Type 316L Stainless Steel

1.Stainless Steel Plate

Type 304 | Type 304L | Type 304H | Type 316 | Type 316L | Type 316H | Type 321 | Type 347

Type 410 | UNS S32205 Duplex | UNS S32750 Super Duplex | UNS S32760 Super Duplex

2.A lower carbon version of Type 316, Grade 316L has excellent corrosion resistance.Type 316L is the low carbon version of 316 stainless. With the addition of molybdenum, the steel is popular for use in severe corrosion environments due to the materials immunity from boundary carbide precipitation (sensitization).

3.The material is widely used in heavy gauge welded components and weld annealing is only required where the material is for use in high stress environments. 316L has an extensive variety of uses especially in marine applications due to the materials high corrosion resistance.

4.Benefits of using Type 316L Stainless Steel

Low carbon content eliminates carbon precipitation in the welding process

Can be used in severe corrosive environments

Improved anti–corrosion scope due to added Molybdenum

Weld annealing only required in high stress applications

Very similar to Grade 316 in chemical composition and mechanical properties

316 & 316L steel plate and pipes have common properties and are often stocked with Dual Certification, where it is determined that both have properties and composition which comply with both steel types.

Type 316H is excluded from this scenario by virtue of the fact that unlike 316 & 316L, 316H is engineered to work in elevated working temperatures.

5.Chemical Composition

|  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| UNS No | Grade | C | Si | Mn | P | S | Cr | Mo | Ni | N |
| S31603 | 316L | 0.08 | 0.75 | 2.00 | 0.045 | 0.030 | 16.00/18.00 | 2.00/3.00 | 10.00/14.00 | 0.10 |

6.Mechanical Properties

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| UNS No | Grade | Proof Stress 0.2% (MPa) | Tensile Strength (MPa) | Elongation A5(%) | Hardness Max | |
| HB | HRB |
| S31603 | 316L | 170 | 485 | 40 | 217 | 95 |

7.For more information about the benefits of utilizing type 316 stainless steel alloy and for price and sizes, please contact us.