Nuclear Industry Inconel 690 Round Bar / Rod With Radiation Resistance

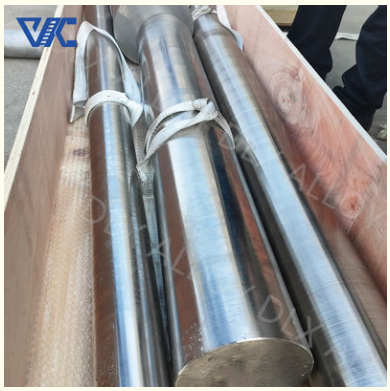
Our Product Introduction

Basic Information

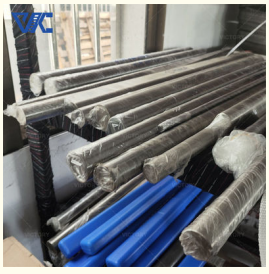
- Place of Origin: China
- Brand Name: Victory
- Certification: ISO9001
- Model Number: Inconel 690
- Minimum Order Quantity: 5 Kg
- Price: Negotiable
- Packaging Details: Inconel 690 bar packed in Spool Carton box, Coil package with polybag,then in woodencase
- Delivery Time: 7-20 Days
- Payment Terms: L/C, T/T, Western Union, MoneyGram
- Supply Ability: 300 tons per month

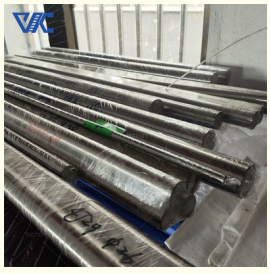
Product Specification

- Name: Inconel 690 Bar
- Material: Ni Cr Fe
- Ni (Min): 58-63%
- Density: 8.19 G/cm3
- Melting Point: 1340-1380°C
- Thermal Conductivity: 11.2-12.6 W/(m·K)
- Tensile Strength: 690 MPa
- Sureface: Bright,Oxided
- Yield Strengt: 310 MPa
- Application: Construction, IndustryNuclear Reactors, Nuclear Fuel Processing Equipment
- Highlight: **High Temperature Inconel Alloy**, **Inconel Alloy 690**, **inconel 690 round bar**



More Images





Product Description

Our Product Introduction

for more products please visit us on victory-alloy.com

Introduction:

Inconel 690 rod is a commonly used high temperature alloy material in the nuclear industry. It is a nickel-based alloy with excellent corrosion resistance and high-temperature strength, making it particularly suitable for use in the high-temperature, radiation and corrosive environments found in the nuclear industry.
In the nuclear industry, Inconel 690 rods are commonly used in critical components and systems in nuclear reactors. It is widely used in key components in nuclear facilities such as nuclear fuel elements, fuel cladding, reactor pressure vessels and heat exchangers. Due to its excellent corrosion resistance and high temperature strength, Inconel 690 rod is able to withstand the requirements of high temperature, radiation and corrosive media in the nuclear industry, ensuring the safe and reliable operation of nuclear facilities. Inconel 690 rods are also used in auxiliary systems and safety equipment in nuclear power plants. It is often used to manufacture key components such as steam generators, coolers, valves and pipelines to ensure safe operation and accident prevention of nuclear power plants.
Overall, Inconel 690 rod plays an important role in the nuclear industry due to its excellent corrosion resistance, high temperature strength and radiation stability. It is widely used in key components of nuclear facilities, nuclear waste processing equipment and nuclear fuel cycle systems to ensure the safety, reliability and long-term operation of the nuclear industry. The wide range of applications and excellent performance of Inconel 690 rod make it one of the indispensable materials in the nuclear industry.

Characteristic:

Corrosion Resistance: Inconel 690 rod has excellent corrosion resistance and is able to resist oxidation, reduction and stress corrosion cracking and other forms of corrosion at high temperatures.
Oxidation resistance: The alloy has excellent oxidation resistance and is able to maintain its structural integrity and mechanical properties under high temperatures and oxidizing environments.
High temperature strength: Inconel 690 rod has good high temperature strength and deformation resistance, maintaining high mechanical properties at high temperatures.
Radiation Resistance: The alloy has good resistance to radiation in the nuclear industry, maintaining its properties and structural integrity.

