DS WILLETTS

STAINLESS STEEL SOLUTIONS

About Us

Established in 1986, D.S. Willetts (Stainless) specialise in the supply of stainless steel plates and profiles. Based in Bilston (Wolverhampton), D.S. Willetts (Stainless) also provide Laser, Waterjet, Plasma, Plate Saw, Band Saw and Guillotine cutting on a variety of stainless steel graded products.

Our full graded stocks can be seen below :

- 304/304L/304H (1.4301/1.4307/1.4948)
- 316/316L/316H (1.4401/1.4404/1.4919)
- 310 (1.4845)
- 321 (1.4541)
- 347/347H (1.4550)
- UNS S32750 & UNS S32760
- Duplex 1.4462 (UNS S31803)
- Surface finishes

On all of our products, we also provide in-house cutting facilities to meet exact profiling requirements.

We are able to offer the following services :

- 10KW Bystronic Laser – Bed Size of 4,000MM x 2,000MM with a cutting capacity of up to 30MM Thick
- Waterjet - Bed Size of 6,000MM x 3,000MM with a cutting capacity of up to 200MM Thick
- Plasma – Bed Size of 6,000MM x 3,000MM with a cutting capacity of up to 100MM Thick
- Plate Saw – Plate Saw size up to 4,000MM in length with a capacity of up to 160MM Thick
- Band Saw – Band Saw limit of up to 250MM Dia
- Guillotine – Maximum width capacity of 4,000MM x 12MM Thick

In 2023, D.S.Willetts (Stainless) became part of the Masteel UK Group. Masteel UK Limited are a global steel stockholder and supplier specialising in Pressure Vessel, Boiler Plate, Chrome Moly, Abrasion, QT, High Yield, Weathering and Stainless Steels.

In addition to being part of Masteel, we are also very proud to be a member of the British Stainless Steel Association. The British Stainless Steel Association are a trade corporation that represent businesses and stakeholders involved in the stainless steel industry.

MASTEEL
WORLDWIDE STEEL SOLUTIONS

BRITISH STAINLESS STEEL ASSOCIATION

03 304/304L/304H

Stainless steel is a versatile and durable material that is widely used across various industries. Across the broad range of stainless-steel grades available, 304, 304L and 304H stand out for their exceptional corrosion resistance, longevity and aesthetic appeal.

*Grade 304 is an austenitic chromium alloy which is also known as an "18/8" stainless as the make-up of the steel is 18% chromium and 8% nickel.

*Grade 304L is the lower carbon variant of 304 stainless. This grade of steel can be welded without having any issues in relation to carbon precipitation.

*Grade 304H is a high carbon variant of 304 stainless. This grade benefits from improved strength and heat resistance compared to 304 stainless.

Our 304/304L/ 304H Stock ranges from 1MM to 100MM thick – Available in Plates & Profiles to your requirements.

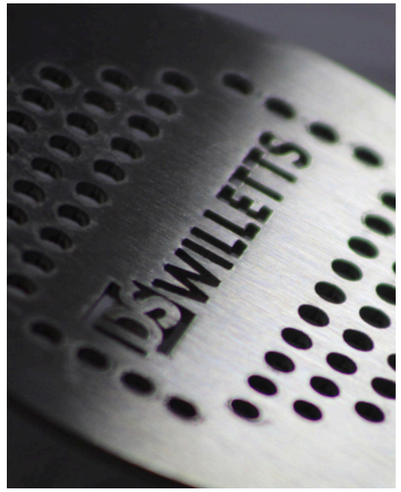
Key Benefits

Corrosion Resistance: The 304 stainless steel range is renowned for its excellent corrosion resistance, making it an ideal choice for applications in corrosive environments. This property is enhanced in 304L, thanks to its lower carbon content, which minimises sensitisation and prevents corrosion at welded joints.

Versatility in Applications: 304/304L/304H stainless steel find widespread use across diverse industries, including architecture, automotive, food processing, and more. Their versatility is attributed to their formidable strength, ease of fabrication, and resistance to chemicals and high temperatures.

