



Nimonic 91 Spring Wire High Temperature Alloy With UNS N07090 And W. Nr. 2.4632.

Our Product Introduction

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Basic Information

- Place of Origin: China
- Brand Name: Victory
- Certification: CE,ROHS,ISO 9001
- Model Number: Nimonic 91
- Minimum Order Quantity: 5 Kg
- Price: Negotiable
- Packaging Details: Spool package with Carton box, Coil package with polybag
- Delivery Time: 5-21 days
- Payment Terms: L/C, T/T, Western Union, MoneyGram
- Supply Ability: 300 tons per month

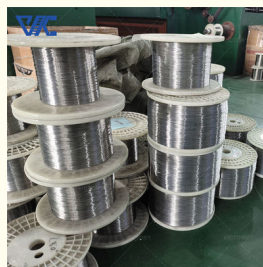


Product Specification

- Product Name: Nimonic 91 Wire
- Material: Nickel Chromium
- Nickel(Min): 53%
- Density: 8.33 G/cm³
- Melting Point: 1365-1370 °C
- Expansion Coefficient: 12.8 µm/m °C (20 – 100°C)
- Modulus Of Rigidity: 10.8 W/m-K
- Tensile Strength: 1070-1210 MPa
- Yield Strength: 570-740 MPa
- Application: Aerospace, Petrochemical, Heat Treatment Industry
- Highlight: N07090 Nimonic 91 Spring Wire, Nimonic 91 Spring Wire, W. Nr. 2.4632. Nimonic 91 Spring Wire



More Images



Product Description

Introduction:

In the composition of Nimonic91, nickel element is the main component, the addition of nickel element improves the corrosion resistance and high temperature strength of the alloy. Chromium helps to enhance the oxidation resistance of the alloy, while cobalt can improve the hardness and red hardness of the alloy. The titanium element helps to refine the microstructure of the alloy and improve the strength and toughness of the alloy.

The high temperature performance of Nimonic91 is mainly due to its special structure. At high temperatures, the crystal structure of Nimonic91 becomes more stable, which improves its high temperature strength and creep resistance. In addition, Nimonic91 also has good fatigue resistance and corrosion resistance, which enables it to be used in harsh environments for a long time.

Parameter:

Chemical composition

Nickel (Ni) : 53-57%
Chromium (Cr) : 18-22%
Titanium (Ti) : 2-3%
Aluminum (Al) : 1-2%
Iron (Fe) : margin

Physical and mechanical properties

Density: 8.33 g/cm³
Melting point: 1365-1370 °C
Coefficient of thermal expansion: 12.8μm /m·°C (in the range of 20-100 °C)
Thermal conductivity: 10.8W /m·K (at 100 °C)
Tensile strength: 1070-1210 MPa (at room temperature)
Yield strength: 570-740 MPa (at room temperature)

chemical composition (%)													
Brand	C	Si	Mn	S	P	Cr	Ni	Fe	Cu	Ti	Al	Co	Other
	Less Than												
Nimonic90	0.13	0.8	0.4	0.015	0.02	18 21	Rest	≤1.5	≤0.2	2~3	1~2	15~21	B≤0.02 Zr≤0.15
Nimonic91	0.1	1	1	0.015	0.02	27 30	Rest	≤1	≤0.5	1.9 2.7	0.9 1.5	19~21	Nb0.4 1.1 B0.002~0.01 Zr≤0.1

The minimum mechanical properties of the alloy at room temperature					
Brand	Heat Treatment	Tensile Strength(RmN/mm ²)	Yield Strength(Rp0.2N/mm ²)	Elongation(As %)	Brinell Hardness(HB)
Nimonic 90	Solid Solution	820	590	8	—
Nimonic 91	Solid Solution	780	550	7	—

Heat treatment of finished product					
Alloy Wire supply condition	type	temperature		Time (Hr)	cooling
		°C	°F		
anneal	Age hardening	750	1380	4	Air
Elastic tempering	Age hardening	650	1200	4	Air
Elastic tempering	Age hardening	600	1110	16	Air

Supply pattern:

1. Application form: Nimonic91 can supply bars, plates, pipes, wires, forgings and other forms, and can be customized according to customer needs.
2. Specification range: Nimonic91 has a wide range of specifications, which can be customized according to user requirements in various sizes and shapes.
3. Processing technology: Nimonic91 has good processing performance, and can be processed by forging, heat treatment, polishing and other processes.

Advantage:

High temperature resistance: Nimonic 91 maintains high strength and corrosion resistance in high temperature environments and can withstand temperatures up to 1100 ° C.

Oxidation resistance: It has excellent antioxidant properties and can resist oxidation and corrosion at high temperatures.

Creep resistance: Nimonic 91 has good creep resistance and can withstand continuous stress at high temperatures for long periods of time.

Heat resistance fatigue: It has excellent heat resistance fatigue properties, and can maintain high strength and fracture resistance under high temperature recycling conditions.

Abrasion resistance: Due to its high hardness, Nimonic 91 has excellent performance in high-temperature friction and wear environments.

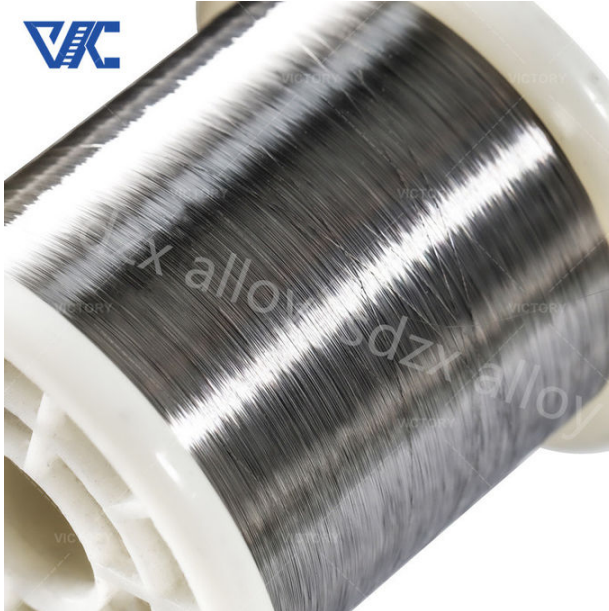
Specific application areas:

Aerospace: Nimonic91 is widely used in aero engine components, turbine blades, combustion chambers and other key components to improve aircraft performance and safety.

Marine engine field: Nimonic91 has good corrosion resistance and is suitable for Marine engine parts with severe seawater corrosion.

In the field of nuclear energy: Nimonic91 plays an important role in nuclear energy equipment and can withstand extreme conditions such as high temperature, high pressure and creep.

Petrochemical field: Nimonic91 is used in the manufacture of petrochemical equipment, which can withstand high temperatures and corrosive media.



contact us

email:victory@dlx-alloy.com

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Changzhou Victory Technology Co., Ltd



+8619906119641



victory@dlx-alloy.com



victory-alloy.com

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