



PRODUCT DATASHEET

321

Grade

321H, 1.4541

Type

Austenitic stainless steel delivered in the solution annealed condition.

Composition	
Element	Weight%
Carbon	0.1 max
Silicon	1 max
Manganese	2 max
Phosphorus	0.045 max
Sulphur	0.03 max
Molybdenum	2 - 3
Chromium	17 - 19
Nickel	9 - 12
Titanium	0.7 max
Manganese	2 max

Notes: 321H is a titanium stabilised austenitic stainless steel. It is a high carbon version of standard 321 grade.

Grade Selection

The addition of titanium to 321 stainless helps improve the welding properties and the elevated temperature properties of the steel. This stainless steel offers excellent oxidation resistance and corrosion resistance. It exhibits higher creep and stress rupture properties than 304 austenitic stainless grade. 321 stainless possesses excellent resistance to intergranular corrosion when worked or welded in temperatures with the carbide precipitation range of 427-818°C (800-1500°C).

The high carbon content gives improved high temperature strength.

Resistance to organic acids and some inorganic acids is excellent, but long term exposure to temperature between 900-1500°F may reduce its overall general corrosion resistance however it remains better than other unstabilized grades.

Mechanical Propeties

Solution annealed at around 1000-1100°C and water quenched or air.

Property	Values
0.2% Yeild Strength	205 MPA min
Elongation	40
Hardness	217 HBW max