316 / 316L Stainless
Technical Datasheet

Austenitic Stainless Steel with added Molybdenum

**Typical Applications**
- Heat exchangers
- Pressure vessels
- Chemical containers
- Food preparation equipment
- Furnace parts
- Valves & pumps

**Product Description**
Type 316 is an austenitic stainless steel with added molybdenum which gives the alloy improved corrosion resistance. It is commercially almost as popular as 304. The mechanical properties of the alloy are similar to Type 304 except that this grade is stronger at elevated temperatures. Type 316L is a low carbon version of Type 316 which minimizes carbide precipitation due to welding.

Weldability of 316 alloys is excellent and machinability is good. Corrosion resistance is good - excellent pitting resistance and good resistance to most chemicals involved in such industries as paper, photographic and textiles.

**Key features**
- Austenitic stainless steel with added molybdenum
- Improved corrosion resistance (better than 304) particularly in chloride environments.
- Use 316L for welding applications.

**Machinability**
Good machinability.

**Weldability**
Weldable by common fusion and resistance techniques.

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

**Corrosion resistance**
Excellent pitting resistance and good resistance to most chemicals.

**Chemical Composition (weight %)**

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<th>Cr</th>
<th>Mo</th>
<th>Si</th>
<th>P</th>
<th>S</th>
<th>Ni</th>
<th>Mn</th>
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**Mechanical Properties**

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

**Physical Properties**

**Technical Assistance**
Our knowledgeable staff backed up by our resident team of qualified metallurgists and engineers, will be pleased to assist further on any technical topic.

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