Aesthetic Appeal: The aesthetic appeal of the 304 stainless steel range is undeniable. Its sleek, polished surface not only adds a touch of sophistication, but also contributes to its easy maintenance and cleanliness, making it a popular choice for kitchen appliances and architectural elements.

Scan/Click to find out more about our 304/304L/304H Stainless Steel



316/316L/316H 04

Within the realm of stainless-steel grades, 316 emerges as a notable choice, alongside its low-carbon counterpart (316L). They offer exceptional corrosion resistance, a prolonged lifespan and aesthetic appeal. Grade 316L serves as the reduced carbon version of 316 stainless steel. This steel grade allows for seamless welding without encountering issues related to carbon precipitation. 316H is a higher carbon variant of 316, making the steel more suitable for use in applications where elevated temperatures are present.

Distinguished for its versatility and widespread use, 316 stainless steel stands out in the stainless-steel market. 316 stainless steel is an austenitic chromium-nickel alloy, often referred to as "18/10" stainless steel because it contains 18% chromium and 10% nickel.

Key Benefits

Corrosion Resistance Beyond Compare: Renowned for their outstanding corrosion resistance, 316, 316L & 316H stainless steel are the go-to choices for applications demanding resilience in harsh environments, chemicals, and corrosive elements. The molybdenum content in these grades enhances their resistance to pitting and crevice corrosion.

Versatility Across Industries: The versatility of 316, 316L & 316H stainless steel extends across various sectors, including marine, chemical processing, pharmaceuticals, and more. Their ability to withstand extreme conditions, coupled with excellent weldability, makes them indispensable in critical applications.

High Temperature Performance: With a higher nickel content than 304 stainless steel, 316, 316L and 316H exhibit exceptional performance at elevated temperatures. This makes them ideal for applications involving exposure to heat, such as exhaust systems and industrial furnaces.

Our 316/316L/316H Stock ranges from 1MM to 100MM Thick – Available in Plates & Profiles to your requirements.

Scan/Click to find out more about our 316/316L/316H Stainless Steel

Among the array of stainless-steel grades, 310 stands out as a compelling choice. It offers outstanding corrosion resistance, prolonged longevity, and an appealing aesthetic.

Renowned for its distinctive qualities, Grade 310 stainless steel takes center stage in the stainless steel market. As an austenitic chromium-nickel alloy, it is recognised for its resilience and corrosion resistance. Commonly referred to as “25/20” stainless steel, denoting its composition of 25% chromium and 20% nickel, Grade 310 showcases exceptional performance in challenging environments.

Grade 310 provides a robust solution, ensuring durability and corrosion resistance in various applications across industries.

Key Benefits

- Unparalleled High-Temperature Performance
- Corrosion Resistance
- Strength and Durability

Our Stock

Our 310 Stainless Stock Ranges from 1MM to 65MM - Available in Plates & Profiles

Scan/Click to find out more about our 310 material

Distinguished for its unique characteristics, Grade 321 stainless steel takes a prominent place in the stainless steel market. As an austenitic chromium-nickel alloy, it is well-regarded for its resilience and corrosion resistance. Commonly known as 18/10 Ti stainless steel (reflecting its composition of 18% chromium, 10% nickel and the addition of titanium), grade 321 provides a reliable choice, and excels in applications where elevated temperatures are a consideration. Grade 321 provides a reliable solution, ensuring durability and corrosion resistance in various industrial settings.

Key Benefits

Corrosion Resistance: 321 stainless steel is renowned for its exceptional corrosion resistance, making it a preferred choice for applications in environments where exposure to corrosive elements is a constant challenge. This attribute is particularly valuable in industries such as aerospace, chemical processing, and automotive manufacturing.

Heat Resistance: With its titanium stabilisation, 321 stainless steel exhibits remarkable heat resistance, maintaining its structural integrity even at elevated temperatures. This quality makes it suitable for applications in exhaust systems, high-temperature processing equipment, and other demanding settings.

