UNS S32205 Duplex 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

2.2205 duplex stainless steel is a mix of austenite and ferrite giving the material improved strength voer standard grades. Duplex stainless is a mixed microstructure of austenite and ferrite (50/50) which has improved strength over ferrite and austenitic steel grades with similar corrosion resistance qualities.

3.One of the main attractions of duplex stainless steel is cost – due to the materials increased yield strength it is often possible to reduce the thickness of material making it much cheaper than a comparative austenitic stainless steel grade.

4.Also Duplex steel has a lower alloy content reduces production costs. Certainly cost and weight savings without loss of performance is an attractive proposition to purchasers.

5.Benefits of using UNS32205 Duplex Stainless Steel

Corrosion resistance much better than that of Type 316

Greater tensile and yield strength

Good ductility and toughness though not as good as austenitic grades

Good stress corrosion cracking resistance (SSC)

Opportunity for purchases to reduce their material costs without compromising on quality

6.About 2205

2205 is the most common duplex alloy which contains 22% chromium and 5% nickel. Please refer to the chemical composition and mechanic properties tables below. For information on "Super Duplex" which provides higher corrosion resistance please click on the links to Super Duplex grades at the top of this page.

7.Chemical Composition

|  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| UNS No | Grade | C | Si | Mn | P | S | Cr | Mo | Ni | N | Other |
| S32205 | 2205 | 0.030 | 1.00 | 2.00 | 0.030 | 0.020 | 22.0/23.0 | 3.0/3.5 | 4.5/6.5 | 0.14/0.20 | –– |

8.Mechanical Properties

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| UNS No | Grade | Proof Stress 0.2% (MPa) | Tensile Strength (MPa) | Elongation A5 (%) | Hardness (Max) | |
| HB | HRB |
| S32205 | 2205 | 450 | 620 | 20 | 293 | 31\* |

\* Rockwell C Scale

9.Talk about our range of Duplex and Super Duplex stainless alloys. Please send us your enquiry.