

MARCEGAGLIA STAINLESS SHEFFIELD
STAINLESS STEEL BARS



Marcegaglia Stainless Sheffield high-performance bar

Marcegaglia Long Products is a global producer of high quality stainless steel long products. We are known for our ability to offer products in wide range of grades, shapes and sizes, high quality and reliability. Our stainless steel is sustainable material with over 90% of recycled content. Products are melted in Europe with energy sources and raw materials that provide our customers a lower than industry average carbon footprint.

Our offering includes Prodec® bar that stands for highly improved machinable bars. Our long legacy gives a proven track record of our technical expertise that customers benefit when dealing with us.

Sheffield Stainless Bar operations was established in Sheffield in 2010 by Outokumpu, now part of the Marcegaglia Group manufacturing stainless steel bars and rebar.

Sheffield Stainless Bar is located in Sheffield on the same site as the SMACC Meltshop with a short distance from the ASR Wire Rod Mill where wire rod feedstock is supplied for our bar and rebar production.

Key benefits

- European melt, integrated production
- Low carbon footprint
- Consistent products
- Good overall cost of quality
- Prodec® – for improved machining applications
- Easy to do business with

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



High performance stainless steel bars

Marcegaglia Sheffield, UK offers services for distributors providing high quality, competitive prices and short lead times.

Our industry-leading, over a century long expertise in stainless steel production and our unique processes allow us to deliver bars with exceptional consistency and machinability. Our end-to-end approach, from melting and rolling to finishing and testing, ensures the highest quality according to customer specifications. Delivery reliability, competitive lead times and technical support are the cornerstones of our customer promise.

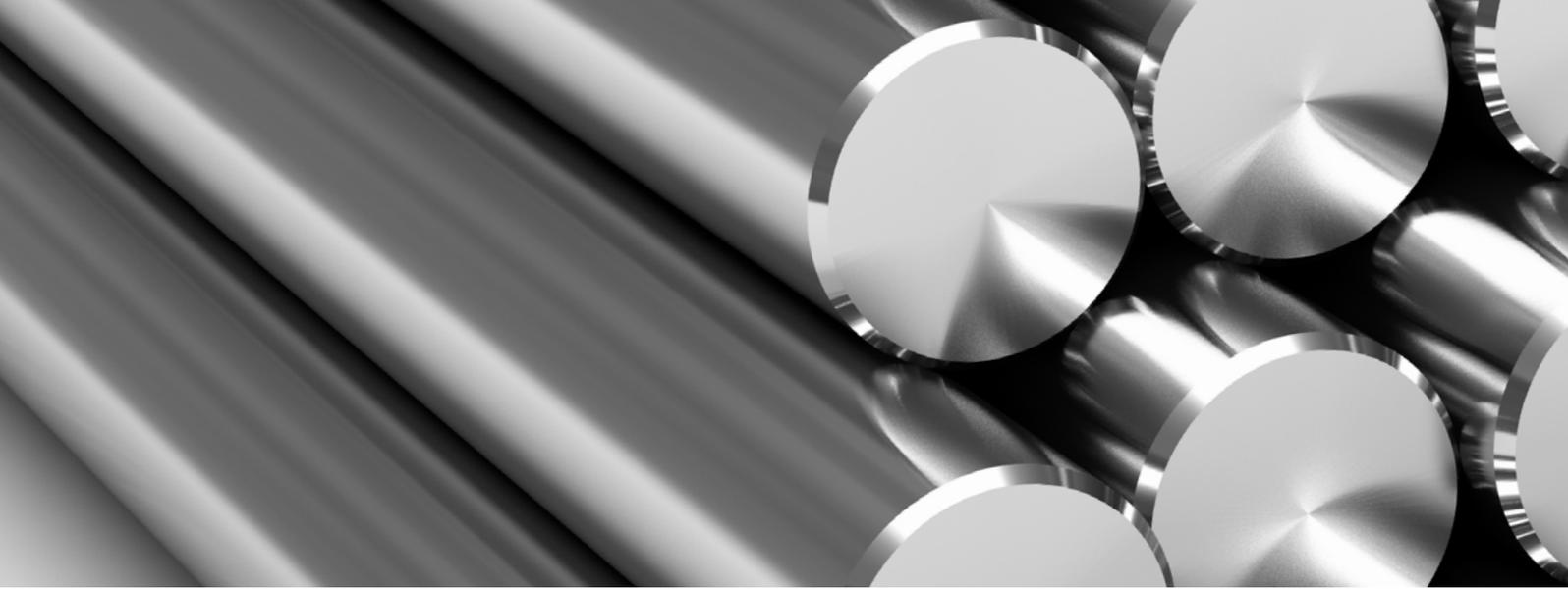
Max one week delivery time to Europe

New supplier in the market offering stock services

High quality bars in both standard and improved machinable bars

Wide range of bars in round, square and hexagon shapes





Cold finished bar Peeled bar

The cold drawing process is improving the mechanical strength and dimensional tolerances. It is achieved by cold deforming a hot rolled product using a die, resulting in a slight area reduction. Marcegaglia Sheffield Bar Stock offers cold drawn products in round, square and hexagonal shape in 3 - 6 meters lengths with a bundle weight of around half a tonne.