Weldability and Formability: Unlike some high-carbon stainless steels, 321 stainless steel is easily weldable and formable. This characteristic enhances its versatility, allowing for the creation of complex structures and components with ease.

Our 321 Stainless Stock Ranges from 1MM to 65MM - Available in Plates & Profiles

Scan/Click to find out more about our 321 material

07 347 & 347H

347 stainless steel is a variant of the basic austenitic 18/8 Grade 304 with added Columbium. The introduction of Columbium stabilises the steel and eliminates carbide precipitation which subsequently causes intergranular corrosion. The steel has excellent forming and welding qualities and excellent toughness even at cryogenic temperatures.

Typical Uses

- Heat exchangers
- High temperature steam service
- High temperature chemical process

Both 347/347H are used primarily in elevated temperature applications.

Key Benefits

- Higher creep stress and rupture properties when compared with 304
- Ideal for high temperature service
- Overcomes sensitisation and intergranular corrosion concerns
- Can be used in elevated temperature applications for ASME Boiler and Pressure Vessel Code applications
- Due to stabilisation the material offers better overall corrosion resistance when compared to 304/304L
- Excellent mechanical properties
- A high carbon version (347H) is also available

Scan/Click to find out more about our 347 material

UNS S32750 & UNS S32760 08

Super Duplex UNS S32750 and UNS S32760 stainless Duplex, is a mixed microstructure of austenite and ferrite (50/50) which has improved strength over ferritic and austenitic steel grades. The main difference is that Super Duplex has a higher Molybdenum and Chromium content which gives the material greater corrosion resistance.

Super Duplex has the same benefits as its counterpart – it has lower production costs when compared with similar ferritic and austenitic grades. Due to the material's increased tensile and yield strength, this can provide the purchaser the welcomed option of purchasing smaller thicknesses without the need to compromise on quality or performance.

Key Benefits

- Improved corrosion resistance in comparison to Duplex
- Greater tensile and yield strength
- Good ductility and toughness
- Good stress corrosion cracking resistance (SSC)
- Opportunity for purchasers to reduce their material costs without compromising on quality

Scan/Click to find out more about our UNS S32750 material

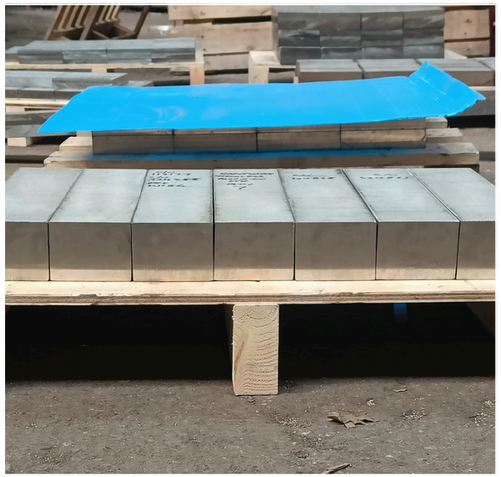
Scan/Click to find out more about our UNS S32760 material

Duplex 1.4462

- Often referred as UNS S31803
- UNS S32205 is a refined version of Duplex 1.4462

Stainless steel, renowned for its versatility and durability, plays a pivotal role in diverse industries. Amidst the various stainless steel grades, Duplex 1.4462 emerges as a compelling choice, offering exceptional corrosion resistance, extended durability, and an appealing aesthetic. Noteworthy for its distinctive characteristics, Duplex 1.4462 stainless steel holds a significant position in the stainless steel market. With a composition marked by chromium, nickel, molybdenum, and nitrogen, Duplex 1.4462 excels in applications demanding both corrosion resistance and high mechanical strength. Duplex 1.4462 provides a reliable solution, ensuring durability and resistance to corrosion in various challenging environments across industries.

