



What are 316L Stainless Steels?

316L is the low carbon version of 316 Stainless Steel. It does not precipitate due to carbide at grain boundary i.e. it is immune from sensitization. Thus it is heavily utilized in welded components of higher thickness more than 0.2 inches. The austenitic structure also offers these stainless steel grades incredible toughness, even down to extreme lower temperatures such as -150 Centigrades (-238 °F) to absolute zero (-460 °F).

316L, as the name suggests, has lower carbon content in it as compared with its parent type 316 stainless steel. Although 316L has lower carbon content, 316L is very much alike to 316 in most of the applications. Interestingly the cost of both the types are also similar, and both are long lasting, corrosion resistant, and best selection for stress intensive applications. 316L, on the other hand, is a better selection for an application that needs a lot of welding because 316L is less susceptible to weld decay.

Is 316L Stainless Steel Magnetic?

316L is non-martensitic stainless steel. It is therefore nonmagnetic in its properties. Thus we can say that 316L is non-magnetic.

Dimensional Characteristics of 316L Material

There are no standard dimensional ranges since this type is available in different forms. It is to the manufacturer's what are their limitations for dimensions of different forms. Buyers are advised to communicate the dimensional requirements with manufacturers. We are not stating any specific data from the market on dimensions for 316L grade.

Available Forms in Market

Following are the available forms of 316L Stainless Steels:

- Sheets & plates
- Coils and slit coils



Forged Items
Assembled parts
Wire
Tubing & pipes
Bars
L shape
Rods



The Chemical Composition of 316L Stainless Steel

Chemical alloying compositions are explicated below

Maximum percentage of Carbon is 0.03

Maximum percentage of Manganese is 2.0

Maximum percentage of Phosphorus is 0.045

Maximum percentage of Sulphur is 0.03



316L Stainless Steel - Low Carbon Austenite Material

Percentage of Molybdenum is indicated between 2.0 to 2.5

Maximum percentage of Silicon is 1.0

Maximum percentage of Nickel is 13.5 and minimum is 10.5

Maximum percentage of Chromium is 18.5 whereas minimum percentage of Chromium is 16.5

Rest is the base metal i.e. iron.

316L stainless steel have outstanding welding qualities even better than 316 grade. Type 316L stainless steel bearing austenitic structure is more resistant to corrosion and pitting than other nickel chromium stainless steels like JIS G4303 SUS304 Austenite Stainless Steel Grade.

Mechanical Properties of 316L Material

Tensile strength is around 485 Mpa as in some sources.

Yield strength is 170Mpa (in some technical sources)

Hardness in HB (in technical sources) is around 217.

Elongation is 40% in 2" in the standard.

Type 316L also can be welded for higher gauges.

Equivalent Materials of 316L Stainless Steel

The equivalent materials for 316L Stainless Steels specified in other recognized standards are as follows:

In JIS standard, the equivalent material are SUS 316L.

In DIN standard, the equivalent material is 1.4404 type steel.

In UNS standard, the equivalent material is S31603 type steel industrial



APPLICATIONS OF 316L MATERIAL

Variety of industrial and household applications consume this material, some of the applications are as follows:

Ozone generators
Sewage Water Filters
Textile industry tubing and other equipment
Environmental equipment like scrubbers
Oil and Gas refinery equipment
Pharmaceutical industry equipment
Surgical Speculas & medical implants
Tubes of Heat Exchangers
Chemical Handling Equipments
Feed water tubes and duct works

Material Trading

Purchase 316L Material

Do you want to buy 316L stainless steel?

We can help you with buying 316L stainless steel. You can send your inquiry by using our GDPR Compliant Order Inquiry Form.

Sell 316L Material

Do you want to become our premium supplier of 316L stainless steel?

We can help you find customers looking for 316L stainless steel, you can provide us your quotations for 316 stainless steel by using our GDPR compliant Online Quotation Form.

Premium Supplier

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Note: Mechanical and chemical properties given in values are indicative and for information purpose only. Some of the given information can be outdated. There are also minor possibilities for inaccuracies in the text due to human error. For inaccuracies & outdated text you can Complaint Us.