Hot rolled bars have generally small surface imperfections after hot rolling, that are formed during the cooling process. Metal oxide layers can also build up over time. Peeling process is removing imperfections as well as produces smooth surface and glossy visual appearance for the bars. These properties are required in the end-customer's further processing.

Grade	ISO 286 h9	ISO 286 h9	ISO 286 h11	ISO 286 h11
	Cold Drawn ●	Peeled ●	Cold Drawn ⬡	Cold Drawn ■
304L/304/4307/4301	6-32	28-90	8-100	8-100
316L/316/4404/4401	6-32	28-90	8-100	8-100
303/4305	6-32	28-90	8-100	8-100

Standards	Comment
EN 10088-3	-
EN 10088-5	-
EN 10272	-
AD 2000 merckblatt W0, W2, W10	-
NACE MR0103, MR0175	-
PED 2014/68/EU	-

All material is certified according to EN 10204/3.1.



Hot rolled bar

The hot rolled product has a slightly higher elongation compared to a cold drawn product.

Marcegaglia Sheffield Bar Stock offers two different surface conditions; peeled or hot rolled in round bars from stock to meet your requirements. Length are approximately 3 - 6 m round bars from stock and bundle weight is depending on size, varying between 0.5 to 2.2 tonnes.

Grade	ISO 286, k11, EN 10060	EN 10059
	●	■
304L/304/4307/4301	28-90	10-100
316L/316/4404/4401	28-90	10-100
303/4305	28-90	10-100

Standards	Comment
EN 10088-3	-
EN 10088-5	-
EN 10272	-
AD 2000 merckblatt W0, W2, W10	-
ASTM A276, A479	for larger dimensions
NACE MR0103, MR0175	-
PED 2014/68/EU	-

All material is certified according to EN 10204/3.1.

Hexagon bar

Marcegaglia and Böllinghaus Steel offer stainless steel hexagon bars from 8–100 mm / 5/16" to 4".

We produce our hexagon bar in a wide range of ferritic, austenitic, duplex, heat resistant, and precipitation hardening stainless steels as well as the Prodec® range for superior machinability. Our products have consistently high quality, including their surface, straightness, and chemical composition. Our experts can also guide you through the whole process from material selection to end use, helping you to get the best possible results from our materials.

Benefits

- High surface quality means bar can be used without further surface treatment
- High machinability with Prodec® range grades
- High tolerance conformance

Dimensions		Condition	Tolerance
mm	in		
8 - 100	5/16" to 4"	Cold drawn	h11

Dimensions

8–100 mm / 5/16" to 4"



Marcegaglia's representative for hexagon, square, and flat bars in Europe, Asia, and Latin America is Böllinghaus Steel.

Square bar

Marcegaglia and Böllinghaus Steel offer stainless steel square bars from 8-100 mm / 5/16" to 4" and 10-100 mm / 1/2" to 4". We produce our square bar in a wide range of ferritic, austenitic, duplex, heat resistant, and precipitation hardening stainless steels as well as the Prodec range for superior machinability.

Our products have consistently high quality, including their surface, straightness, and chemical composition. Our experts can also guide you through the whole process from material selection to end use, helping you to get the best possible results from our materials.

Dimensions

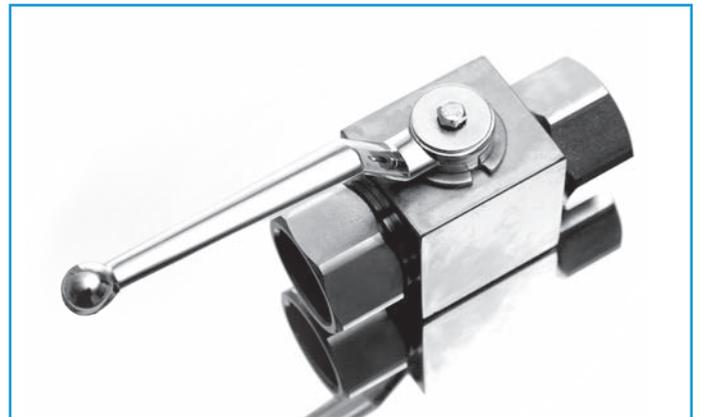
8-100 mm / 5/16" to 4"
and 10-100 mm / 1/2" to 4"



Benefits

- High surface quality means bar can be used without further surface treatment
- High machinability with Prodec® range grades
- High tolerance conformance

Dimensions		Condition	Tolerance
mm	in		
8 - 100	5/16" to 4"	Cold drawn	h11
10 - 100	½ to 4"	Hot rolled	-



Marcegaglia's representative for hexagon, square, and flat bars in Europe, Asia, and Latin America is Böllinghaus Steel.

