties and good electrical conductivity. In the aerospace industry, there are high requirements for materials with high magnetic properties and electrical conductivity to meet the needs of electronic equipment and communication systems. Monel K500 wire is able to meet these requirements while maintaining its stable magnetic and conductive properties.

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%

ltem	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	≤0.2	5 ≤0.5	;
Item	Densit	iy M	lelting point	Tensile Streng	lth	Yield	d Strengt	n E	longation	
Monel K500	8.05 g/c	m3 12	288-1343°C	1100			790		20%	
Monel K500	Bar	/Rod	Forging	Pipe		Sheet/S	Strip	Weldi	ng Wire	
Standard	ASTM	1 B864	AMS4676	ASTM B865		ASTM E	3564	ErN	iCu-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:

High strength: Monel K500 alloy wire can obtain a high strength level through proper heat treatment and cold working. In the aerospace industry, materials are required to have high strength to meet engineering requirements, and Monel K500 alloy wire

provides the required strength properties.

Corrosion resistance: Monel K500 alloy wire shows excellent corrosion resistance and can resist the erosion of many corrosive media. In the aerospace industry, materials often face various harsh environments, including high temperature, high humidity, and chemically corrosive media. The corrosion resistance of Monel K500 alloy wire makes it the preferred material for manufacturing aerospace components.

Resistance to stress corrosion cracking: Monel K500 alloy wire has good resistance to stress corrosion cracking. In the aerospace industry, stress corrosion cracking is prone to occur due to the combined effects of stress and corrosive media on materials. Monel K500 alloy wire can effectively reduce the risk of stress corrosion cracking and improve the reliability and safety of components.

High temperature performance: Monel K500 alloy wire can still maintain good mechanical properties and corrosion resistance in high temperature environments. In the aerospace industry, some application scenarios require materials to withstand high temperature conditions, such as jet engines, gas turbines, and spacecraft tail nozzles. Monel K500 alloy wire is suitable for these high temperature environments and can meet engineering needs.

Application:

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

Engine components: used to manufacture key components of aeroengines, such as jet engine turbine disks, nozzle rings, and gas turbine blades.

Avionics: Used in manufacturing connectors, wires and cables in avionics.

Spacecraft components: Structural components used to manufacture spacecraft, such as missile casings, spacecraft casings, and pipelines for propulsion systems.

Other related content:

Anti-wear properties: Monel K500 alloy wire has good anti-wear properties and can maintain stable performance in friction and wear environments. This enables it to provide good wear resistance in some applications in the aerospace industry, such as bearings and gear systems in aircraft engines.

Magnetic properties: Monel K500 alloy wire is a non-magnetic material with low magnetism. This is important in some aerospace applications because magnetic materials can cause interference in sensitive electronic equipment and navigation systems. The non-magnetic properties of Monel K500 alloy wire make it ideal for these applications.

Welding performance: Monel K500 alloy wire has good welding performance and can be welded with other similar or compatible alloy materials. This enables the use of Monel K500 alloy wire in combination with other materials in the aerospace industry to achieve more complex components and assembly structures.

Supersonic aircraft application: Due to its high strength, corrosion resistance and high temperature resistance, Monel K500 alloy wire is widely used in the manufacture of supersonic aircraft. Supersonic aircraft face extreme conditions such as high temperature, high-speed airflow and aerodynamic pressure. The characteristics of Monel K500 alloy wire enable it to meet these requirements.

Gas turbine applications: Monel K500 alloy wire also has important applications in the field of gas turbines. Gas turbines are key components in aerospace engines and energy systems. Monel K500 alloy wire can be used to manufacture gas turbine components such as blades, disks and nozzle rings to provide high strength and corrosion resistance.

It should be noted that the application of Monel K500 alloy wire is not limited to the aerospace industry, but can also find wide application in other fields such as marine engineering, chemical industry, oil and gas industry, etc. The specific application scope and project requirements may vary, so in actual applications, it is recommended to select and design based on specific circumstances.

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Q&A:

Q: Can Monel K500 wire be customized according to specific requirements?

A: Yes, Monel K500 wire can be customized to meet specific needs, including variations in diameter, length, surface finish, and packaging options.

Q: What are the typical customization options available for Monel K500 wire?

A: Typical customization options for Monel K500 wire include variations in diameter, temper, and surface finish. This allows the wire to be tailored for specific applications, ensuring optimal performance and compatibility with different manufacturing processes.

V C [°]	Changzhou Victory Technology Co., Ltd					
& +861990611964	1 Svictory@dlx-alloy.com					
NO.32 Wes	NO.32 West Taihu Road, Xinbei District, Changzhou, Jiangsu					