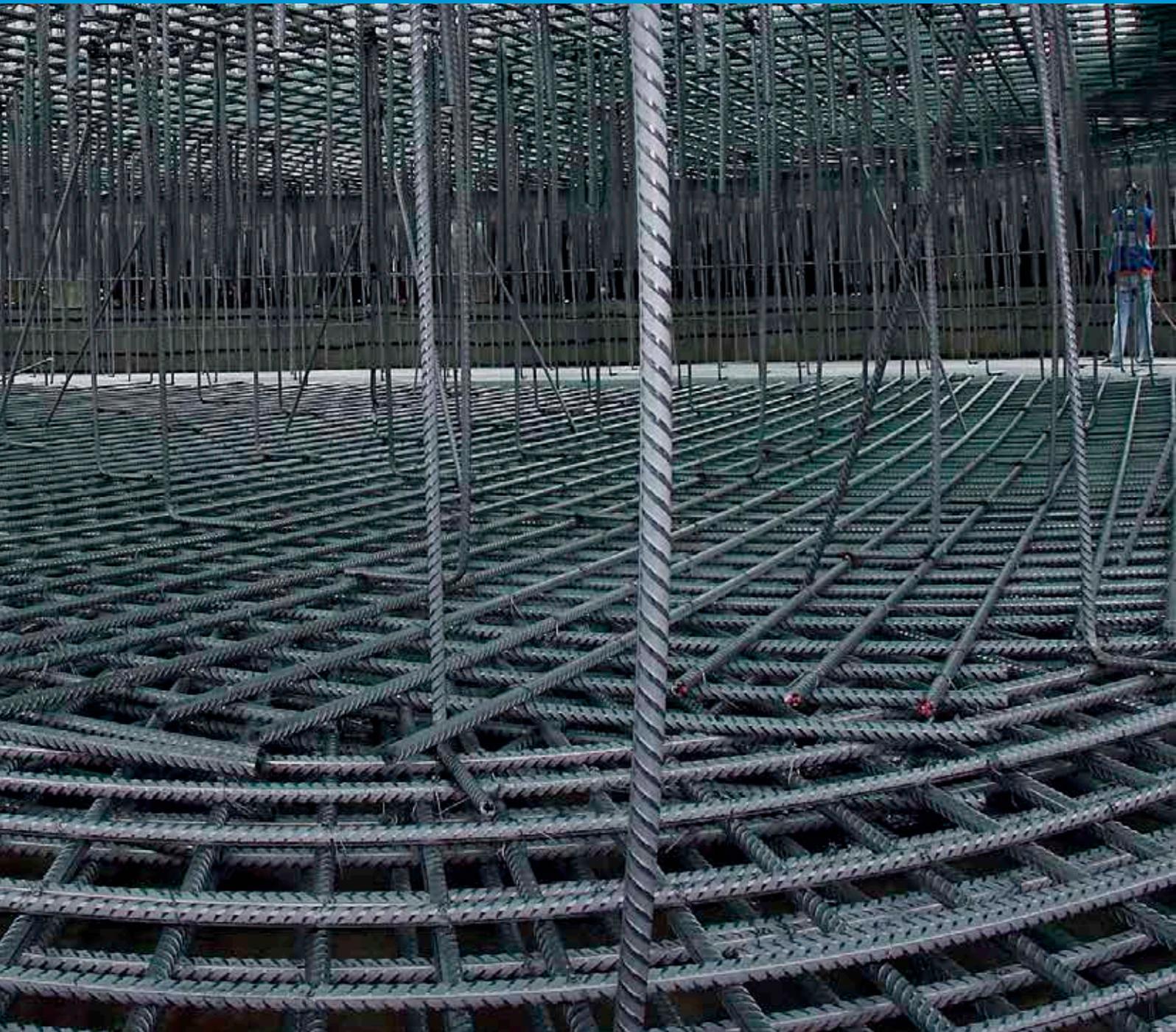


MARCEGAGLIA STAINLESS SHEFFIELD
STAINLESS STEEL REBAR



Stainless steel rebar

Marcegaglia offers an extensive range of stainless steel rebar with excellent availability and unmatched service.

Our fully integrated capabilities, from melting to testing, enable us to produce stainless rebar with industry-leading consistency and delivery performance.

