



—1.4003—  
**STAINLESS STEEL**

# COMPANY OVERVIEW

## Offshore Stainless Supplies

Operating from two sites in the West Midlands, we have a huge stock inventory of 1.4003 Stainless Steel in sheet, plate and box section, offering customised solutions to meet our customer's specific requirements, and supplying products to more than 50 countries worldwide.

# WORLD'S LARGEST STOCKHOLDER OF 1.4003 STAINLESS STEEL.



## Customer service



At Offshore Stainless Supplies, we pride ourselves on a high level of service and aim to totally satisfy our customer expectations. We use a variety of manufacturing technologies to meet customer requirements in a safe and environmentally friendly manner, with a 'right-first-time' approach.

We have a long-standing and highly skilled workforce who understand our manufacturing capabilities and have pride in every Stainless sheet supplied.

We're also taking steps towards compliance with the EU's Carbon Border Adjustment Mechanism (CBAM) to ensure sustainable and responsible exports to Europe, reducing our carbon emissions and promoting sustainable manufacturing.



## Manufacturing expertise

The process of converting our 1.4003 Stainless Steel coils into sheets involves several steps to ensure precision, quality and adherence to customer specifications.

In our manufacturing facility, the Stainless Steel coils are loaded onto an uncoiler, which unwinds the coil into a flat sheet. The uncoiled sheet is then passed through a series of rollers to flatten it and remove any curvature or waviness to achieve a smooth, flat sheet. The levelled sheet is cut to the desired length using our shear machine.

With cut-to-length 1.4003 Stainless Steel sheets, you can streamline your manufacturing processes as optimised lengths are crucial for applications where tight tolerances are required depending on your specific needs and project requirements.



Offshore Stainless Supplies is part of the Steel Dynamics Group Family of Companies in the metal industry, relentlessly working together to reduce our customer's costs, enabling UK manufacturing to flourish.



A Member of the  
**Steel Dynamics Group**<sup>®</sup>  
Family of Companies

# PRODUCT INFORMATION

1.4003 (also known as 3CR12) is a utility ferritic Stainless Steel that offers all the benefits of traditional Stainless Steel such as strength, corrosion and abrasion resistance, durability, and low maintenance, but it also provides additional benefits such as good weldability and formability making it capable of fabrication by conventional techniques.

1.4003 Stainless Steel typically comes at a lower cost compared to more conventional 304 or 316 Stainless Steel grades, which makes it an attractive option for projects with budget constraints. It is proven to offer lower life cycle costs than traditional materials where corrosion and abrasion affect service conditions.

1.4003 is also included in the specifications EN 10088-2, EN 10028-7 and ASM A240 UNS S214003.



## Technical specifications

### CHEMICAL PROPERTIES

Chromium (Cr)	Manganese (Mn)	Silicone (Si)	Nickel (Ni)	Phosphorus (P)	Nitrogen (N)	Carbon (C)	Sulphur (S)	Iron (Fe)
10.5-12.5%	1-1.5%	1%	0.5-1%	0.04%	0.03%	0.03%	0.02%	Rest

### MECHANICAL PROPERTIES

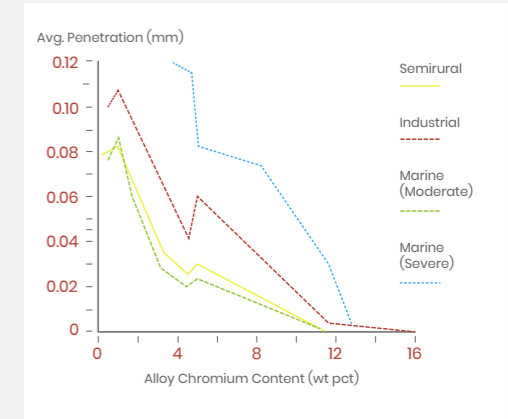
Tensile strength (N/mm <sup>2</sup> )	450-630
Yield strength (N/mm <sup>2</sup> )	260
Elongation (% in 4D)	25-30
Hardness - Rockwell C (HRC) max	-
Hardness - Brinell (HB) max	170-210
Charpy impact (J)	85-100