Our Duplex 1.4462 Stock Ranges from 3MM to 50MM. Available in Plates & Profiles



Scan/Click to find out more about our Duplex 1.4462 material

Key Benefits

Corrosion Resistance: Duplex 1.4462 stainless steel boasts exceptional corrosion resistance, making it an ideal choice for applications in aggressive environments such as chemical processing, marine engineering, and oil and gas. Its resistance to both uniform and localised corrosion sets it apart in demanding conditions.

Strength and Durability: The duplex structure of this stainless steel grade imparts superior strength and durability. This makes Duplex 1.4462 suitable for applications where structural integrity is crucial, including in pressure vessels, pipelines, and various industrial components.

Versatility in Applications: Duplex 1.4462 stainless steel's versatility extends across a wide range of industries, from construction to food processing. Its ability to perform well in diverse environments, coupled with excellent weldability, positions it as a go-to material for complex engineering projects.

Surface finishes in stainless steel are crucial for both visual appeal and functionality. Stainless steel provides a variety of finishes tailored to diverse needs. We at D.S. Willetts offer 4 different types of surface finishes on our stainless steel products. The surface finishes we offer can be seen below:

Hot Rolled: A hot rolled finish in steel refers to the surface condition of steel products after they have undergone the hot rolling process. Hot rolling is a manufacturing process in which steel is heated above its recrystallisation temperature and then passed through rollers to achieve the desired shape and dimensions.

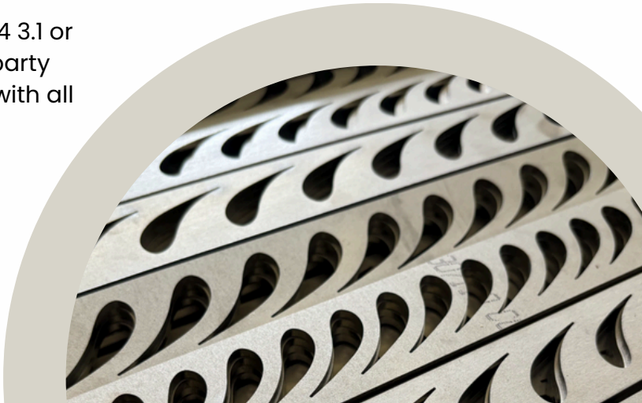
Cold Rolled: A cold rolled finish in steel refers to the process of taking a hot rolled steel coil or sheet and subjecting it to further processing at room temperature. This process is called cold rolling, and it is typically done after the hot-rolling process. Cold rolling is used to reduce the thickness of the steel and improve its surface finish.

Floorplate: A floorplate finish in steel typically refers to a type of steel plate finish that is designed for specific applications where slip resistance is important, such as flooring or walkway surfaces.

Dull Polished: A dull polished finish refers to a surface finish achieved through mechanical processes that result in a less reflective and smoother appearance compared to a bright or mirror-polished finish.

All our material is supplied fully certified with EN10204 3.1 or 3.2 certificates as needed. Additional client or third party inspections of material is also available on request with all our material.

Scan/Click to find out more about our Surface Finishes



Bystronic Laser

Scan/Click to find out more about our Laser cutting services

Utilising laser cutting techniques for steel profiles provides a variety of advantages. The precision inherent in laser cutting tools minimises the heat affected zone during the cutting process, ensuring only a minimal area is impacted by heat. Furthermore, the exceptional capability of lasers to cut intricate and complex shapes adds another layer of benefit. This enables the production of accurately-cut steel profiles, allowing for fine tolerances to be achieved.

At D.S Willetts, we offer a comprehensive laser cutting profile service. When coupled with our extensive inventory of stainless steel, the combination positions us as a one-stop shop for all your stainless steel needs. The integration of laser technology enhances our ability to provide precise and intricate steel profiles, reinforcing our commitment to delivering high-quality solutions for your specific requirements.

Our Laser Cutting Capabilities

Our Laser Machine is a 10KW Bystronic Laser

- With a bed size of 4,000MM X 2,000MM
- Cutting capacity of up to 30MM Thick

Key Benefits of Laser Cutting

Precision and Accuracy: Laser cutting excels in achieving intricate and detailed cuts with high precision, making it ideal for complex stainless steel components.

