316 / 316L STAINLESS

AUSTENITIC STAINLESS STEEL WITH ADDED MOLYBDENUM

**PRODUCT DESCRIPTION**

The introduction of molybdenum in the alloying process improves the corrosion resistance of 316 stainless steel. It is very similar to Type 304 and is almost as commercially popular – the main differences are that the alloy is stronger at elevated temperatures and corrosion resistance is better, especially in chloride environments. With excellent weldability, good machinability and excellent pitting resistance, 316 is used in the fabrication of pressure vessels and heat exchangers.

**KEY FEATURES**

- Improved corrosion resistance when compared to 304
- More suitable for chloride environments
- Good machinability
- 316 is stronger than 304 at elevated temperatures

**APPLICATIONS**

- Pressure vessels, heat exchangers
- Chemical containers, food preparation equipment
- Furnace parts, valves and pumps

**CHEMICAL COMPOSITION (weight %)**

<table>
<thead>
<tr>
<th></th>
<th>C</th>
<th>Cr</th>
<th>Mo</th>
<th>Si</th>
<th>P</th>
<th>S</th>
<th>Ni</th>
<th>Mn</th>
<th>Fe</th>
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<tbody>
<tr>
<td>Min</td>
<td>0.08</td>
<td>16.5</td>
<td>2.00</td>
<td></td>
<td></td>
<td></td>
<td>10.0</td>
<td>2.00</td>
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<tr>
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<td>18.5</td>
<td>2.50</td>
<td>1.00</td>
<td>0.05</td>
<td>0.02</td>
<td>13.0</td>
<td>2.00</td>
<td>Bal</td>
</tr>
</tbody>
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**MECHANICAL PROPERTIES**

- Tensile strength: 520 - 680 MPa
- Proof Stress: 220 min MPa
- Elongation A5: 40 min %

**PHYSICAL PROPERTIES**

- Density: 8.00 kg/m³
- Melting Point: 1400 °C
- Modulus of Elasticity: 193 GPa
- Electrical Resistivity: 0.074 x10⁻⁶ Ω.m
- Thermal Conductivity: 16.3 W/m.K
- Thermal Expansion: 15.9 x10⁻⁶ /K

**AVAILABILITY**

Round bar, flat bar, plate, sheet, wire, hexagon and tube

**ABOUT 316L**

Type 316L is a low carbon version of Type 316 which minimizes carbide precipitation due to welding.

All information in our data sheet is based on approximate testing and is stated to the best of our knowledge and belief. It is presented apart from contractual obligations and does not constitute any guarantee of properties or of processing or application possibilities in individual cases. Our warranties and liabilities are stated exclusively in our terms of trading.

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