Stainless steel rebar is produced in a wide range of dimensions and is available in coil, lengths, and bent shapes. Our offering also includes dowel bar and complementary products such as couplers. We have production site in the UK as well as strategically located stainless steel rebar stock to ensure high availability and short lead times.

Key benefits

- Product quality
- Delivery reliability
- Easy to deal with



Contact sales at sales.rebar@stainless-marcegaglia.com

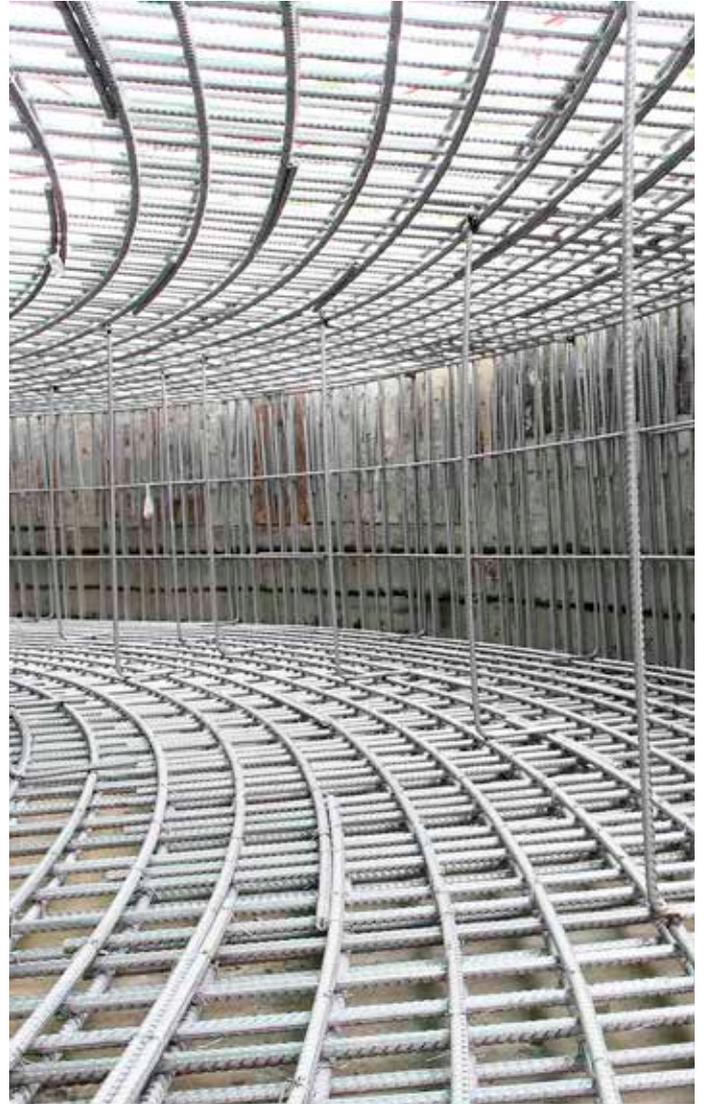
A long lasting and resilient material

Stainless steel rebar is mainly used in construction, for example coastal barrier walls, concrete piers, and bridges where chloride-induced corrosion is a risk. Using stainless steel rebar in these environments reduces the lifetime cost of the structure, as well as maintenance-related downtime.

There are three main cases where stainless steel is the best choice:

- When concrete is subject to the ingress of chlorides from either marine environments or de-icing salts. Stainless steel rebar can resist the initiation of corrosion with chloride concentration levels more than 10 times higher than that which carbon steel can resist.
- When concrete loses the high alkalinity that protects the carbon steel from corrosion due to carbonation. This can take more than 100 years but ultimately is inevitable, making stainless steel the ideal solution for structures requiring a very long lifespan, for example bridges, temples and monuments.

In addition, stainless steel rebar has much better ambient and low temperature energy absorption, fatigue resistance, and toughness than carbon or alloy steels, which is important in applications where there are seismic, security, and other impact resistant considerations. It also has improved stiffness and strength retention in fire compared to carbon steel.



The complete reinforcement package

Marcegaglia stainless steel rebar is available from 6 to 25 mm. We produce rebar in several alloys including the widely used duplex 2304 as well as lean duplex 1.4162 stainless steel, which combines low nickel content with high mechanical strength, as well as grade 500 produced according to BS 6744. We also offer a wide variety of bent shapes according to 8666:2020. Our rebar finishing facility uses the latest technology in straightening and cut and bend equipment for diameters up to 25 mm direct from our production site.