Chemical composition

General purpose standard bars

Steel designation					Typical chemical composition, % by wt.				
Marcegaglia	EN	ASTM	UNS	ISO	C	Cr	Ni	Mo	Products
304/4301	1.4301	304	S30400	4301-304-00-I	0.04	18.1	8.1	–	
304L/4307	1.4307	304L	S30403	4307-304-03-I	0.02	18.1	8.1	–	
316/4401	1.4401	316	S31600	4401-316-00-I	0.04	17.2	10.1	2.1	
316L/4404	1.4404	316L	S31603	4404-316-03-I	0.02	17.2	10.1	2.1	
303/4305	1.4305	303	S30300	4305-303-00-I	0.05	17.2	8.1	–	

Marcegaglia grades 304/4301 and 304L/4307 are dual certified.

Mechanical properties

General purpose standard bars

Steel designation	Product form	Yield strength $R_{p0.2}$ (MPa)	Tensile strength R_m (MPa)	Elongation A_5	Hardness (HBW) max.
304/4301	Hot rolled bar	175	500–700	45/35 ²⁾	215
	Cold drawn bar	400/380/175 ¹⁾	600–930/600–930/500–830	25/25/30	–
304L/4307	Hot rolled bar	175	500–700	45/35 ²⁾	215
	Cold drawn bar	400/380/175 ¹⁾	600–930/600–930/500–830	25/25/30	–
316/4401	Hot rolled bar	200	500–700	40/30 ²⁾	215
	Cold drawn bar	400/380/200	600–930/580–930/500–830	25/25/30	–
316L/4404	Hot rolled bar	200	500–700	40/30 ²⁾	215
	Cold drawn bar	400/380/200	600–930/580–930/500–830	25/25/30	–
303/4305	Hot rolled bar	190	500–700	35	230
	Cold drawn bar	400/400/190	600–950/600–950/500–850	15/15/20	–

¹⁾ $d \leq 10\text{mm}/10 < d \leq 16/16 < d \leq 40$

²⁾ $d \leq 160$ long/ $160 < d \leq 250$ trans

Marcegaglia grades 304/4301 and 304L/4307 are dual certified.



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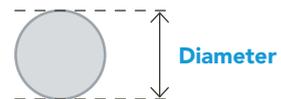
We offer competitive prices, short lead times and high quality. The lead times are between mill direct and distributor services.



Tolerances

Round peeled bars, ISO 286-2 k13

Diameter, mm	Tolerance
18- <30	-0/+0.33
30- <50	-0/+0.39
50- <80	-0/+0.46
80- <120	-0/+0.54
120- <180	-0/+0.63
180- <250	-0/+0.72



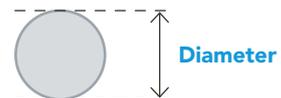
Cold drawn square and hexagon bars, ISO 286-2 h11

Dimension, mm	Tolerance
>6-10	-0.09/+0
>10-18	-0.11/+0
>18-30	-0.13/0
>30-50	-0.16/0



Cold drawn round bars, ISO 286-2 h9

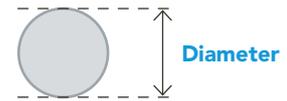
Diameter, mm	Tolerance
>6-10	-0.036/+0
>10-18	-0.043/+0
>18-30	-0.052/+0
>30-50	-0.062/0





Hot rolled round bars, EN 10060

Diameter, mm	Tolerance
10–15	±0.4
16–25	±0.5
26–35	±0.6
36–50	±0.8
52–80	±1.0
85–100	±1.3
105–120	±1.5
125–160	±2
165–200	±2.5



Hot rolled square bars, EN 10059

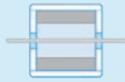
Dimension, mm	Tolerance
8–14	±0.4
15–25	±0.5
26–35	±0.6
40–50	±0.8
55–90	±1.0



