

## Medical Instruments Nickel Copper Monel 400 Wire Biocompatibility

### **Basic Information**

# Place of Origin: Prend Name:

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

China

WC

BLX

之信科技有限公司



## **Product Specification**

Product Name:	Monel 400 Wire
<ul> <li>Material:</li> </ul>	Nickel Base Alloy
<ul> <li>Nickel(Min):</li> </ul>	67%
• Density:	8.83 G/cm3
<ul> <li>Melting Point:</li> </ul>	1300-1350°C
<ul> <li>Thermal Conductivity:</li> </ul>	21.8 Watts/meter Kelvin
Linear Expansion     Coefficient:	13.0 X 10 <sup>^</sup> -6/degrees Celsius
<ul> <li>Yield Strength:</li> </ul>	240 MPa
<ul> <li>Tensile Strength:</li> </ul>	520 MPa
<ul> <li>Elongation (≥ %):</li> </ul>	40%
• Sureface:	Bright,Oxided
Highlight:	Monel Nickel Alloy Wire, Nickel Based Monel Wire,

**Corrosion Resistant Monel Wire** 

NITON RICHARD

## More Images



#### Introduction:

Monel 400 wire has a wide range of applications in the field of medical devices. As a high-performance nickel-copper alloy wire, it has good biocompatibility, corrosion resistance and mechanical properties, making it an ideal choice for manufacturing medical devices and medical equipment.

In medical devices, material biocompatibility is a crucial factor. Monel 400 silk has excellent biocompatibility and will not cause allergic reactions or toxic reactions. It is suitable for medical devices in contact with human tissue, such as implants, support structures and surgical instruments. Its anti-corrosion properties also enable it to resist the corrosive effects of fluids and tissues in the body, ensuring the reliability and durability of medical devices in the body.

In addition, Monel 400 wire has good mechanical properties, including high strength and good plasticity. This makes it suitable for manufacturing medical devices that require high strength and stable performance, such as surgical tools, microscope parts, and stents. Its plasticity also makes it easy to process and shape to meet the design requirements of different medical devices.

#### **Parameter:**

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Iten	n (	Ni	Cu	Fe	Mn	C	Si	S	
Monel	400	≥63	28-34	≤2.5	≤2	≤0.3	≤0.5	≤0.02	25
ltem	Density	Mel	ting point	Tensile Strength		Yield Strength		Elongation	HB
Monel 400	8.83 g/cm	1300-1390°C		480		170		35%	≥331

Monel 400	Bar/Rod	Forging	Pipe	Sheet/Strip	Welding Wire
Standard	ASTM B164	ASTM B564	ASTM B165	ASTM B127	ErNiCu-7

AMS Number	Alloy	Туре	UNS	Cross Ref. Spec	Misc./Shape
AMS 4544 Plate	Monel 400	Nickel Copper	N04400	QQ-N-281	Plate
AMS 4544 Sheet	Monel 400	Nickel Copper	N04400	QQ-N-281	Sheet
AMS 4544 Strip	Monel 400	Nickel Copper	N04400	QQ-N-281	Strip
AMS 4574	Monel 400	Nickel Copper	N04400	-	Tubing
AMS 4675 Bar	Monel 400	Nickel Copper	N04400	ASTM B 164	Bar
AMS 4730	Monel 400	Nickel Copper	N04400	QQ-N-281	Wire
AMS 4731 Ribbon	Monel 400	Nickel Copper	N04400	-	Ribbon
AMS 4731 Wire	Monel 400	Nickel Copper	N04400	-	Wire

VK.



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

#### **Characteristic:**

Corrosion resistance: Monel 400 alloy wire has excellent corrosion resistance and can resist a variety of corrosive media, including body fluids and chemicals in living organisms.

High strength: It has high tensile strength and yield strength, and can provide the structural strength and reliability required by medical devices.

Good mechanical properties: Monel 400 alloy wire has good plasticity and processability, making it easy to manufacture complex-shaped medical device components.

Biocompatibility: Monel 400 alloy wire has good biocompatibility in medical device applications and is not likely to cause allergic reactions or other adverse effects.

#### Advantage:

Corrosion resistance: The corrosion resistance of Monel 400 alloy wire in medical devices makes it resistant to corrosion by body fluids and chemicals, and is suitable for devices implanted and in contact with the body.

High strength and durability: Monel 400 alloy wire has high strength and durability, can withstand the use and load of medical equipment, and improves the life and reliability of the equipment.

Good processability: Monel 400 alloy wire is easy to process into device components of various shapes to meet the design and manufacturing needs of medical devices.

Biocompatibility: Monel 400 alloy wire has good biocompatibility and is suitable for medical devices that need to be in contact with living organisms.

#### **Application:**

Implantable devices: Monel 400 alloy wire can be used to manufacture implantable devices, such as artificial joints, implantable pacemakers and neurostimulators.

Surgical Instruments: Suitable for surgical instruments such as forceps, scissors, and suture needles to provide corrosion resistance and high strength.

Medical equipment accessories: components that can be used to manufacture medical equipment, such as valves, connectors, and sensors.

Dental Instruments: Suitable for dental instruments, such as dental pliers, dental tweezers, and dental drills.

In general, Monel 400 alloy wire has the characteristics of corrosion resistance, high strength, good mechanical properties and biocompatibility in the field of medical devices. This makes it widely used in implantable devices, surgical instruments, medical equipment accessories and dental instruments. It resists corrosion from body fluids and chemicals, providing structural strength and durability while meeting the design and manufacturing needs of medical devices. In the field of medical devices, Monel 400 alloy wire provides a reliable material choice for various medical needs.

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#### Q & A:

Q: How is Monel 400 wire tested?

A: Common methods for testing Monel 400 wire include visual inspection, dimensional measurements, and mechanical property testing such as tensile strength and elongation.

Q: Are there any non-destructive testing methods used for Monel 400 wire?

A: Yes, non-destructive testing methods such as ultrasonic testing and eddy current testing can be employed to detect defects or inconsistencies in the internal structure of Monel 400 wire without causing damage.