We also supply dowel bar and complementary products to offer you a complete stainless steel rebar solution for your project.

Environmental product declarations

Our environmental product declaration (EPD) for stainless steel rebar helps you understand the exact environmental impacts and energy needs of our products and allows you to calculate how these affect the life cycle of your building or other structure.

Use our stainless steel for LEED points

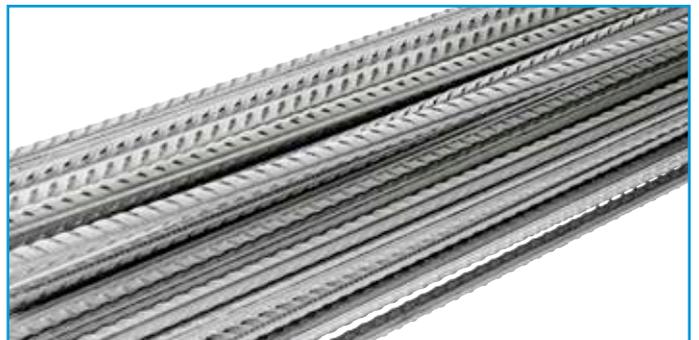
Marcegaglia Stainless Sheffield is a pioneer in Leadership in Energy and Environmental Design (LEED), the sustainability oriented building certification scheme that recognizes best-in-class building strategies and practices. LEED certification standards apply to buildings that achieve high energy efficiency and use sustainable materials.

The sustainable characteristics of stainless steel, such as high recycled content and long service life, are rewarded in this scheme.

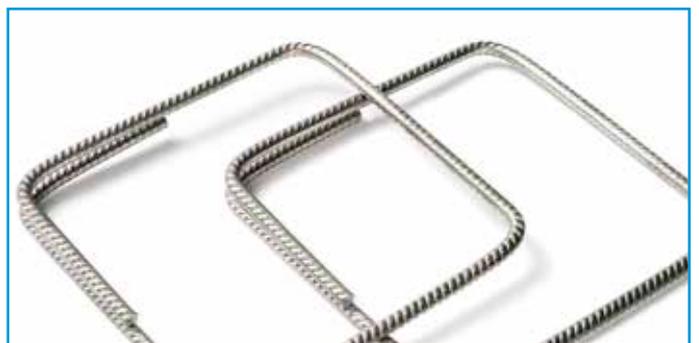
We offer LEED documentation for our stainless steel rebar, meaning that designers who select our stainless steel can gain LEED points for their building.



Coil



Lengths



Bent shapes



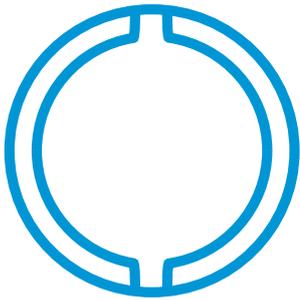
Dowel bar

Coils and lengths

Marcegaglia stainless steel rebar is available from the UK in metric sizes 6–25 mm.

In the UK we produce rebar that has a two-sided pattern (see diagram).

Two-sided pattern



Available alloys

Marcegaglia name	EN	ASTM	UNS	Alloy type
Lean duplex 1.4162	1.4162	–	S32101	D
Lean duplex 4482	1.4482	–	S32001	D
Duplex 2304	1.4362	–	S32304	D
Duplex 2205	1.4462	–	S32205/ S31803	D

D = Duplex

Note: Other alloys, sizes, and specifications may be available upon request.

Please contact the mill for specific requirements.



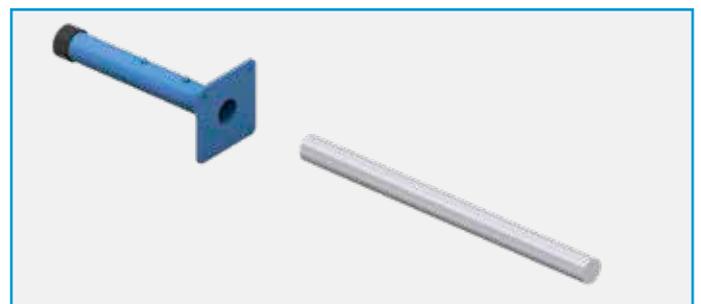
Bent shapes and dowel bar

Bent shapes

CARES-certified BS 6744 rebar is available in bent shapes according to BS 8666:2020. Grade 500 BS 6744:2016 stainless steel rebar can be supplied in straight lengths up to 12 m as well as cut and bent shapes in accordance with BS 8666:2020.

