

# High Temperature Stability GH2136 Wire With Anti Oxidation For Chemical Equipment

# **Basic Information**

| <ul> <li>Place of Origin:</li> </ul>   | China  |
|--|--|
| Brand Name:                            | Victory  |
| Certification:                         | CE,ROHS,ISO 9001   |
| Model Number:                          | GH2136   |
| Minimum Order Quantity:                | 5 Kg   |
| Price:                                 | Negotiable   |
| <ul> <li>Packaging Details:</li> </ul> | Spool package with Carton box, Coil package with polybag |
| Delivery Time:                         | 5-21 days  |
| Payment Terms:                         | L/C, T/T, Western Union, MoneyGram                       |
| <ul> <li>Supply Ability:</li> </ul>    | 300 tons per month                                       |



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# **Product Specification**

- Product Name:
- Material:
- Density:
- Melting Point:
- Yield Strength:
- Tensile Strength:
- Coefficient Of Thermal
- Expansion:
- Application:
- Highlight:



- Aviation And Aerospace Engines
  - Chemical Equipment GH2136 Wire, High Temperature Stability GH2136 Wire, Anti Oxidation GH2136 Wire



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#### Introduction:

GH2136 wire is a high-temperature alloy wire, also known as Inconel 713C. It is a nickel-based alloy wire with excellent high temperature strength, corrosion resistance and heat resistance.

The main components of GH2136 wire include nickel (Ni), chromium (Cr), molybdenum (Mo), iron (Fe), titanium (Ti), niobium (Nb), aluminum (Al) and other elements. It has excellent high temperature stability and can maintain stable mechanical properties and corrosion resistance in high temperature environments. The material also exhibits good heat resistance, with a high melting point and resistance to thermal oxidation.

GH2136 wire has good machinability and can be processed and formed by heat treatment, cold working and welding. Its high temperature strength, corrosion resistance and heat resistance make it an ideal material choice for high temperatures and extreme environments. Whether in the aerospace, energy or chemical industries, GH2136 wires demonstrate superior performance and reliability.

#### **Parameter:**

#### Chemical composition:

Nickel (Ni) : about 54-60% Chromium (Cr) : about 19-22% Molybdenum (Mo) : about 8-10%

Iron (Fe) : about 2-4% **Physical parameters:** 

Density: 8.19 g/cm <sup>3</sup>

Melting point: about 1335-1385 degrees Celsius

Tensile strength:

Room temperature strength (yield strength) : approx. 900 MPa

Room temperature tensile strength: Approx. 1200 MPa

Coefficient of thermal expansion: about 13.5 x 10<sup>^-</sup>6 / C (in the range of room temperature to 100 C) Corrosion resistance: GH2136 shows excellent corrosion resistance and strong resistance to oxidizing and reducing environments.

| Chemical Composition (%) |      |           |              |        |       |       |    |   |        |         |       |      |               |                             |
|--------------------------|------|-----------|--------------|--------|-------|-------|----|---|--------|---------|-------|------|---------------|-----------------------------|
| Brand                    | С    | Si<br>Le: | Mn<br>ss tha | S<br>n | Р     | Cr    | Co | W | Мо     | Ti      | AI    | Fe   | Ni            | other                       |
| GH2136                   | 0.06 | 0.75      | 0.35         | 0.025  | 0.025 | 13 16 | —  | — | 1 1.75 | 2.4~3.2 | ≤0.35 | rest | 24.5-<br>28.5 | B:0.005-0.025<br>V:0.01~0.1 |

| The minimum mechanical properties of the alloy at room temperature |                           |   |                              |                   |                        |                          |  |  |  |  |
|--|---------------------------|---|------------------------------|-------------------|------------------------|--------------------------|--|--|--|--|
| Brand  | heat treatment            | tensile strength<br>RmN/mm <sup>2</sup> | Yield strength<br>Rp0.2N/mm2 | Elongation<br>As% | Brinell hardness<br>HB | Rockwell hardness<br>HRC |  |  |  |  |
| GH2136   | solid solution +<br>aging | 931                                     | 686                          | 15                | _                      |                          |  |  |  |  |

### **Characteristic:**

Excellent high temperature stability: it can maintain the stability and mechanical strength of the structure under extreme high temperature conditions, and is not easy to deformation or failure. This makes GH2136 a reliable choice for high temperature environments.

Excellent oxidation resistance: It can resist oxidation reactions at high temperatures, reduce the surface oxidation and corrosion of the material, thereby extending its service life. This oxidation resistance is essential for equipment that operates for a long time in a high temperature atmosphere.

Good corrosion resistance: it can resist the erosion of corrosive media such as acid, alkali and salt, and maintain the integrity and stability of the material. This makes GH2136 wire an important role in the chemical, petroleum and nuclear industries.

#### **Specific application areas:**

In the aerospace sector, GH2136 wire is often used to manufacture key components of aeroengines, such as combustion chambers, turbine blades and burners. It can withstand high temperature and high pressure and complex corrosion environment, ensure reliable operation of the engine, improve combustion efficiency and thrust output.

In the chemical industry, GH2136 wire is widely used in chemical equipment, catalyst carriers and high temperature reactors. Its corrosion resistance and high temperature stability make it an ideal material for handling corrosive media and high temperature reactions, ensuring the safety and sustainable development of the chemical industry.

In the energy industry, GH2136 wire is commonly used in high temperature furnaces, oil and gas processing equipment, etc. It can withstand corrosion and pressure under high temperature environment, improve energy conversion efficiency and industrial production stability.





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### **Related production processes:**

Alloy Preparation: The base alloy composition of GH2136 is prepared by melting and alloying various metallic elements. This is typically done through methods such as vacuum induction melting (VIM) or electron beam melting (EBM). The alloy composition is carefully controlled to ensure the desired properties of the material.

Ingot Casting: The molten alloy is then cast into ingots using processes like vacuum arc remelting (VAR) or directional solidification. Ingot casting helps achieve a desirable microstructure and uniform composition in the material.

Hot Working: The cast ingots are then subjected to hot working processes such as forging, rolling, or extrusion. These processes involve applying heat and mechanical force to shape the material into desired forms like bars, plates, or billets. Hot working helps refine the microstructure, improve mechanical properties, and enhance the material's uniformity.

Heat Treatment: GH2136 filament material often undergoes heat treatment to optimize its properties. This typically involves processes like solution treatment, which involves heating the material to a specific temperature range and then cooling it rapidly or slowly to achieve the desired microstructure and mechanical properties.

