Good Weldability & Formability Nickel Alloy Inconel 718 Round Bar NACE MR01-75 For Oil And Gas Service

Our Product Introduction

Basic Information

- Place of Origin: China
- Brand Name: Victory
- Certification: ISO9001 ROHS
- Model Number: Inconel 718
- Minimum Order Quantity: 30 Kg
- Price: Negotiable
- Packaging Details: Spool Carton box, Coil package with polybag,then in woodencase
- Delivery Time: 20~40 Days
- Payment Terms: L/C, T/T, Western Union, MoneyGram
- Supply Ability: 300 tons per month

Product Specification

- Name: Good Weldability & Formability Nickel Alloy Inconel 718 Round Bar NACE MR01-75 For Oil And Gas Service
- Material: Nickel Chromium Iron
- Ni (Min): 50~55%
- Density: 8.24 G/cm3
- Melting Point: 1260-1320°C
- Elongation (≥ %): 25 %
- Thermal Conductivity: 15.9 W/m·K
- Finishing: Bright,Oxided, Acid White
- Application: Construction, Industry Oil, Piping Systems
- Yield Strength: 550MPa
- Tensile Strength: 910 MPa
- Hardness: ≤ 363 HB
- Standard: ASTM, ASME
- Size: 6~200mm

More Images

Our Product Introduction

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Product Description

Inconel 718 alloy

Inconel 718 is a nickel-chromium alloy that contains supplemental amounts of columbium, iron, molybdenum, aluminum, and titanium. It is also known as nickel alloy 718

The age-hardenable alloy can be readily fabricated, even into complex parts. Its welding characteristics, especially its resistance to postweld cracking, are outstanding. The ease and economy with which INCONEL alloy 718 can be fabricated, combined with good tensile, fatigue, creep, and rupture strength, have resulted in its use in a wide range of applications

How do the heat treatment processes affect the mechanical properties of Inconel 718?

Heat treatment processes significantly influence the mechanical properties of Inconel 718, enhancing its strength, ductility, and overall performance. Here's how different heat treatment processes affect its properties:
1. Solution Annealing
Process: Involves heating the alloy to a temperature of approximately 1,600°F (870°C) and holding it for a specified time, followed by rapid cooling.
Effects:
Dissolves precipitates and homogenizes the microstructure.
Improves ductility and toughness.
Reduces residual stresses from prior processing.
2. Age Hardening (Aging)
Process: After solution annealing, the alloy is aged at temperatures between 1,200°F (650°C) and 1,300°F (700°C) for several hours.
Effects:
Promotes the precipitation of gamma double-prime (γ'') and gamma prime (γ') phases, which enhance strength and hardness.
Significantly increases yield and tensile strength while maintaining good ductility.
Improves fatigue resistance, making it ideal for high-stress applications.
3. Stress Relieving
Process: Involves heating to a lower temperature (around 1,000°F or 540°C) to relieve internal stresses without significantly altering the microstructure.
Effects:
Reduces residual stresses that may lead to distortion during machining or service.
Enhances dimensional stability.
4. Cryogenic Treatment
Process: Involves cooling the alloy to cryogenic temperatures (below -300°F or -184°C) and then returning it to room temperature.

Parameter:

Chemical Properties of Inconel 718

Nickel (plus Cobalt) 50.00-55.00
Chromium.....17.00-21.00
Iron .....Balance
Niobium (plus Tantalum).....4.75-5.50
Molybdenum 2.80-3.30
Titanium.....0.65-1.15
Aluminum 0.20-0.80
Cobalt .....1.00 max.
Carbon.....0.08 max.
Manganese .....0.35 max.
Silicon .....0.35 max.
Phosphorus.....0.015 max.
Sulfur.....0.015 max.
Boron .....0.006 max.
Copper.....0.30 max