### PHYSICAL PROPERTIES

Density (kg/m <sup>3</sup> )	7740	
Modulus of elasticity (Gpa)	200	
Mean coefficient of thermal expansion	0-100°C (µm/m/°C)	11.1
	0-350°C (µm/m/°C)	11.7
	0-538°C (µm/m/°C)	12.3
Thermal conductivity	at 100°C (W/m.K)	30.5
	at 500°C (W/m.K)	40.0
Specific Heat 0-100°C (J/kg.K)	478	
Electrical resistivity (nΩ.m)	678	
Melting point (°C)	1430-1510	

## Corrosion resistance

As a general guide 1.4003 Stainless has 250 times the corrosion resistance of unpainted mild Steel. In atmospheric corrosion testing, 1.4003 has a given corrosion rate of 0.001 - 0.002mm/year (0.0004" - 0.00008"/year) in a marine environment.



In environments containing oxygen, such as atmospheric conditions or aerated water, the chromium in 1.4003 Stainless Steel reacts with oxygen to form a thin, stable oxide layer on the Steel's surface.

This passive film effectively protects the underlying Steel from corrosion by preventing direct contact with corrosive agents.

In wet or damp conditions where abrasion occurs 1.4003 has demonstrated excellent performance by resisting corrosion attack and maintaining better flow and slideability characteristics compared to non or low-alloyed Steels, including abrasion resistant grades.

## Weldability

1.4003 Stainless is designed to have good weldability. Its fine grained microstructure is determined by microalloy element control which prevents grain growth in the heat affected zone (HAZ) and allows high integrity welds in section thicknesses up to 30mm.

Proper welding techniques, including joint preparation, welding parameters, and shielding gas selection, are essential for achieving high-quality welds with 1.4003 Stainless Steel.



## Coating and painting

Where paint is applied, 1.4003 Stainless has exceptional under paint corrosion resistance, and will continue to resist corrosion even where the paint coat has been damaged. 1.4003 is designed to provide excellent abrasion resistance, therefore coatings or paint systems are not necessary for anti-abrasive purposes.

Under normal corrosive conditions 1.4003 will discolour, without affecting its performance. For aesthetic reasons painting may be the solution.



**STOCK  
HOLDING**



We can offer the world's most extensive stock holding of 1.4003 Stainless Steel coils, plate and sheet - available for delivery for your next project and carefully packaged to prevent damage during transportation.

We also have an in-house, purpose-built, cut-to-length line capable of processing coils into industry standard lengths, without the need for welding to best suit production and processing capabilities.

With 1.4003 Stainless Steel coil widths of 1000mm, 1250mm and 1500mm stocked in a range of thicknesses.

**WE CAN SUPPLY  
BESPOKE SHEETS  
UP TO 14 METRES  
IN LENGTH.**

**Sheet/plate stocks:**



Thickness of sheet (mm)	1.00	1.20	1.50	2.00	2.50	3.00	4.00	5.00	6.00	8.00	10.00	12.00	15.00	20.00	25.00	30.00
2000mm x 1000mm	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	-	-	-	-	-	-
2500mm x 1250mm	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	-	-	-	-
3000mm x 1500mm	-	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
6000mm x 1500mm	-	-	-	-	-	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓



**1.4003 STAINLESS STEEL IS ALSO AVAILABLE IN BOTH  
SQUARE AND RECTANGULAR BOX SECTION**

**Box section stocks:**



**SQUARE**

Thickness of section (mm)	20x20mm	25x25mm	30x30mm	40x40mm	50x50mm	60x60mm	80x80mm
1.50mm	✓	✓	✓	✓	-	-	-
2.00mm	-	-	✓	✓	✓	-	-
3.00mm	-	-	✓	✓	✓	✓	-
4.00mm	-	-	-	✓	-	✓	✓

In square or rectangular sections, commonly used in vehicle frames, 1.4003 ensures that the structure will deform in a controlled manner and absorb sufficient impact energy to preserve interior survival space.

**RECTANGULAR**

Thickness of section (mm)	30x20mm	40x20mm	40x30mm	50x30mm	50x40mm	60x30mm	60x40mm	80x40mm	100x50mm	120x60mm
1.50mm	✓	✓	✓	-	-	-	-	-	-	-
2.00mm	-	✓	✓	✓	✓	-	✓	✓	-	-
3.00mm	-	-	-	✓	✓	✓	✓	✓	✓	✓
4.00mm	-	-	-	-	-	-	✓	-	✓	-

Stainless Steel is renowned for its durability, corrosion resistance and versatility across various industries. And among the diverse grades of Stainless Steel available, 1.4003 stands out as an economical alternative to higher-priced Stainless Steel grades, without compromising on performance.