Dowel bar

Dowel bars are used to transfer shear loads across construction and movement joints in concrete. The standard Marcegaglia dowel system is available in a wide range of diameters and lengths. Stainless steel and durable plastic de-bonding sleeves are available with integral nail plates for easy fixing to the shuttering. Our sales can also assist you in finding local suppliers.



Stainless steel rebar in action



Gateway Bridge, Brisbane, Australia

Marcegaglia Stainless Sheffield delivered 200 tonnes of lean duplex 1.4162 stainless steel rebar for use in the most critical structures of the bridge.

To ensure a 300 year lifespan, stainless rebar was specified for the pile caps located in the splash zones of the two main river pylons of the Brisbane River. Instead of using 316L/1.4404, we recommended low-nickel lean duplex 1.4162, which offers superb price stability and is a cost-effective alternative for durable reinforced concrete structures.



Allt Chonoglais Bridge, Scotland

Marcegaglia delivered over 7,000 pieces of rebar in duplex 2304, a total of 67 tonnes, for refurbishing the bridge. Stainless steel rebar was specified for the areas which are at greater risk from chloride-induced reinforcement corrosion due to the application of de-icing salts during the winter months. This included the bridge deck, abutments, wing walls, and bearing plinths. The customer selected duplex 2304 rebar due to its competitive cost and exceptional chloride resistance which helps to give the bridge a 120-year lifespan.



Buddhist temple, Chounbri province, Thailand

The temple committee in Thailand in charge of the development wished to create a sacred place that would last more than 1,000 years. Marcegaglia supplied over 23,200 rebar pieces in 90 different sizes and lengths in lean duplex 1.4162 stainless steel. Marcegaglia's Rebar Finishing team managed the extremely complex delivery and was able to meet the customer's request for a very tight length tolerance. In addition, the team managed a tight schedule, achieving 100% on-time delivery.



La Sagrada Família basilica, Barcelona, Spain

Marcegaglia has supplied stainless steel for La Sagrada Família basilica since 2013 in stainless steel rebar, bar, machined components, and plasma-cut plate products. The building has exceptional lifecycle expectations and a unique design. When completed, 18 towers of La Sagrada Família will reach heights from 94 to 182 meters above ground level. Stainless steel rebar was the first choice for the tower structures due to its high strength, exceptional corrosion resistance, and reduced lifecycle costs. Marcegaglia is the single-supplier for the project, delivering products in Marcegaglia duplex 2304 and duplex 2205 grades in easy-to-assemble sizes and shapes.



Junction Värtan, Stockholm, Sweden

Marcegaglia delivered 300 tonnes of lean duplex 1.4162 stainless steel rebar for use in a major junction in a new motorway around northern Stockholm, Sweden. Roads in northern climates face particularly corrosive environments due to chlorides from de-icing salts. As the junction is meant to be largely maintenance free, stainless steel rebar in 316L/1.4404 was originally specified. Lean duplex 1.4162 stainless steel was ultimately chosen as the very low nickel content results in good price stability.



Coast protection scheme, Cromer, UK

Marcegaglia delivered 335 tonnes of duplex 2304 stainless steel rebar for the Cromer coast protection scheme. Cromer sea defenses have protected the area against the North Sea for over 150 years. The project includes refacing sea walls with concrete and replacing the timber groynes which protect the beach. The goal of the project is not to just maintain current defenses, but also withstand predicted sea level rises over the next 50 years.



Sheikh Jaber al-Ahmad Al-Sabah Bridge, Kuwait

Stainless steel is the ideal material for infrastructure projects in maritime environments due to its high corrosion resistance and low life-cycle costs. Marcegaglia provided 1,600 metric tons of duplex 2304 stainless steel rebar for the Sheikh Jaber al-Ahmad Al-Sabah project in Kuwait. The 36 km long causeway project is one of the largest infrastructure projects to be constructed in the region.



