

# Auto Industry Nickel Based Alloy Monel 400 Wire With Excellent Processability

#### • Place of Origin: China • Brand Name: Victory CE,ROHS,ISO 9001 Certification: Model Number: Monel 400 • 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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## **Product Specification**

| <ul> <li>Product Name:</li> </ul>         | Monel 400 Wire                            |
|---|---|
| • Material:                               | Nickel Base Alloy                         |
| <ul> <li>Nickel(Min):</li> </ul>          | 63%                                       |
| <ul> <li>Density:</li> </ul>              | 8.83 G/cm3                                |
| <ul> <li>Application:</li> </ul>          | Auto Industry                             |
| <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                             |
|   |   |

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



## More Images

• Highlight:



## Introduction:

Monel 400 wire is an alloy material widely used in the automotive industry. Due to its excellent performance and properties, it is used in automobile manufacturing and the production of related components.

First, Monel 400 wire has excellent corrosion resistance. During driving, the vehicle is exposed to various harsh environments, including humidity, salt water, acid rain, etc. Monel 400 wire can resist the erosion of these corrosive media, maintain its stable performance, and extend the service life of the car.

Secondly, Monel 400 wire also has excellent mechanical properties. It has high strength and excellent plasticity, and can withstand the stress and vibration of the car during driving and stress. This makes it an ideal material for manufacturing automotive parts, such as engine parts, exhaust system components, and brake system components.

In addition, Monel 400 wire has good high temperature performance. High temperature environments are common in automotive engines and exhaust systems. Monel 400 wire can maintain its stable performance under high temperature conditions and is not easily deformed or failed, ensuring the reliability and safety of the car.

Finally, Monel 400 wire also has good electrical conductivity properties. In automotive electrical systems and electronic devices, the conduction of electrical current is critical. Monel 400 wire can effectively conduct current and ensure the normal operation of electronic equipment.

### Parameter:

Chemical composition: Nickel (Ni): about 67% Copper (Cu): about 30% Iron (Fe): maximum 1.0% Manganese (Mn): 2.0% maximum Silicon (Si): maximum 0.5%

## Physical properties:

Density: 8.80 g/cm<sup>3</sup> Melting point: about 1300-1350°C Thermal conductivity: 21.8 W/(m·K) Thermal expansion coefficient: 13.9 μm/m·°C (in the range of 20-100°C)

#### Mechanical behavior:

Yield strength (0.2% deviation):  $\ge 240$  MPa Tensile strength:  $\ge 550$  MPa Elongation:  $\ge 40\%$ 

| lten      | ו ו        | Ni    | Cu          |    | Fe          | Mn     | С          | Si    |     | S         |      |
|-----------|------------|-------|-------------|----|-------------|--------|------------|-------|-----|-----------|------|
| Monel     | 400        | ≥63   | 28-34       |    | ≤2.5        | ≤2     | ≤0.3       | ≤0.5  |     | ≤0.02     | 25   |
|           |            |       |             |    |             |        |            |       |     |           |      |
| ltem      | Density    | Me    | Iting point | Te | ensile Stre | ngth   | Yield Stre | ngth  | Ele | ongation  | HB   |
| Monel 400 | 8.83 g/cm3 | 3 130 | 00-1390°C   |    | 480         |        | 170        |       |     | 35%       | ≥331 |
|           |            |       |             |    |             |        |            |       |     |           |      |
| Monel 400 | Bar/R      | lod   | Forging     |    | Pi          | ре     | Sheet/     | Strip |     | Welding V | Vire |
| Standard  | ASTM       | B164  | ASTM B56    | 4  | ASTM        | I B165 | ASTM       | B127  |     | ErNiCu-7  |      |

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| 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 performs well in harsh environments, has excellent corrosion resistance, and can withstand corrosion from chemicals, salt water, harsh weather and other factors used in automobiles.

High strength and hardness: Monel 400 alloy wire has good strength and hardness and can withstand high stress and mechanical loads in the automotive industry, providing reliable structural support and component performance.

High temperature resistance: Monel 400 alloy wire remains stable under high temperature operating conditions and is suitable for high temperature applications such as automotive engines and exhaust systems.

Excellent processability: Monel 400 alloy wire is easy to process and form, and can meet the requirements of the automotive

industry for complex shapes and sizes.

#### Advantage:

Lightweight: Monel 400 alloy wire has a lower density than other materials, which can reduce the overall weight of the car while providing good strength and durability, helping to improve the car's fuel economy and performance.

Corrosion resistance: The corrosion resistance of Monel 400 alloy wire gives it a long life in automotive use, reducing maintenance and replacement costs.

High temperature stability: Monel 400 alloy wire maintains stability in high temperature environments and is suitable for high temperature components such as automotive engines and exhaust systems, providing reliable performance and durability. High strength and hardness: The high strength and hardness of Monel 400 alloy wire enables it to withstand the high stresses and loads found in the automotive industry, providing structural strength and component reliability.

#### **Application:**

Engine components: Monel 400 alloy wire can be used to manufacture valve stems, piston rings, cylinder liners and other components in automobile engines. It has good corrosion resistance and high temperature stability.

Exhaust system: Monel 400 alloy wire can be used to manufacture exhaust pipes, exhaust valves, mufflers and other components in automobile exhaust systems. Its corrosion resistance can cope with the effects of high temperature and corrosive gases.

Braking system: Monel 400 alloy wire can be used to manufacture brake lines, brake pads, brake springs and other components in automobile braking systems, providing high strength and corrosion resistance.

Fuel system: Monel 400 alloy wire can be used to manufacture components such as fuel nozzles and fuel pipes in automobile fuel systems. Its corrosion resistance can cope with fuel corrosion and pollution.

In summary, Monel 400 alloy wire has a wide range of applications in the automotive industry. Its corrosion resistance, high strength and hardness, high temperature resistance and excellent processability make it an ideal material choice for the automotive industry. Whether in the fields of engine components, exhaust systems, braking systems or fuel systems, Monel 400 alloy wire can provide reliable performance and durability to meet the automotive industry's demand for high-quality, high-performance materials.

## contact us email:victory@dlx-alloy.com

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#### **Q&A:**

Q: What is the quality assurance process for Monel 400 wire?

A: The quality assurance process for Monel 400 wire typically involves rigorous testing and inspection to ensure compliance with industry standards. This includes dimensional checks, mechanical property testing, chemical composition analysis, and corrosion resistance evaluation.

Q: What are the benefits of using high-quality Monel 400 wire?

A: Using high-quality Monel 400 wire ensures reliability, longevity, and optimal performance in demanding applications. It offers excellent corrosion resistance, mechanical strength, and thermal/electrical conductivity, providing peace of mind and minimizing the risk of failures or downtime.