# CUT-TO-LENGTH PRODUCTION LINE

Having a cut-to-length production line for 1.4003 Stainless Steel sheets offers significant benefits to customers. This advanced capability ensures precise, customised sheet dimensions, reducing waste and enhancing efficiency in subsequent manufacturing processes.

Furthermore, it enables faster turnaround times, which is crucial for meeting tight project deadlines. By streamlining the cutting process and integrating it directly into the production line, we can respond more quickly to customer orders and provide timely delivery of materials.

Buying cut-to-length Stainless Steel sheets can also offer several additional benefits, depending on your specific needs and project requirements.

Here are some advantages:



## Precision & consistency

Custom cutting ensures precision and consistency in the dimensions of each sheet, with optimised lengths which are crucial for applications where tight tolerances are required.



## Increased efficiency

With cut-to-length sheets, you can streamline your manufacturing process, resulting in improved efficiency, which is ideal for industries where time is a critical factor in meeting project deadlines.



## Material savings

Purchasing sheets in custom lengths minimises material waste since you only buy the amount required for your project, which is both cost-effective and environmentally friendly.



## Reduced processing

By purchasing Stainless Steel sheets in the required lengths, you can avoid additional processing steps such as cutting, which can be prone to errors and may require extra machinery.



**4,000 TONNES OF INVENTORY IN THE UK**

Offshore Stainless can also offer very short lead times on the specific lengths you require from standard widths at highly competitive rates.

Contact our Sales team for further details.

# MARKET SECTORS

As the World's largest stockholder and processor of 1.4003 Stainless Steel sheet, we thought we would share with you some valuable insights about the exceptional qualities and diverse applications of our 1.4003 Stainless Steel.



## Enclosures & cabinets

We work closely with our partners who are using the latest technology to install a full fibre network across the country using 1.4003 Stainless Steel in their broadband enclosures and cabinets, as the material ensures a robust and long-lasting solution safeguarding the critical equipment and infrastructure.

**DELIVERING TO OVER 50 COUNTRIES WORLDWIDE**

## Vehicle frames



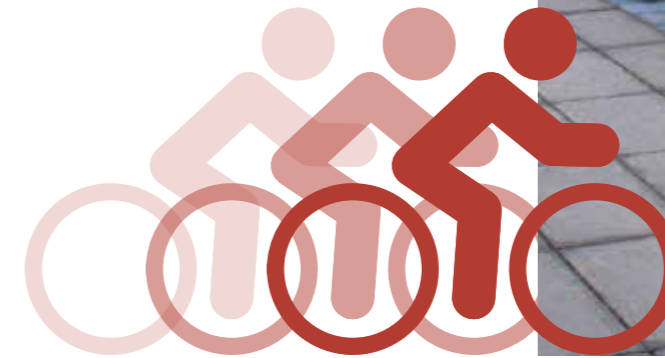
1.4003 Stainless Steel serves as a substitute for mild Steel in vehicle frames due to its strength, low maintenance and cost-effectiveness when compared with carbon Steels or aluminium. Using our network of global export professional partners, our 1.4003 Stainless Steel products are used in everything from iconic buses around the world, to coaches, trucks and even gritter vehicles.



## London's cycle scheme



Popularly known as Boris Bikes, London's cycle scheme aimed to provide a sustainable and convenient mode of transportation across the capital, and there was a need for sturdy and durable bike stands to be installed across the city at designated locations. We secured the contract for the precise cutting and folding of 1.4003 Stainless Steel required to manufacture the fabricated bike stands.



And that's not all – you'll also find our 1.4003 Stainless Steel used in the following applications:

**Material handling systems** – such as conveyors, chutes and screens

**Tanks and containers** – including nuclear waste boxes

**Construction and architecture** – for walkways, stairs and railings

**Food processing** – for preparation surfaces, kitchen equipment and storage tanks

We work with clients throughout the UK, across Europe, the Far East and Australia. If you have upcoming projects or specific requirements that could benefit from the features of 1.4003 Stainless Steel, our team is ready to assist.

Whether it's providing additional technical information, product details or specialist project support, **we're here to support your needs.**



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Stainless Supplies

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