Density	8.19g/cm³	0.296 lb/in³
Melting point	1260-1336	2437°F

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

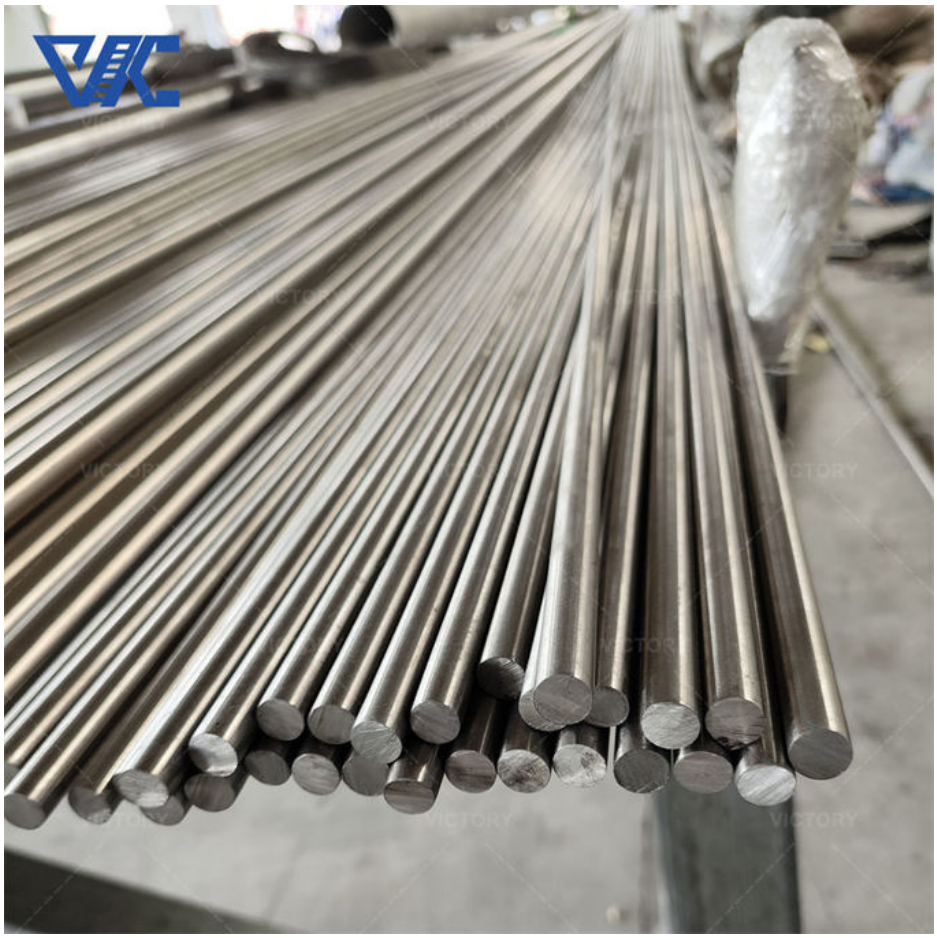
Inconel series

Steel grade	Inconel 600	Inconel 601	Inconel 625	Inconel 718	Inconel 725	Inconel X-750
Corresponding brand	N06600/2.4816/1Cr15Ni75Fe8/NS312/CY40	N06601/2.4851/1Cr23Ni60Fe13Al/NS313	N06625/2.4856/0Cr20Ni65Mo10bN4/NS336	N07718/2.4668/GH4169	N07725	N07750/2.4669/GH4145
Chemical composition%						
C≤	0.150	0.100	0.100	0.080	0.030	0.080
Mn≤	1.00	1.00	0.50	0.35	0.35	1.00
P≤	/	/	0.015	0.015	0.015	/
S≤	0.015	0.015	0.015	0.015	0.010	0.010
Si≤	0.50	0.50	0.50	0.35	0.20	0.50
Cr≤	14.0-17.0	21.0-25.0	20.0-23.0	17.0-21.0	19.0-22.5	14.0-17.0
Ni≤	≥72.0	58.0-63.0	≥58.0	55.0-59.0	55.0-59.0	≥70
Mo	/	/	8.0-10.0	2.8-3.3	7.0-9.5	/
Cu	≤0.50	≤1.50	/	≤0.30	/	≤0.50
N	/	/	/		/	/
Nb	/	/	3.15-4.15	4.75-5.50	2.75-4.00	0.70-1.20
other	Fe:6.0-10.0	Al:1.0-1.7	Co:≤1.0Ai:≤0.40Tr:0.40Fe:≤5.0	Al:0.20-0.80Ti:0.65-1.15B≤0.006	Tr:1.0-1.7Al≤0.35	Co:≤1.0 Al:0.4-1.0Tr:0.25-2.75Fe:5.0-9.0

Customize size as below

Shape	Size(mm)
WIre	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



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