

GH4738 High Temperature Alloy Steel Wire Used In Energy Field

Basic Information

 Place of Origin: 	China
Brand Name:	Victory
Certification:	CE,ROHS,ISO 9001
Model Number:	GH4738
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



100

BLX

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Product Specification

- Product Name:
- Material:
- Density:

Application:

• Highlight:

- Melting Point:
- Yield Strength:
- Tensile Strength:
- Coefficient Of Thermal Expansion:
 - Aviation, Aerospace, Energy, Etc

GH4738 Wire

1330 1360°C

900 Mpa

1200 MPa

13.5 X 10^-6 /°C

Nickel Chromium 8.22 G/cm³

Energy Field High Temperature Alloy, GH4738 High Temperature Alloy Steel Wire



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Introduction:

GH4738, also known as GH738, is a Ni-Cr-Co based precipitation hardening superalloy with good high temperature strength and stability, widely used in aviation, aerospace, petroleum, chemical and power generation fields. Its melting temperature range is 1330 ~ 1360°C, density is 8.22g/cm³, non-magnetic. GH738 alloy can be machined into a variety of complex shapes, such as turbine discs, working blades, high temperature fasteners, etc.

Parameter:

Density: about 8.19 g/cm³. Melting point: approximately 1390°C.

Tensile strength: Generally at high temperature, the tensile strength at room temperature is about 1100 MPa. Yield strength: Usually under high temperature conditions, the yield strength at room temperature is about 600 MPa. Elongation: Elongation at room temperature is about 30%.

Chemical Composition (%)														
Brand	C Si Mn S P Less than				Cr	Co	W	Мо	Ti	AI	Fe	Ni	other	
GH4738	0.03- 0.1	0.15	0.1	0.015	0.015	18 21	12~1 5		3.5 5	2.75~3. 25	1.2 1.6	≤2.0	rest	B:0.003-0.01 Zr:0.02-0.08

The minimum mechanical properties of the alloy at room temperature											
Brand	heat treatment	tensile strength RmN/mm ²	Yield strength Rp0.2N/mm2	Elongation As%	Brinell hardness HB	Rockwell hardness HRC					
GH4738	solid solution + aging	1210	830	14							

Material characteristics:

The main characteristics of GH4738 alloy are its high temperature stability and excellent mechanical properties. The alloy is capable of continuous operation at temperatures up to 650 ° C and maintains performance in short-time operating environments ranging from 750 ° C to 815 ° C. In long-term use, GH4738 can withstand temperatures up to 730 ° C and remain structurally intact for more than 3,000 hours.

Heat treatment:

The heat treatment process of GH4738 alloy is crucial to ensure its performance in extreme environments. The heat treatment process involves addressing stresses in the alloy, as well as increasing its strength and hardness through aging treatment. Standard heat treatment processes may include, but are not limited to, solution treatments and age-hardening steps at varying temperatures.

Specific application areas:

Space field

In the field of space, GH4738 also plays an important role. Spacecraft need to withstand extreme temperature changes and radiation environment in space, so its materials are required to have excellent high temperature stability and radiation resistance. GH4738's high temperature strength and oxidation resistance make it one of the key materials for spacecraft engines and propulsion systems. In addition, GH4738 is used to manufacture thermal protection systems and structural components for spacecraft to ensure safe and stable operation.

Energy field

In the energy sector, GH4738 is mainly used in the manufacture of high-temperature components for gas turbines, nuclear power stations and thermal power stations. Gas turbines need to operate for a long time under high temperature, high pressure and high speed conditions, and GH4738's high temperature strength and oxidation resistance make it one of the ideal gas turbine materials. In nuclear and thermal power stations, GH4738 is used to manufacture components such as high-temperature steam pipes, heat exchangers and burners to ensure the safe and efficient operation of power stations. **Chemical industry**

In the chemical industry, GH4738 is mainly used to manufacture components such as high-temperature reactors and catalyst carriers. These components need to operate for a long time under high temperature, strong corrosion and high pressure, and therefore require materials with excellent oxidation resistance and corrosion resistance. The high temperature stability and good processing properties of GH4738 make it one of the ideal chemical materials.