Minimal Material Distortion: The focused and controlled nature of the laser beam results in minimal heat-affected zones, reducing the risk of distortion or damage to stainless steel material.

Cost Efficiency: Laser cutting offers efficient use of materials, minimising waste and optimising the production process, leading to cost-effective manufacturing.

Plasma

Plasma cutting, also referred to as plasma arc cutting, operates as a melting process. This method employs a jet of ionised gas at temperatures exceeding 20,000°C to melt the material, expelling it from the cut. In the plasma cutting process, gas is propelled through a narrow nozzle at high velocity, connected to an electric current that generates an ionised plasma stream. This intense plasma stream effectively melts the metal, and any resulting molten material is swiftly blown away by the high-velocity gas, delivering a precise cut edge. This method proves particularly effective for materials that present challenges with traditional flame cutting techniques.

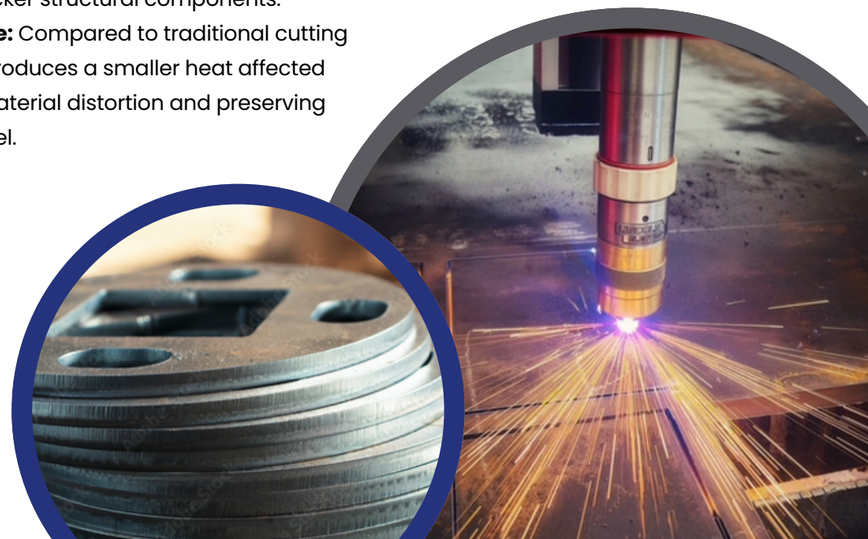
Key Benefits of Plasma Cutting

High Cutting Speed: Plasma cutting excels in terms of speed, making it a preferred choice for projects that demand efficiency without compromising precision.
Versatility in Thickness: Plasma cutting is capable of handling a wide range of stainless steel thicknesses, making it suitable for both thin sheets and thicker structural components.
Minimal Heat Affected Zone: Compared to traditional cutting methods, plasma cutting produces a smaller heat affected zone, reducing the risk of material distortion and preserving the integrity of stainless steel.

Our Plasma Cutting Capabilities

- Bed size of 6,000MM X 3,000MM
- Cutting capacity of up to 160MM Thick

Scan/Click to find out more about our Plasma cutting services



Waterjet

Waterjet profiling is a cost-effective heat and gas free cutting method and will work successfully on any steel material.

The material is cut using a pressurised waterjet which can be anything between 30,000 to 60,000 pounds per square inch (PSI). The enormous amount of pressure allows for cutting of much greater material thicknesses. In the steel cutting process the water is mixed with abrasive garnet which enables the material to be cut to close tolerances.

The process yields very little heat and therefore there is no heat affected zone to speak of (HAZ). This in turn promotes a very accurate and detailed cut.