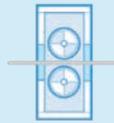


End-to-end production platform

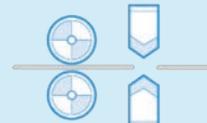
Hot rolled & peeled



Heating

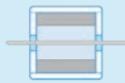


Rolling

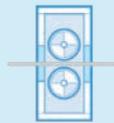


Cutting

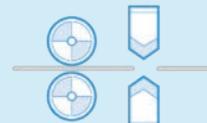
Hot rolled, pickled



Heating



Rolling

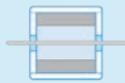


Cutting

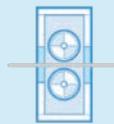


Heat treatment

Cold drawn



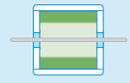
Heating



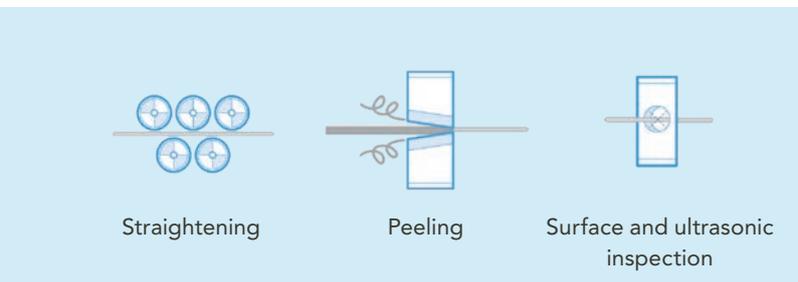
Rolling



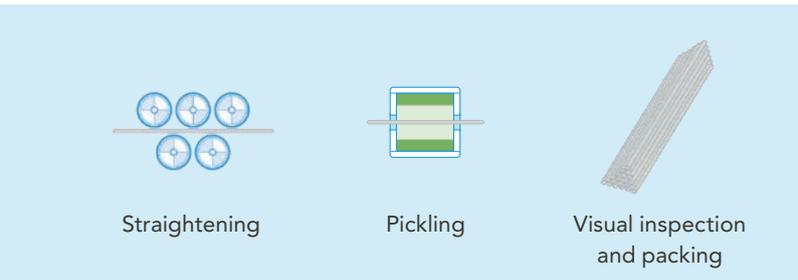
Heat treatment



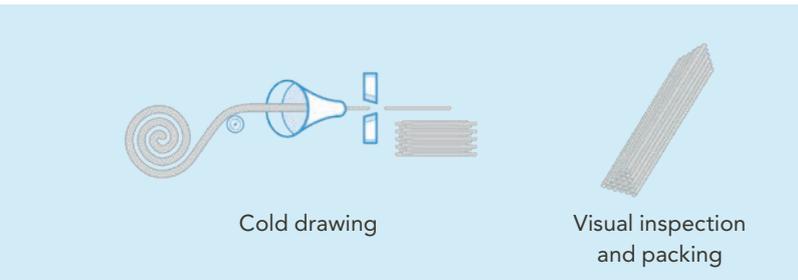
Pickling



Marcegaglia Stainless Sheffield's melting shop (SMACC) produces as cast billets, which are processed in the UK to be hot rolled, peeled and non-destructive testing. Produced bars can either be sold in the as-rolled condition (black bar), peeled condition or as ground bar.



Böllinghaus Steel is located in Hilden, Germany and has its own production facilities in Portugal. The portfolio comprises of hot rolled and pickled as well as cold drawn bars in various forms and lengths manufactured of stainless steel in various grades.



Sheffield Stainless Bar in Sheffield, UK is a leading producer of hexagon and square cold drawn bars and Prodec superior machinability bars in small diameters.

Ensuring quality with end-to-end production

Sheffield Stainless Bar



Melting shop

Consistently produced high quality semis are made at the SMACC melting shop.



Billet feedstock

Our rolling mill uses billet feedstock produced at the SMACC melting shop.



Hot rolling into wire rod

Rod coil feedstock is used for bar production at Sheffield Stainless Bar.



Coil pre-dipping

The surface of the bar is coated with a drawing lubricant to aid cold drawing.



Preparation for cold drawing

Rod coils are moved from the pre-dipping station to the cold drawing line.



Cold drawing

Wire rod is drawn through a die, reducing the cross-sectional area of the bar, and cut to lengths.



Testing

Final process steps include testing and inspection of the material.



Packing

Packing and shipping is done according to customer-specific requirements.

High quality according to international standards

Our manufacturing programs are supported by in-house product inspection and testing, and the extensive experience of our technical team. SSB is accredited to recognized international standards, including:

- ISO 9001 - TÜV Nord
- ISO 14001 - TÜV Nord
- AD 2000 Merkblatt WO - TÜV Nord
- CARES - Certificate of Conformity of the Factory Production Control
- CARES - CE Declaration of Conformity



MARCEGAGLIA

STAINLESS SHEFFIELD

HEADQUARTERS

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