

Good High Temperature Strength Inconel 690 Pipe Nickel Alloy Tube For Nuclear Industry

BLX

之信科技有限公司

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Basic Information

 Place of Origin: 	China	
Brand Name:	Victory	V#_
Certification:	CE,ROHS,ISO 9001	
Model Number:	Inconel 690	
Minimum Order Quantity:	1 Kg	
Price:	Negotiable	
Packaging Details:	Packed as coil. Special packaging requirements can also be accommodated. OEM is also acceptabl	
Delivery Time:	7 to 20 Days	
• Payment Terms:	L/C, D/A, D/P, T/T, Western Union, MoneyGram	
Supply Ability:	500 Ton/Tons per Month	

Product Specification

 Product Name: 	Inconel 690 Pipe
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
 Yield Strengt: 	310 MPa
 Elongation (≥ %): 	40%
Application:	Nuclear Reactor Pressure Vessels, Nuclear Fuel Assemblies
• Highlight:	Inconel Alloy Tube, Corrosion Resistant Inconel Alloy Pipe,

Nickel Alloy Inconel Tube



Introduction:

Inconel 690 pipe is a high-temperature alloy pipe widely used in the nuclear energy industry. Composed of nickel, chromium, iron and small amounts of other alloying elements, Inconel 690 pipe has excellent corrosion resistance and high temperature stability.

The chemical composition of Inconel 690 tubes includes nickel (58-63%), chromium (27-31%), iron (7-11%), molybdenum (0.5% max), manganese (0.5% max), titanium (0.5% max)) and copper (max. 0.5%). The pipe has a density of 8.19 g/cm³ and a thermal expansion coefficient of 13.3 μ m/m·°C (20-1000°C). In addition, its tensile strength can reach a minimum of 690 MPa and its yield strength can reach a minimum of 310 MPa.

In the nuclear energy industry, Inconel 690 tubes are widely used in key components in nuclear reactors and equipment in high-temperature environments such as heat exchangers. It is able to withstand extreme high temperatures and corrosive environments while maintaining excellent corrosion resistance and high temperature stability. Due to its excellent mechanical properties and corrosion resistance, Inconel 690 pipe can meet the strict requirements of the nuclear energy industry for corrosion resistance, high strength and high temperature performance, providing reliable material solutions for nuclear reactors and other nuclear energy equipment.

Product Features:

Corrosion resistance: Inconel 690 pipe has excellent corrosion resistance and can resist corrosion in acid, alkali, salt solutions and high temperature and high pressure environments.

Antioxidant properties: It has excellent antioxidant properties and can maintain stable performance under high temperatures and oxidizing environments.

High Temperature Strength: Inconel 690 pipe has good strength and toughness at high temperatures and can withstand the high temperature and high pressure environments found in the nuclear industry.

Advantage:

Corrosion resistance: Inconel 690 pipe has excellent corrosion resistance in the nuclear industry. It can resist the erosion of acids, alkalis and corrosive media and extend the service life of equipment.

Resistance to high-temperature oxidation: In the nuclear industry, Inconel 690 tubes exhibit excellent resistance to high-temperature oxidation, which can maintain the stability of the material and avoid material failure due to high-temperature oxidation.

High temperature strength: Inconel 690 pipe has good high temperature strength and toughness, is suitable for high temperature environments in the nuclear industry, and can withstand stress and load under high pressure and high temperature conditions.

Specific applications:

Nuclear reactor pressure vessels: Inconel 690 pipe can be used in the manufacture of nuclear reactor pressure vessels, and its corrosion resistance and high temperature strength can meet the requirements of the nuclear industry.

Nuclear fuel assemblies: Suitable for nuclear fuel assemblies, such as fuel rods, fuel elements and fuel cladding, to ensure their reliability and durability in high temperature, high pressure and corrosive environments.

Nuclear waste treatment: Inconel 690 pipe can also be used in nuclear waste treatment equipment, such as nuclear waste storage containers, processing equipment and anti-corrosion facilities, etc., to ensure the stability and safety of materials in corrosive media and high temperature conditions.

Other relevant knowledge:

Composition of Inconel 690 alloy: Inconel 690 alloy is mainly composed of alloying elements such as nickel, chromium and iron. The reasonable ratio of these elements gives the alloy excellent corrosion resistance and high temperature strength. Heat Treatment and Processing: Inconel 690 pipe typically requires heat treatment to improve its mechanical properties and corrosion resistance. In addition, the alloy can be formed and processed through processes such as cold working and welding

to meet the needs of the nuclear industry. Safety and environmental protection: The use of Inconel 690 pipe can improve the safety and reliability of nuclear industry equipment and reduce the risk of leakage and environmental pollution.

Parameter:

Diameter range: from 0.03 mm to 12 mm

Standard specifications: ASTM B166, AMS 5599, AMS 5666

Typical chemical composition: nickel (58-63%), chromium (27-31%), iron (7-11%), molybdenum (0.5-1.0%), zirconium (0.02-0.12%), etc.

Typical mechanical properties: tensile strength 690 MPa (minimum), yield strength 310 MPa (minimum), elongation at break 40% (minimum)

Item	С	Mn	Fe	Р	S	Si	Cu	Ni	Со	Al	Ti	Cr	Nb+Ta	Мо	В
Inconel 690	≤0.05	≤0.5	7-11		≤0.015	≤0.5	≤0.5	≥58				27-31			

contact us

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Oem service:

Welcome customized size We are experience factory for OEM&ODM service



Q & A:

Q: Does your company offer Inconel 690 tube installation services? A: Yes, we provide Inconel 690 tube installation services. Our skilled technicians have expertise in installing and connecting Inconel 690 tubes for various industrial applications.

Q: Can your company assist with the maintenance and repair of Inconel 690 tubes? A: Absolutely, we offer maintenance and repair services for Inconel 690 tubes. Our team of technicians is well-equipped to handle routine maintenance tasks, as well as troubleshoot and repair any issues that may arise with the tubes.

