**Key Features**

- Higher creep rupture strength than Incoloy 800 due to close control of C, Al, Ti
- Excellent resistance to oxidation and carburisation at high temperatures
- Corrosion resistant in many aqueous environments
- **High temperature static applications**

**INCOLOY® 800 HT available in:-**
- Round wire
- Bars or lengths
- Flat wire
- Shaped wire
- Rope/Strand

**Packaging**
- Coils
- Spools
- Bars or lengths

**Technical Datasheet**
AWS 021 Rev.1

**IMPORTANT**
We will manufacture to your required mechanical properties.

**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**
**Properties**

<table>
<thead>
<tr>
<th>Condition</th>
<th>Approx. tensile strength</th>
<th>Approx. operating temperature depending on load** and environment</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>N/mm²</td>
<td>ksi</td>
</tr>
<tr>
<td>Annealed</td>
<td>600 – 800</td>
<td>87 – 116</td>
</tr>
<tr>
<td>Spring Temper</td>
<td>800 – 1100</td>
<td>116 – 159</td>
</tr>
</tbody>
</table>

**Typical Applications**

- Chemical Processing
- Petrochemical Processing
- Industrial Furnaces
- Heat Treating Equipment

**Chemical Composition**

<table>
<thead>
<tr>
<th>Element</th>
<th>Min %</th>
<th>Max %</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ni</td>
<td>30.00</td>
<td>35.00</td>
</tr>
<tr>
<td>Co</td>
<td>-</td>
<td>2.00</td>
</tr>
<tr>
<td>Cu</td>
<td>-</td>
<td>0.75</td>
</tr>
<tr>
<td>Cr</td>
<td>19.00</td>
<td>23.00</td>
</tr>
<tr>
<td>Al</td>
<td>0.15</td>
<td>0.60</td>
</tr>
<tr>
<td>C</td>
<td>0.05</td>
<td>0.10</td>
</tr>
<tr>
<td>Si</td>
<td>-</td>
<td>1.00</td>
</tr>
<tr>
<td>Mn</td>
<td>-</td>
<td>1.50</td>
</tr>
<tr>
<td>Ti</td>
<td>0.15</td>
<td>0.60</td>
</tr>
<tr>
<td>Fe</td>
<td>BAL</td>
<td></td>
</tr>
<tr>
<td>S</td>
<td>-</td>
<td>0.015</td>
</tr>
</tbody>
</table>

**Density**

7.94 g/cm³

0.287 lb/in³

**Melting Point**

1385 °C

2525 °F

**Coefficient of Expansion**

14.4 μm/m °C (20 – 100 °C)

7.9 x 10⁻⁶ in/in °F (70 – 212 °F)

**Modulus of Rigidity**

78.9 kN/mm²

11444 ksi

**Modulus of Elasticity**

196.5 kN/mm²

28500 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>450 – 470 °C</td>
<td>840 – 880 °F</td>
<td>0.5 - 1 Air</td>
</tr>
</tbody>
</table>

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

**Designations**

- BS 3076 NA 15H
- Higher creep rupture strength than Incoloy 800 due to close control of C, Al, Ti
- Excellent resistance to oxidation and carburisation at high temperatures
- Corrosion resistant in many aqueous environments
- **High temperature static applications**

**Static applications** = still/fixed/motionless/rigid