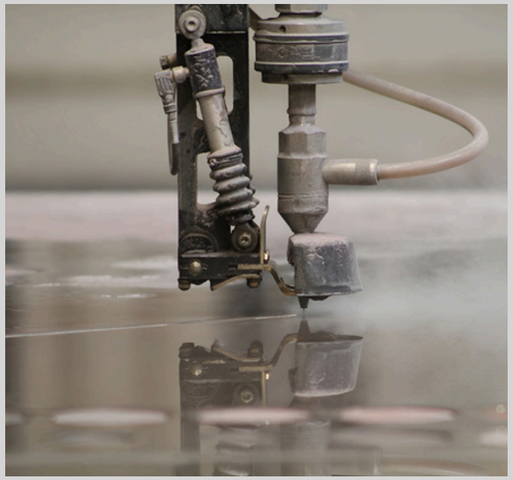
Key Benefits

No Heat Affected Zone (HAZ): Waterjet cutting avoids heat, which means no risk of thermal distortion, warping, or changes in material properties. This is especially crucial for stainless steel, as it maintains its strength, corrosion resistance, and other key characteristics without being compromised by heat.

Precision and Clean Cuts: Waterjet cutting offers high precision, allowing for tight tolerances and intricate designs without the need for post-processing. It produces smooth edges, which minimises the need for deburring or sanding.

Versatility for Thick Materials: Waterjet cutting can handle a wide range of stainless steel thicknesses, making it ideal for both thin and thick material cutting. Whether you need to cut delicate parts or heavy-duty components, waterjet cutting provides the flexibility and effectiveness needed for diverse projects.

Scan/Click to find out more about our Waterjet cutting services



Our Waterjet Cutting Capabilities

- **Application:** All Steels
- **CuttingRange:** Up to 200mm thickness
- **Cutting Area:** 6000 x 3000

Guillotine

Guillotine cutting is a mechanical shearing process that utilises a sharp, vertically moving blade to cut through materials with exceptional force and precision. This method is particularly well suited for stainless steel fabrication, where the durability and resilience of the material demand a robust cutting technique. The shearing action of the guillotine blade allows for clean and precise cuts in stainless steel sheets, producing components and structural elements with a high degree of accuracy.

In addition to its efficiency, guillotine cutting is valued for its versatility, making it a preferred choice not only in industrial settings for mass production but also in custom fabrication where intricate designs and shapes are required. The combination of mechanical power and precision positions guillotine cutting as an indispensable process in the realm of stainless steel fabrication, ensuring the production of high-quality components for diverse applications.

Key Benefits

Speed and Efficiency: Guillotine cutting is known for its rapid processing speed, making it highly efficient in large-scale stainless steel fabrication projects.

Cost Effectiveness: The mechanical nature of guillotine cutting reduces operational costs compared to some high-tech cutting methods, making it a cost-effective choice for certain applications.

Straight and Clean Cuts: Guillotine cutting delivers straight and clean cuts, ensuring precision and minimising the need for additional finishing processes.

Our Guillotine Cutting Capabilities

Maximum Width Capacity of 4,000MM X 12MM Thick

Scan/Click to find out more about our Guillotine cutting services

Plate Saw Cutting

Plate Saw Cutting is a mechanical process that plays a crucial role in the fabrication of large stainless steel plates or sheets. This method utilises a circular saw blade to make precise and efficient cuts, distinguishing itself as a specialised technique for working with thicker materials. This precision is particularly advantageous in heavy duty applications where accuracy and reliability are paramount.

Our Plate Saw Capabilities

Plate Saw size up to 4,000MM in length

Key Benefits of Plate Sawing

- Precision in Thick Materials: Plate Saw Cutting excels in handling thick stainless steel plates, providing accurate and clean cuts even in materials with substantial thickness.
- Efficiency in Mass Production: The efficiency of Plate Saw Cutting makes it a preferred choice for mass production, allowing for the rapid fabrication of large quantities of stainless steel components.
- Minimised Material Waste: The precision of Plate Saw Cutting contributes to minimal material waste, optimising the use of stainless steel and enhancing overall cost-effectiveness.

Scan/Click to find out more about our Platesaw & Bandsaw services

Bandsaw Cutting

Bandsaw Cutting is a highly effective metal cutting technique widely utilised in stainless steel fabrication and various industrial applications. This method stands out for its use of a continuous band-shaped blade, which is equipped with evenly spaced teeth along its length. This design allows for versatile and precise cuts, making it well-suited for a range of stainless steel fabrication requirements.