Advantage:

High Temperature Corrosion Resistance: Inconel 690 rod performs well in high temperatures, pressures and corrosive environments and is able to withstand the harsh conditions found in the nuclear industry.
Radiation resistance: The alloy has good radiation resistance and is suitable for applications in the nuclear industry that are affected by radiation, such as components in nuclear reactors.
Resistance to Stress Corrosion Cracking: Inconel 690 rod has a high resistance to stress corrosion cracking and is able to withstand the combination of high stress and corrosion found in the nuclear industry.
Stability and Reliability: The alloy has a stable chemical composition and structure that provides the high reliability and safety required by the nuclear industry.

Application:

Components in Nuclear Reactors: Inconel 690 rods can be used to manufacture key components in nuclear reactors, such as fuel elements, steam generator tube bundles and storage. Its high temperature resistance, corrosion resistance and radiation resistance make it suitable for the long-term operation and safety requirements of nuclear reactors.
Nuclear fuel processing equipment: The alloy can be used to manufacture nuclear fuel processing equipment, such as immersion solvent extraction equipment and immersion enrichment equipment. Its corrosion resistance and radiation resistance allow it to withstand the effects of corrosive media and radiation during nuclear fuel processing.
Nuclear waste processing equipment: Inconel 690 rod can be used to manufacture nuclear waste processing equipment, such as nuclear waste storage containers and processing equipment. Its corrosion resistance and radiation resistance allow it to safely handle and store nuclear waste.
Other equipment in nuclear power plants: The alloy can also be used to manufacture other equipment in nuclear power plants, such as steam generators, heat exchangers and condensers. Its corrosion resistance and high-temperature strength enable it to operate in the high temperatures, pressures and corrosive environments of nuclear power plants.

Other relevant knowledge points:

Inconel 690 is a nickel-chromium-iron-based alloy that contains small amounts of elements such as aluminum, molybdenum and titanium to improve its high-temperature strength and corrosion resistance.
The alloy is a type of high-temperature alloy that is commonly used in applications that withstand heavy loads in high temperatures and corrosive environments.
Inconel 690 bar can be obtained by hot processing (such as hot rolling, forging) and cold processing (such as cold drawing, cold rolling) to obtain the required shape and size.
In the nuclear industry, material selection is very important, and the effects of factors such as high temperature, high pressure, corrosion, and radiation on material performance need to be taken into consideration to ensure the safe operation and long life of the equipment.

Parameter:

Chemical composition:
Inconel 690 Wire is mainly composed of nickel (Ni) and chromium (Cr). The nickel content is about 58-63% and the chromium content is about 27-31%. In addition, it also contains some other elements, such as iron (Fe), molybdenum (Mo), copper (Cu), manganese (Mn), etc.

Physical properties:
Density: 8.19 g/cm³
Melting point: 1338-1381°C
Modulus of elasticity: 214 GPa
Thermal conductivity: 10.1 W/(m·K) (room temperature)
Linear expansion coefficient: 13.1 μm/m·K (room temperature)

Item	C	Mn	Fe	P	S	Si	Cu	Ni	Co	Al	Ti	Cr	Nb+Ta	Mo	B
Inconel 690	≤0.05	≤0.5	7-11	--	≤0.015	≤0.5	≤0.5	≥58	--	--	--	27-31	--	--	--

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

contact us
email:victory@dlx-alloy.com
Oem service:
Welcome customized size
We are experience factory for OEM&ODM service

Q & A:

Q: Can Inconel 690 bar be customized according to specific requirements?
A: Yes, Inconel 690 bar can be customized in terms of dimensions, lengths, and other specifications to meet specific application requirements.

Q: What are the typical forms available for Inconel 690 bar?
A: Inconel 690 bar is commonly available in forms such as round bars, hexagonal bars, and flat bars, providing versatility in design and fabrication.

Changzhou Victory Technology Co., Ltd

+8619906119641 victory@dlx-alloy.com victory-alloy.com

NO.32 West Taihu Road, Xinbei District, Changzhou, Jiangsu