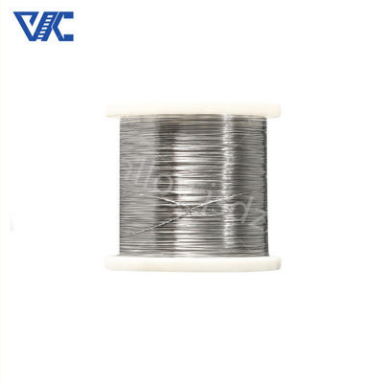
# Oil And Gas Industry Inconel 601 Wire Nickel Alloy Wire With High Temperature Resistance

Our Product Introduction

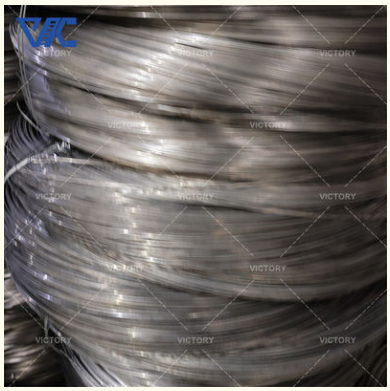
## Basic Information

- Place of Origin: China
- Brand Name: Victory
- Certification: CE,ROHS,ISO 9001
- Model Number: Inconel 601 wire
- Minimum Order Quantity: 5 Kg
- Price: Negotiable
- Packaging Details: Inconel 601 wire packed in Spool Carton box, Coil package with polybag,then in woodencase
- Delivery Time: 5-21 days
- Payment Terms: L/C, T/T, Western Union, MoneyGram
- Supply Ability: 300 tons per month



## Product Specification

- Product Name: Inconel Wire
- Material: Ni Cr Fe
- Nickel(Min): 58%
- Density: 8.11 G/cm3
- Tensile Strength: 550 MPa
- Yield Strength: 220 MPa
- Melting: 1393-1427°C
- Application: Aerospace Industry,Chemical Processing
- Sureface: Bright,Oxided
- Thermal Expansion Coefficient: 13.1×10^-6/°C
- Thermal Conductivity: 9.9 W/(m·K)
- Highlight: **corrosion resistant inconel alloy**, **high temperature resistant inconel alloy**



## More Images

## Product Description

Our Product Introduction

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## Introduction:

Inconel 601 alloy wire is a high-performance material widely used in the oil and gas industry. This alloy wire is composed of metallic elements such as nickel, chromium and iron and has excellent resistance to high temperatures, corrosion and stress corrosion cracking.
In the oil and gas industry, high temperatures and corrosion are common environmental challenges. Inconel 601 alloy wire is able to maintain high strength and stability under high temperature conditions, making it an ideal choice for equipment such as refractory furnaces, heat exchangers and pipes. At the same time, the alloy wire shows excellent corrosion resistance to corrosive substances such as hydrogen sulfide, acidic media and chloride, which can extend the service life of equipment and reduce maintenance costs.

## Characteristic:

Inconel 601 alloy wire has the following key properties in the oil and gas industry:
High temperature resistance: Inconel 601 alloy wire can exhibit excellent stability and mechanical strength at extremely high temperatures. It can withstand temperatures up to 1200°C (2200°F), making it ideal for use in high-temperature environments such as refractory furnaces and high-temperature heat exchangers.
Corrosion resistance: This alloy wire has good corrosion resistance against a variety of corrosive media. It resists common corrosive substances such as hydrogen sulfide, acidic solutions, chlorides, etc., thereby extending the life of the equipment and reducing maintenance costs.
Resistance to stress corrosion cracking: Inconel 601 alloy wire has excellent resistance to stress corrosion cracking in high stress environments. This enables it to exhibit stable performance and maintain structural integrity in equipment and pipelines that are subject to high pressure and complex working conditions.
Excellent mechanical properties: This alloy wire has good strength and toughness and can withstand complex mechanical loads and vibrations. This makes it suitable for a variety of applications in the oil and gas industry such as pipes, valves, pumps and oil drilling equipment.
Easy processability: Inconel 601 alloy wire has good processability and weldability, and can be formed and processed by various common metal processing methods. This makes it easier to machine and assemble during the manufacturing process.

## Advantage:

High temperature resistance: Compared with many common stainless steel and alloy materials, Inconel 601 alloy wire has higher high temperature resistance. Its ability to maintain strength and structural stability at extremely high temperatures makes it excellent in high-temperature environments such as refractory furnaces and high-temperature heat exchangers.
Corrosion resistance: Inconel 601 alloy wire has excellent corrosion resistance against a variety of corrosive media. In contrast, some common stainless steel and alloy materials may corrode or become damaged in corrosive environments. Inconel 601 alloy wire can resist common corrosive substances such as hydrogen sulfide, acidic solutions, chlorides, etc., extending the service life of equipment and reducing maintenance needs.
Resistance to stress corrosion cracking: Inconel 601 alloy wire exhibits excellent resistance to stress corrosion cracking in high stress environments, which makes it more reliable under high pressure and complex working conditions. Compared with some conventional steel materials, Inconel 601 alloy wire can maintain structural integrity in high-stress environments and avoid equipment damage caused by stress corrosion cracking.
Excellent mechanical properties: Inconel 601 alloy wire has excellent strength and toughness and can withstand complex mechanical loads and vibrations. This makes it more reliable in various applications in the oil and gas industry, such as pipelines, valves, pumps and oil drilling equipment.
Processability and Weldability: Inconel 601 alloy wire has good processability and weldability, and can be formed and processed by common metalworking methods. Compared with some high-temperature alloy materials that are more difficult to process, Inconel 601 alloy wire is easier to process and assemble, reducing manufacturing costs and time.

