THAMES STOCKHOLDERS
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303 Stainless

READILY MACHINABLE STAINLESS STEEL

Product Overview

Type 303 stainless steel's improved machinability is due to the presence of sulphur in the alloying process. Our product is one of the most machinable of all austenitic stainless steels available today.

However, there is a downside due to the presence of sulphur which slightly reduces the alloy's overall toughness resulting in lower corrosion resistance. Type 303, as with most austenitic grades, has excellent toughness, although weldability is poor. Improvement in machinability also reduces formability. The material finds use in various commercial engineering applications, and we stock multiple forms, including round bars, hexagonal bars and wires.

Key Features

- Very good machinability at the expense of formability
- Welding not recommended
- Lower corrosion resistance than 1.4301
- Excellent toughness

Applications

- Electrical switchgear components
- Aircraft components
- Gears, bushes, shafts
- Fasteners

* Chemical Composition (weight, %)

	C	Mn	Si	P	S	Cr	Ni	N	Cu	Fe
Min.					0.15	17.00	8.00			Bal
Max.	0.10	2.00	1.00	0.045	0.35	19.00	10.00	0.10	1.00	Bal

* Properties as per BS EN 10088-3, 1.4305

* Mechanical Properties

Tensile strength	500 - 750	MPa
Proof Stress	230 min	MPa
Elongation A5	35	%

* Properties as per BS EN 10088-3, 1.4305

Physical Properties

Density	8.03	kg/m^3
Melting Point	1455	°C
Modulus of Elasticity	193	GPa
Electrical Resistivity	0.072	$x10^{-6}$ Ω.m
Thermal Conductivity	16.3	W/m.K
Thermal Expansion	17.3	$x10^{-6}$ /K

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