Mega Reservoir project, Qatar

The Qatar mega reservoirs projects include five primary reservoir and pumping station packages with a capacity of 100 million gallons each, making them the largest reinforced concrete reservoirs in the world. Marcegaglia provided 350 metric tonnes of smooth round stainless steel dowel bar for the project. Marcegaglia 316L/4404 stainless steel dowel bars are used in expansion joints for the movement of lateral loads and to manage stress within the joint. They were selected for their high corrosion resistance.

Ensuring quality with end-to-end production

From melting to bar finishing



Melting shop

Consistently produced high quality semis are made at SMACC in 130-tonne melts.



Billet casting

We use a combination casting machine for slab, bloom or six-strand billet casting machine.



Preheating

Billets are reheated before rolling into wire rod.



Rolling

A highly responsive digital control system tracks the rod through the mill to ensure quality.



Wire rod coiling

Wire rod of up to 10 mm is coiled on a laying a head. Rod in larger diameters is coiled in garrett coilers.



Straightening

Rebar coils are straightened before cutting to lengths to remove tension in the material.



Shape bending

Rebar can be bent to a number of shapes according to customer specifications.



Packing

Rebar shapes and lengths are carefully packed before delivery to their final destination.

High quality according to international standards

We offer rebar according to BS 6744 and BS 8666. Marcegaglia supplies mill test certificates with every bundle delivered and our mills are accredited to recognized international standards, including:

- ISO 9001 - TÜV Nord
- CARES Certificate of Approval for production of rebar
- IGQ - compliance with Regulation 305/2011/EU product type approval

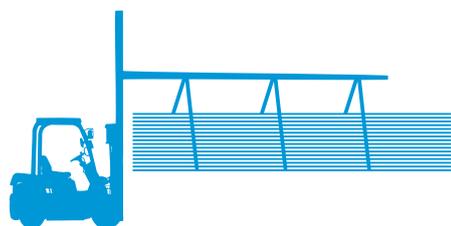
Handling stainless steel rebar

To get the best results when using stainless steel rebar, we suggest the following handling, storage, and transport guidelines:

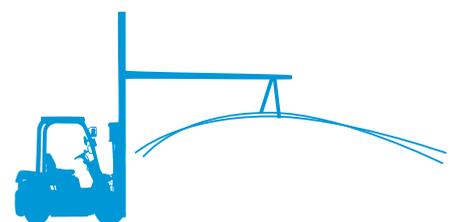
- In general, always avoid carbon steel contamination
- Do not place stainless steel rebar directly on the ground
- Ensure that stainless steel is packed in proper packing material if transported together with carbon steel
- Do not expose stainless steel rebar to marine environments and de-icing salt prior to casting in concrete
- Pack stainless steel rebar in appropriate packing material if stored in aggressive environments
- Slings and bundling wire should be made of nylon or other materials that do not contain, or have not been in contact with, carbon steel
- Movement of long lengths of stainless steel rebar must be performed with even and sufficient support along the length of the reinforcement
- If stainless steel rebar is heated above 400 °C/750 °F, a heat tint or oxide scale may be formed that requires pickling

If contamination occurs:

- Clean the surface with water
- Staining can be removed by using a passivating cleaner such as Avesta Cleaner 401, available from Avesta Finishing Chemicals



Correct method for moving rebar



Incorrect method for moving rebar

Services

Marcegaglia has over 100 years of technical expertise in both production and use of stainless steel. We can offer support during materials selection, processing, and end use to help you get the most out of our materials.

We offer full-service rebar packages and work closely with you to ensure the optimal schedule for producing, finishing, and delivering rebar. We have production site in the UK, and hold strategically located rebar stock for fast delivery and materials testing needs.

Marcegaglia services can include:

- Materials selection advice
- Rebar cut to length and cut and bend
- Rebar project management
- Delivery flexibility with short lead times
- Technical support
- Training
- Long-term pricing for larger contracts

Contact sales at sales.rebar@stainless-marcegaglia.com





MARCEGAGLIA

STAINLESS SHEFFIELD

HEADQUARTERS

MARCEGAGLIA Gazoldo degli Ippoliti
via Bresciani, 16
46040 Gazoldo degli Ippoliti, Mantova - Italy
www.marcegaglia.com

MARCEGAGLIA STAINLESS SHEFFIELD

SSB BAR FINISHING MILL
Europa Link, S9 1TZ, Sheffield - United Kingdom
phone +44 114 261 5200
sales.rebar@stainless-marcegaglia.com