## Specific applications:

In the oil and gas industry, Inconel 601 alloy wire has a wide range of applications, including the following:
Refinery equipment: Inconel 601 alloy wire can be used to manufacture equipment such as furnace tubes, heat exchanger tube bundles and catalyst pipes in refineries. It can resist the erosion of high temperature and corrosive media, ensuring the normal operation and long-term stability of the equipment.
Gas processing equipment: Inconel 601 alloy wire can be used to manufacture gas processing equipment in oil and gas processing, such as reactors, pipes and valves. It can resist the erosion of corrosive gases such as hydrogen sulfide, ensuring the safety and reliability of the equipment.
Downhole equipment: Inconel 601 alloy wire can be used to manufacture downhole equipment, such as oil well casing and wellhead valves. It can withstand the challenges of high temperature, high pressure and corrosive environment, ensuring the normal production and operation of oil wells.
Marine environment: Inconel 601 alloy wire is also widely used in marine environments, such as submarine pipelines, offshore platforms and ocean exploration equipment. It resists corrosion in seawater and the erosion of marine climates, providing long-term reliable performance.
In summary, Inconel 601 alloy wire is widely used in the oil and gas industry to manufacture various high temperature and corrosion resistant equipment and components. Its excellent performance enables it to withstand harsh working environments, ensuring safe operation and long-term stability of the equipment.

## Parameter:

**Chemical composition:**
Nickel (Ni): minimum content is 58%
Chromium (Cr): minimum content 21%
Iron (Fe): maximum content 17%
Aluminum (Al): minimum content 1.0-1.7%
Titanium (Ti): minimum content is 0.1-0.6%
Carbon (C): Maximum content is 0.10%
Manganese (Mn): maximum content 1.0%
Silicon (Si): maximum content is 0.50%

**Physical properties:**
Density: 8.11 g/cm3
Melting point: approximately 1,370 degrees Celsius
Thermal expansion coefficient: 13.1 x 10^-6/degrees Celsius (room temperature to 500 degrees Celsius)
Thermal conductivity: 10.2 W/m·K (room temperature)
Magnetism: Inconel 601 alloy wire is magnetic and is a ferromagnetic material.

**Mechanical behavior:**

Yield Strength: Minimum tensile strength 550 MPa (room temperature)
Tensile strength: Minimum tensile strength 750 MPa (room temperature)
Elongation: Minimum elongation 30% (room temperature)
Corrosion resistance:
Inconel 601 alloy wire performs well in high-temperature corrosive environments and can resist corrosive media such as hydrogen sulfide, acidic solutions, and chlorides.

| Item | C | Mn | Fe | P | S | Si | Cu | Ni | Co | Al | Ti | Cr | Nb+Ta | Mo | B |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Inconel 601 | ≤0.1 | ≤1.5 | rest | ≤0.02 | ≤0.015 | ≤0.5 | ≤1 | 58-63 | -- | 1-1.7 | -- | 21-25 | -- | -- | -- |

| SPECIFICATIONS | |
|---|---|
| Form | ASTM |
| Rod,bar and wire | B 166 |
| Plate,sheet and strip | B 168, B 906 |
| Seamless pipe and tube | B 167, B 829 |
| Welded pipe | B 517, B775 |
| Fitting | B 366 |
| Billet and bar for reforging | B 472 |
| Forging | B 564 |

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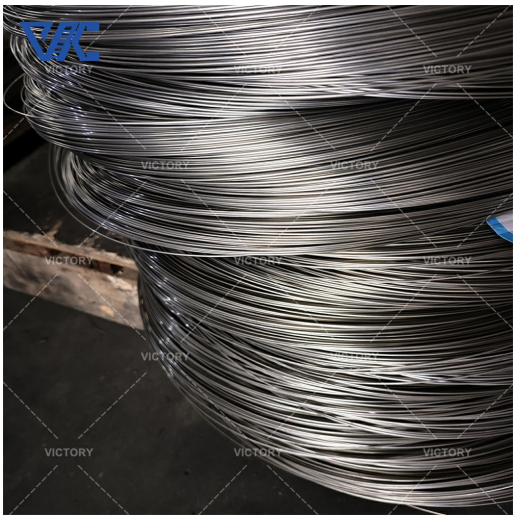

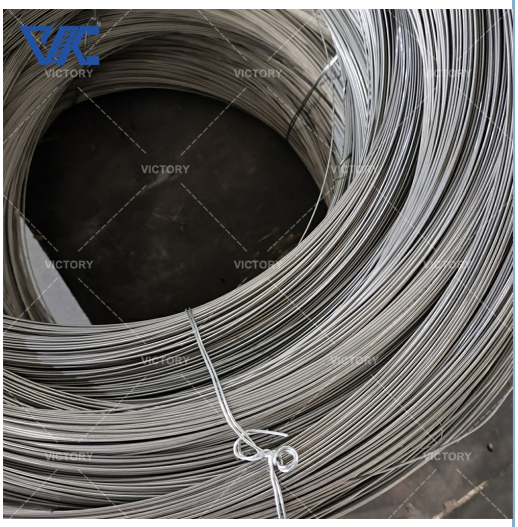

## Q & A:

Q1: What are the key properties of Inconel 601 wire?
A1: Inconel 601 wire possesses excellent resistance to oxidation, carburization, and high-temperature corrosion, making it ideal for applications in furnace components, heat treatment equipment, and chemical processing.

Q2: In which industries is Inconel 601 wire commonly used?
A2: Inconel 601 wire finds common applications in industries such as aerospace, chemical processing, and power generation, where its high-temperature strength and corrosion resistance are crucial for withstanding harsh operating conditions.

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