Our Bandsaws Capabilities

Our Band Saw Machine has a limit of up to 250MM DIA

Key Benefits of Bandsawing

- Versatility in Material Handling: Bandsaws can efficiently handle a variety of stainless steel forms, from solid bars to intricate profiles, offering flexibility in fabrication processes.
- Accuracy in Contoured Cuts: Bandsaw Cutting excels in producing accurate and contoured cuts, making it suitable for complex designs and intricate patterns in stainless steel.
- Cost Effective Solution: The efficiency and speed of Bandsaw Cutting contribute to its cost-effectiveness, making it a practical choice for both small scale projects and large-scale production.

MASTEEL
WORLDWIDE STEEL SOLUTIONS

About Us

Masteel was founded in 2002, growing from a small privately owned steel trading company to a globally recognised steel stockholder. We have a branch in South Africa (Pressure Vessel Steels (UK) Ltd) and a sister company in Belgium (Masteel BV) that are supported by our UK headquarters, offering global coverage.

In 2023, we also added D.S. Willetts (Stainless) to the Masteel group. Based in Bilston (Wolverhampton), D.S. Willetts specialise in the supply of stainless steel plates and profiles.

Scan/Click to find out more about Masteel

Our Capabilities

We are passionate about providing the best customer service for our clients and we work hard to ensure we can meet your company's needs. Our stock materials are ordered to international standards with additional stringent restrictions applied to the chemical, mechanical and testing requirements. This ensures that where clients have more complex requirements, we are able to comply using ex stock material.

We provide in-house profiling services for all our stock grades. Our profiling combined with the comprehensive stock of carbon and stainless steels allow us to meet the needs of your projects. In-house we provide Flame, Plasma, Laser & Waterjet cutting facilities.

- **Flame Machine** - Cutting range is between 6mm - 300 mm
- **Plasma Machine** - Cutting range goes up to 160mm
- **Laser Machine** - Cutting range goes up to 30mm
- **Waterjet Machine** - Cutting range goes up to 200mm

Key Stocked Grades

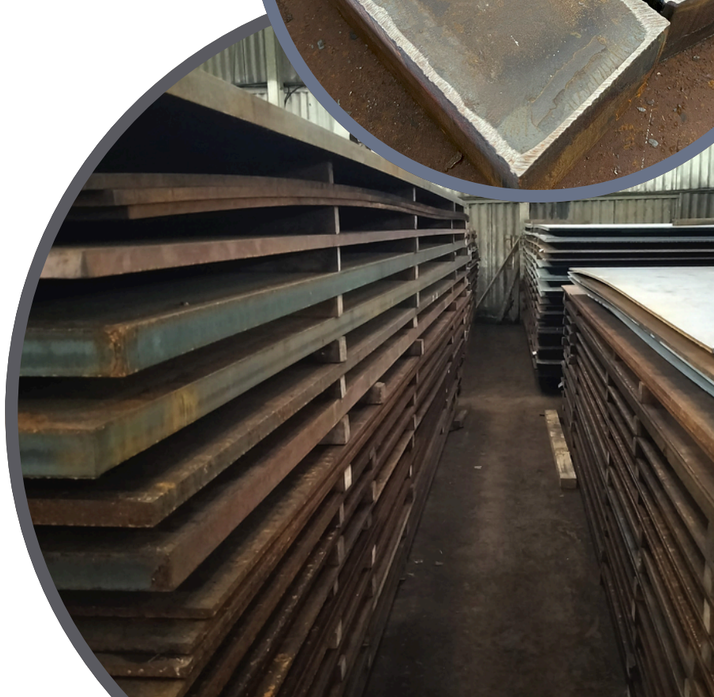
Stainless
- 304/304L/304H
- 316/316L/316Ti
- UNS 31803/32205 (1.4462)
- UNS S32750/UNS S32760

