**HASTELLOY® C-4**

**Key Features**

- Excellent resistance to stress-corrosion cracking and to oxidizing atmospheres at high temperature
- Exceptional resistance to a wide variety of chemical process environments including, hot contaminated mineral acids, solvents, chlorine, formic and acetic acids, and salt waters

**HASTELLOY® C-4 available in:-**

- Round wire
- Bars or lengths
- Flat wire
- Shaped wire
- Rope/Strand

**Packaging**

- Coils
- Spools
- Bars or lengths

**IMPORTANT**

We will manufacture to your required mechanical properties.

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**key advantages to you, our customer**

- **RANGE** 0.025mm to 21mm (.001” to .827”)
- **Order** 3m to 3t (10 ft to 6000 Lbs)
- **Delivery** within 3 weeks
- **Wire to your spec**
- **E.M.S available**
- **Technical support**

*Trade name of Haynes International.*

Manufacturing quality, delivering reliability | alloywire.com

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## Chemical Composition

<table>
<thead>
<tr>
<th>Element</th>
<th>Min %</th>
<th>Max %</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cr</td>
<td>14.00</td>
<td>18.00</td>
</tr>
<tr>
<td>Mo</td>
<td>14.00</td>
<td>17.00</td>
</tr>
<tr>
<td>Fe</td>
<td>-</td>
<td>3.00</td>
</tr>
<tr>
<td>C</td>
<td>-</td>
<td>0.015</td>
</tr>
<tr>
<td>Si</td>
<td>-</td>
<td>0.08</td>
</tr>
<tr>
<td>Co</td>
<td>-</td>
<td>2.00</td>
</tr>
<tr>
<td>Mn</td>
<td>-</td>
<td>1.00</td>
</tr>
<tr>
<td>P</td>
<td>-</td>
<td>0.04</td>
</tr>
<tr>
<td>S</td>
<td>-</td>
<td>0.03</td>
</tr>
<tr>
<td>Ti</td>
<td>-</td>
<td>0.70</td>
</tr>
<tr>
<td>Ni</td>
<td>BAL</td>
<td></td>
</tr>
</tbody>
</table>

## Specifications

- **ASTM B574**
- **ASTM B575**
- **ASTM B619**

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## Typical Applications

- Chemical processing

## Designations

- W.Nr. 2.4610
- UNS N06455
- AWS 052

## Physical Properties

- **Density**: 8.64 g/cm³ (0.312 lb/in³)
- **Melting Point**: 1399 °C (2550 °F)
- **Coefficient of Expansion**: 10.8 μm/m °C (20 – 100 °C) (6.0 x 10⁻⁶ in/in °F (70 – 212 °F))
- **Modulus of Rigidity**: 81.2 kN/mm² (11777 ksi)
- **Modulus of Elasticity**: 212.4 kN/mm² (30807 ksi)

## Heat Treatment of Finished Parts

<table>
<thead>
<tr>
<th>Condition as supplied by Alloy Wire</th>
<th>Type</th>
<th>Temperature</th>
<th>Time (Hr)</th>
<th>Cooling</th>
</tr>
</thead>
<tbody>
<tr>
<td>Annealed or Spring Temper</td>
<td>Stress Relieve</td>
<td>400 – 450 °C</td>
<td>750 – 840 °F</td>
<td>2</td>
</tr>
</tbody>
</table>

## Properties

<table>
<thead>
<tr>
<th>Condition</th>
<th>Approx. tensile strength</th>
<th>Approx. operating temperature</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>N/mm² ksi °C °F</td>
<td></td>
</tr>
<tr>
<td>Annealed</td>
<td>800 – 1100 116 – 159</td>
<td>-200 to +400 -330 to +750</td>
</tr>
<tr>
<td>Spring Temper</td>
<td>1300 – 1500 189 – 218</td>
<td>-200 to +400 -330 to +750</td>
</tr>
</tbody>
</table>

The above tensile strength ranges are typical. If you require different please ask.