

AISI 316Ti

STAINLESS STEEL

BOLTING MATERIAL FOR HIGH TEMPERATURE SERVICE

AISI 316Ti is Cr–Ni–Mo austenitic stainless steel with the high Pitting Resistance, The evaluation of the corrosion resistance arose from the comparison of the results of the immersion and the cyclic potentiodynamic tests. Stainless steel grade 316Ti contains a small amount of titanium. Titanium content is typically only around 0.5%. The titanium atoms stabilise the structure of the 316 at temperatures over 800°C. This prevents carbide precipitation at the grain boundaries and protects the metal from corrosion. The main advantage of 316Ti is that it can be held at higher temperatures for a longer period without sensitisation (precipitation) occurring. 316Ti retains physical and mechanical properties similar to standard grades of 316.

Chemical Properties

| C | Ti | P | S | Si | Cr | Mo | Ni |
|----------|----------|----------|----------|----------|-------------|-----------|-------------|
| 0.0-0.08 | 0.0-0.70 | 0.0-0.05 | 0.0-0.03 | 0.0-0.75 | 16.00-18.00 | 2.00-3.00 | 10.00-14.00 |

Mechanical Properties

| Yield strength | Tensile strength | Elongation |
|----------------|------------------|------------|
| Min 0.2% Mpa | Min Mpa | Min % |
| 170 | 485 | 40 |

Physical Properties

| Density | Elastic Modulus | Mean Coefficient of Thermal | | | Thermal Conductivity | | Specific Heat | Melting Point |
|----------------------|-----------------|-----------------------------|------|------|----------------------|------|---------------|---------------|
| (Kg/m ³) | (Gpa) | Expansion(µm/m/°C) | | | (W/m.K) | | 0-100°C | °F |
| 8.0 | 193 | 15.9 | 16.2 | 17.5 | 16.3 | 21.5 | 500 | 740 |

Heat Treatment

Solution Annealed @ 1050°C & Liquid Quenched @ 260°C

Equivalent Designation

UNS S31635
 En DIN X6CrNiMoTi17-12-2/X10CrNiMo
 Werkstoff.No. 1.4571/1.45
 SS 316Ti
 SUS 316Ti

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