

# STAINLESS STEEL

**316 - 1.4401 / 316L - 1.4404**

**BORNMORE METALS**



## 316 - 1.4401 / 316L - 1.4404

Stainless Steel 316 is one of the most widely used and versatile stainless steels, prized for its corrosion resistance and suitability for a broad range of applications. The 316L low carbon content helps reduce the susceptibility to sensitisation during welding, making 316L suitable for applications where post-welding annealing is not practical.

### KEY FEATURES

- Excellent corrosion resistance
- Strength and mechanical properties
- Heat resistance
- General weldability

### CHEMICAL PROPERTIES

	Chromium (Cr)	Nickel (Ni)	Manganese (Mn)	Molybdenum (Mo)	Silicone (Si)	Nitrogen (N)	Carbon (C)	Phosphorus (P)	Sulphur (S)
<b>316</b>	<b>16-18%</b>	<b>10-12%</b>	<b>2%</b>	<b>2-3%</b>	<b>0.75%</b>	<b>0.1%</b>	<b>0.08%</b>	<b>0.045%</b>	<b>0.03%</b>
<b>316L</b>	<b>16-18%</b>	<b>10-12%</b>	<b>2%</b>	<b>2%</b>	<b>0.75%</b>	<b>0.1%</b>	<b>0.03%</b>	<b>0.045%</b>	<b>0.03%</b>

### MECHANICAL PROPERTIES

	<b>316</b>	<b>316L</b>
Tensile strength (N/mm <sup>2</sup> )	<b>500-700</b>	<b>500-700</b>
Yield strength (N/mm <sup>2</sup> )	<b>170-220</b>	<b>170-220</b>
Elongation (% in 4D)	<b>40</b>	<b>40</b>
Hardness - Rockwell C (HRC) max	<b>92</b>	<b>92</b>
Hardness - Brinell (HB) max	<b>217</b>	<b>217</b>

### PHYSICAL PROPERTIES

Density (kg/m <sup>3</sup> )	<b>8000</b>
Modulus of elasticity (Gpa)	<b>193</b>
Mean coefficient of thermal expansion	0-100°C (µm/m/°C) <b>15.9</b>
	0-350°C (µm/m/°C) <b>16.2</b>
	0-538°C (µm/m/°C) <b>17.5</b>
Thermal conductivity	at 100°C (W/m.K) <b>16.3</b>
	at 500°C (W/m.K) <b>21.5</b>
Specific Heat 0-100°C (J/kg.K)	<b>500</b>
Electrical resistivity (nΩ.m)	<b>740</b>
Melting point (°C)	<b>1450</b>

### MARKET SECTORS



**Food & Beverage Industry**

Conveyors, mixers, brewing and distillation equipment



**Chemical Processing**

Reactors, storage tanks, piping systems, heat exchangers

**Marine Equipment**

Boat fittings, hardware, coastal structures

**Medical Devices**

Surgical instruments, implants, dental instruments



**Pharmaceutical Industry**

Vessels, reactors, piping systems, processing equipment

**Aerospace Industry**

Aircraft structural components, engine parts, hardware