Key Features

Regarded as ‘Medical Grade’ stainless steel vacuum melted to achieve the extremely high levels of purity and ‘cleanliness’ required for surgical implants.

Good mechanical properties and corrosion resistance.

Better pitting and crevice corrosion resistance than 302 & 304 stainless.

STAINLESS STEEL 316 LVM 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.

STAINLESS STEEL 316 LVM available in:-

ORDER 3m to 3t (10 ft to 6000 Lbs)
Delivery: within 3 weeks

Wire to your spec
E.M.S available
Technical support
### Technical Datasheet

**AWS 163 Rev.1**

**STAINLESS STEEL 316 LVM**

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**Chemical Composition**

<table>
<thead>
<tr>
<th>Element</th>
<th>Min %</th>
<th>Max %</th>
</tr>
</thead>
<tbody>
<tr>
<td>C</td>
<td>-</td>
<td>0.03</td>
</tr>
<tr>
<td>Si</td>
<td>-</td>
<td>1.00</td>
</tr>
<tr>
<td>Mn</td>
<td>-</td>
<td>2.00</td>
</tr>
<tr>
<td>P</td>
<td>-</td>
<td>0.025</td>
</tr>
<tr>
<td>S</td>
<td>-</td>
<td>0.010</td>
</tr>
<tr>
<td>N</td>
<td>-</td>
<td>0.10</td>
</tr>
<tr>
<td>Cr</td>
<td>17.00</td>
<td>19.00</td>
</tr>
<tr>
<td>Mo</td>
<td>2.25</td>
<td>3.50</td>
</tr>
<tr>
<td>Ni</td>
<td>13.00</td>
<td>15.00</td>
</tr>
<tr>
<td>Cu</td>
<td>-</td>
<td>0.50</td>
</tr>
<tr>
<td>Fe</td>
<td>BAL</td>
<td></td>
</tr>
</tbody>
</table>

**Specifications**

- ASTM F138
- BS 7252 Pt1
- COMPOSITION D
- ISO 5832 - 1

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**Typical Applications**

- Medical implants
- Machined parts

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**Designations**

- W.Nr. 1.4441
- UNS S31673
- AWS 163

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**Specifications**

- **Density**: 8.0 g/cm³, 0.289 lb/in³
- **Melting Point**: 1500 °C, 2730 °F
- **Coefficient of Expansion**: 16.5 μm/m °C (20 – 100 °C), 9.2 x 10⁻⁶ in/in °F (70 – 212 °F)
- **Modulus of Rigidity**: 70.3 kN/mm², 10196 ksi
- **Modulus of Elasticity**: 187.5 kN/mm², 27195 ksi

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**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>250 °C</td>
<td>480</td>
<td>1 Air</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</td>
<td>°C to °F</td>
</tr>
<tr>
<td>Annealed</td>
<td>600 – 800 87 – 116</td>
<td>-200 to +300 -330 to +570</td>
</tr>
<tr>
<td>Spring Temper</td>
<td>1300 – 2200 189 – 319</td>
<td>-200 to +300 -330 to +570</td>
</tr>
</tbody>
</table>

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