



# ENVIRONMENTAL PRODUCT DECLARATION

**EN**

In accordance with  
UNI EN ISO 14025 and  
UNI EN 15804:2021+A2:2019 for:  
**STAINLESS STEEL  
WELDED TUBES**

From  
**Marcegaglia Specialties S.p.A.**  
Average data of the various products

**Programme:**  
The International EPD® System  
[www.environdec.com](http://www.environdec.com)

**Programme operator:**  
EPD International AB

**EPD registration number:**  
S-P-10806

**Publication date:**  
12-10-2023

**Review Date:**  
19-09-2024

**Valid until:**  
20-09-2028

*An EPD should provide current information and may be updated if conditions change. The stated validity is therefore subject to the continued registration and publication at [www.environdec.com](http://www.environdec.com)*



## General information 5

Programme information	5	Information on the LCA	7
Information on the Company	6	System diagram	8
Information on the product	6		

## More information 11

Description of main activities	11	Modules declared	13
Allocation's rules	13		

## Environmental information 14

Environmental impact	14	Output flows	15
Consumption of resources	15	Welded tube	16
Waste production	15		

## Additional information 17

Sustainability Management System	17	Variation compared to the previous version of the EPD	17
----------------------------------	----	---	----

## Reference 18



## General information

### PROGRAMME INFORMATION

<b>Programme:</b>	The International EPD <sup>®</sup> System
<b>Address:</b>	EPD International AB Box 210 60 SE-100 31 Stockholm Sweden
<b>Website:</b>	<a href="http://www.environdec.com">www.environdec.com</a>
<b>E-mail:</b>	<a href="mailto:info@environdec.com">info@environdec.com</a>

The standard EN 15804 represents the framework for the Product Category Rules (PCR)

Product category rules (PCR):

*Construction products (EN 15804:A2), 2019:14, UN CPC 54, version 1.3.1*

The review of the PCR was conducted by:

The Technical Committee of the International EPD<sup>®</sup> System. Review chair: Claudia A. Peña  
– Contact through the secretariat [www.environdec.com/contact](http://www.environdec.com/contact)

Independent audit of the declaration and the data, according to UNI EN ISO 14025:2010:

EPD process certification       EPD audit

Third-party verifier:

*Bureau Veritas*

In the event of individual auditors:

*Approved by: International EPD<sup>®</sup> System Technical Committee, supported by the Secretariat.*

The follow-up procedure during EPD validity involves third party auditors:

Yes       No

The owner of the EPD has the exclusive ownership and legal and moral responsibility of the EPD.

EPDs within the same product category but from different programmes may not be comparable. EPDs for construction products may not be comparable unless they comply with UNI EN 15804. For further information on comparability, see EN 15804 and ISO 14025.

## INFORMATION ON THE COMPANY

**Owner of the EPD:**  
Marcegaglia Specialties S.p.A.  
www.specialties.marcegaglia.com

**Contact:**  
For more information on this product declaration and/or its configurations, the following references are available:  
*Technical support*  
Email: [francesco.fronzoni@marcegaglia.com](mailto:francesco.fronzoni@marcegaglia.com)  
Tel. : +39 0543 470309 / +39 335 1797674

**Description of the organisation:**  
Marcegaglia Specialties S.p.A. is one of the most important global players in the stainless steel products sector thanks to its various production plants both in Italy and abroad.

It manufactures and trades hot and cold rolled flat products, long hot and cold rolled products, welded piping and drawn and peeled bars.

Specifically, in the Forlimpopoli plant, only welded stainless steel tubes are made, for structural applications, transport of fluids, heat exchange, decoration, and for mechanical and automotive applications.