Boiler & Pressure Vessels
- SA/A516 Gr.60/P265GH
- SA/A516 Gr.70/P355NL2

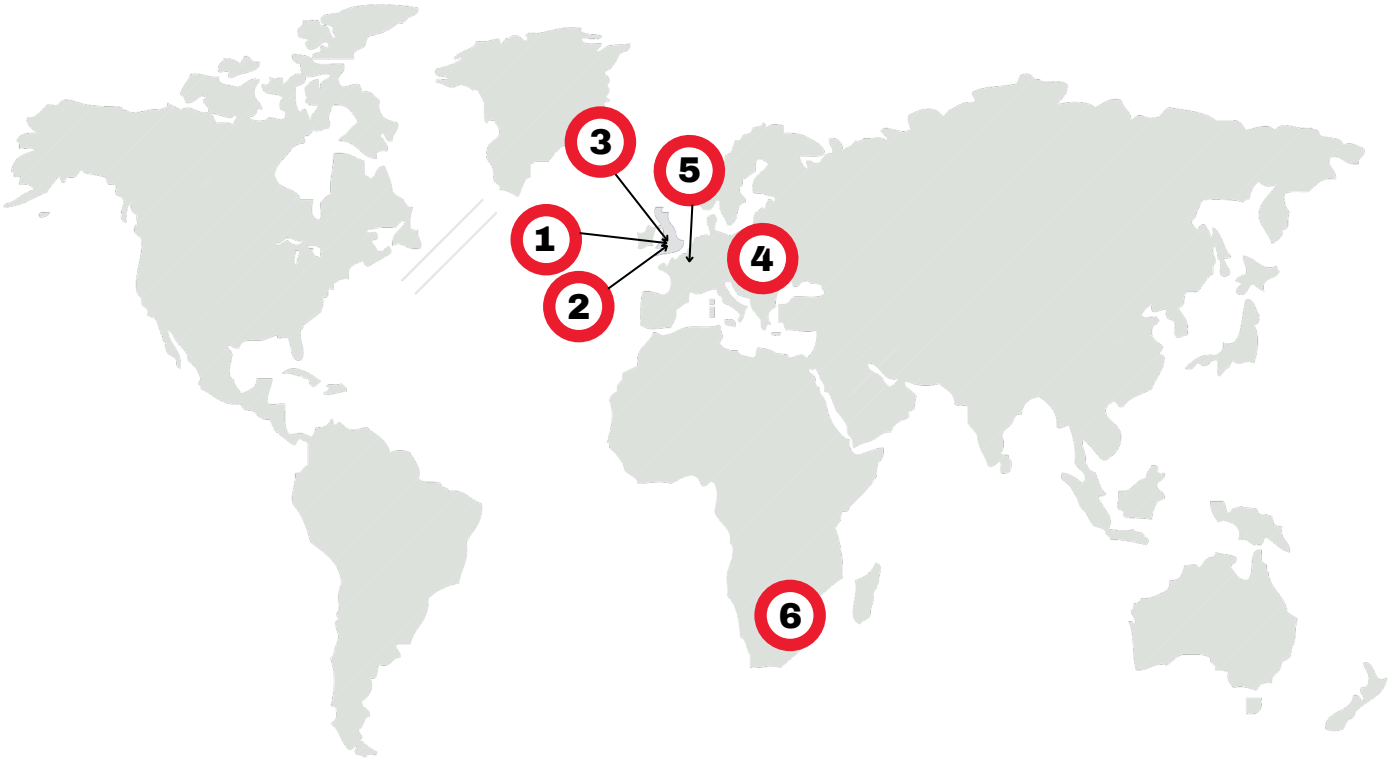
Chrome
- SA/A387 Gr.5
- SA/A387 Gr.11
- SA/A387 Gr.22
- SA/A387 Gr.91

Structural Weathering
- S275JR
- S355JR/JO/J2
- S355G7/G8/G10
- S355JOWP

Abrasion & QT
- 400HB
- 450HB
- 500HB
- S690QL
- S960QL



Contact Us



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