



**THAMES**  
STOCKHOLDERS

# 321 Stainless

AUSTENITIC STAINLESS STEEL

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## Product Overview

**321 stainless steel** is a variant of type 304 but with added titanium as a stabiliser (around five times the amount of carbon).

The addition of titanium improves the elevated temperature performance of the alloy while reducing the effects of carbide precipitation in the heat-affected zone under welding. 321 offers improved creep strength, and corrosion resistance is excellent, particularly in chemical and oxidating atmospheres. Type 321 is more challenging to form than other austenitic grade materials, although it can be readily formed and drawn. The alloy finds extensive use in the oil & gas sector in the production of pressure vessels, boilers and heat exchangers.

We stock Type 321 in flats, round bars sheets and plates.

## Key Features

- Excellent chemical & oxidation corrosion resistance
- Stabilised with titanium
- Good creep strength
- Easily welded

## Applications

- Pressure vessels
- Industrial boilers
- Heat exchangers
- Aircraft components

## \* Chemical Composition (weight, %)

	C	Mn	Si	P	S	Cr	Ni	Ti5 (Cx N)
Min.						17.00	9.00	
Max.	0.08	2.00	1.00	0.045	0.030	19.00	12.00	0.70

\* Properties as per BS EN 10088-3, 1.4541

## \* Mechanical Properties

Tensile strength	500 - 700	MPa
Proof Stress	190 min	MPa
Elongation A5	40	%

\* Properties as per BS EN 10088-3, 1.4541 (sizes up to 160mm)

## Physical Properties

Density	8.09	g/m <sup>3</sup>
Melting Point	1400	°C
Modulus of Elasticity	193	GPa
Electrical Resistivity	0.074	x10 <sup>-6</sup> Ω.m
Thermal Conductivity at 100°C	16.1	W/m.K



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