### Certifications relating to the product and/or the management system:

- Quality management system compliant with the requirements of the UNI EN ISO 9001:2015 standard (certificate no. 32906/15/S issued by RINA Service S.p.A.);
- Environmental management system compliant with the requirements of the UNI EN ISO 14001:2015 standard (certificate no. EMS-262/S issued by RINA Services S.p.A.);
- Occupational health and safety management system compliant with the requirements of the UNI ISO 45001:2018 standard (certificate no. OHS-260 issued by RINA Services S.p.A.);
- Energy management system conforming with the requirements of standard UNI EN ISO 50001:2018 (Certificate no. MS-137 issued by RINA Service S.p.A.);
- Social responsibility management system compliant with the requirements of standard SA8000:2014 (certificate no. SA-2040 issued by RINA Service S.p.A.);
- Systematic approach CFP compliant with the requirements of standard ISO 14067:2018 (certificate no. IT330357 issued by Bureau Veritas S.p.A.)

**Name and location of the production site:**  
Via Mattei, 20 - 47034 Forlimpopoli (FC) Italy

## INFORMATION ON THE LCA

**Functional unit:**  
The functional unit of the system considered is 1 ton of welded tube.

**Reference service life – RSL:**  
The products in this study have an estimated reference service life of 50 years [Ref.: Federal Institute for Research on Building, Urban Affairs and Spatial Development (BBSR)].

**Time representativeness:**  
The data used are representative of the year 2023.

**Quality of data:**  
The primary data used in the study are provided by the company. The secondary data used in the study are from the Ecoinvent database.

**Database and software used:**  
Ecoinvent database v.3.10, May 2024 / Software used SimaPro rel. 9.6

**Description of the system boundaries:**  
The study is “from cradle to gate with options (A1-A3 + A4 + C1-C4 + D)”, as outlined in the following table (reference: PCR 2019:14 “Construction products” version 1.3.1).

The modules A1-A3 include the procurement processes of the materials (raw materials and auxiliary materials), as well as those of production.

The modules C1-C4 consider transport, processing as well as disposal of the welded tubes at end of life. These operations are not directly controllable by the company: in this regard, literature relating to the construction sector is used, considering an average distance of 50 km to transport the tube from the place where it was decommissioned to the recovery centre.

Module D considers the stainless steel deriving from the demolition process of the tubes after their use and destined for recycling: the calculation of the environmental benefits deriving from the recovery of the stainless steel is based on the instructions provided in the document “Product Category Rules for Type III environmental product declaration of construction products to EN 15804:2021 – Par. 6.3.5.6. Benefits and loads beyond the product system boundary, information Module D”.

## INFORMATION ON THE PRODUCT

**Product name:**  
Stainless steel welded tubes.

**Product identification:**  
Stainless steel welded tubes.

### Information on the content:

Content	Weight, kg	Post-consumer recycled percentage
Stainless steel	1.0000	73.2%

**Product description:**  
A wide range of stainless steel welded tubes, of different thicknesses, diameters and lengths with circular or regular section, for structural applications, fluid transport, heat exchange, decoration, mechanical and automotive applications.

In detail, the products manufactured in the plant are:

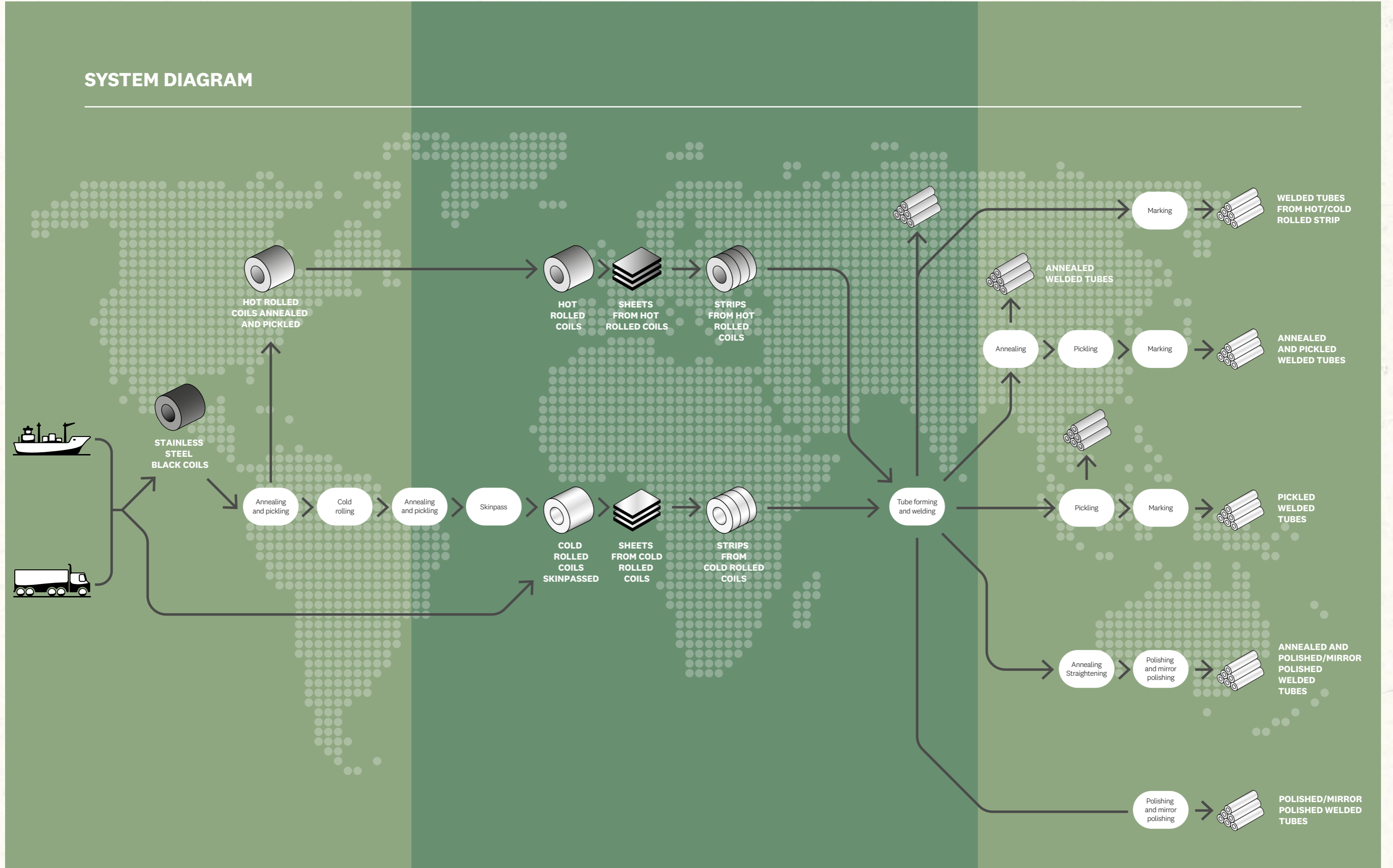
- Welded tubes;
- Welded tubes for the automotive sector;
- Welded and pickled tubes;
- Welded and annealed tubes;
- Annealed and pickled welded tubes.

From the company website, it is possible to download product catalogues, within which the technical characteristics of the products are exhaustively described, as well as the reference standards for the various applications.

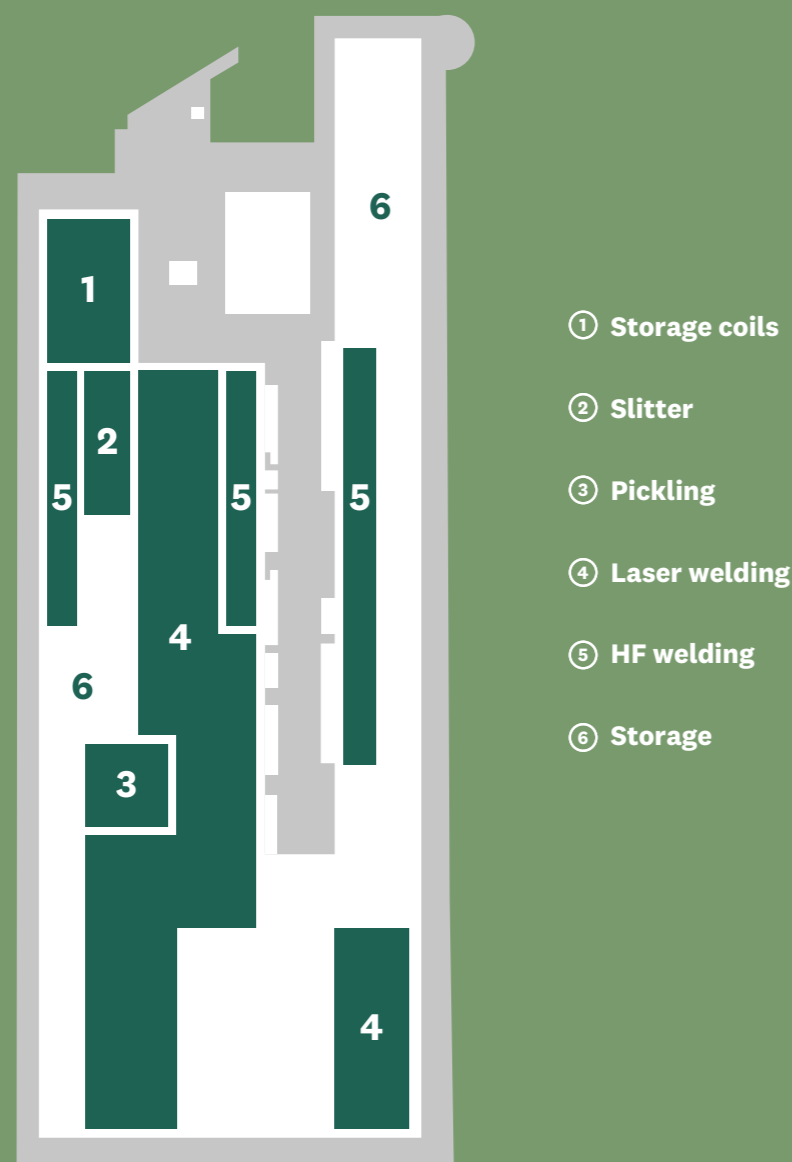
### Stainless steel welded tubes

Type of machining	Thickness [mm]	Diameter [mm]
Stainless steel welded tubes	0,8	From 6 to 406.4
	1,0	
	1,2	
	1,5	
	1,6	
	2,0	
	2,5	
	2,6	
	3,0	
	3,2	
	3,6	
	4,0	
	5,0	
6,0		

**SYSTEM DIAGRAM**



## SYSTEM DIAGRAM



## Other information

### DESCRIPTION OF MAIN ACTIVITIES

The Forlimpopoli plant of Marcegaglia Specialties S.p.A. manufactures a wide range of stainless steel tubes, in different diameters and thicknesses for structural applications, fluid transport, heat exchange, decoration, and for mechanical and automotive applications.

The production cycle begins with the arrival of the raw materials by road at the plant, but the journey between the original steelworks and the Forlimpopoli plant can take place via intermodal transport using ships for raw materials arriving from Asia. The last part of the journey is made by road only because of the geographical location of the site. The raw materials consist of:

- Coils arriving from the Marcegaglia Gazoldo Inox plant via road,
- Coils arriving from other Italian steel plants via road,
- Coils arriving from Asian steel plants by ship at the Marcegaglia Ravenna SPA plant as it is equipped with a port dock then via road to the plant.

In detail, the processing cycle is carried out through the phases described below.

### SLITTING LINES

The coil is unwound, cut into strips (whose width corresponds to the circumference that the tube must have once formed) through circular shearing knives and rewound into many strips for the production lines shown below.

### HFIW (High Frequency Induction Welding) STAINLESS STEEL TUBE PRODUCTION LINES and AUTOMOTIVE DEPARTMENT

#### Strips storage

It is the area in front of the entrance of each line where the strips are deposited, in homogeneous batches, ready for transformation into a tube. The semi-finished product has special dimensions with a width from 30.6 mm to 470 mm.

#### Unwinding reel

The lines are equipped with two unwinding reels, mounted on a rotating structure which, alternatively rotated by 180°, allow the material to be quickly fed to the line.

#### Strips joint

It allows the shearing of the consecutive parts of strips, head-tail, and the matching of the flaps at the right distance for the TIG welding.

#### Floop

The floop function is activated by storing a quantity of useful material to keep the output flow unchanged during the reel change and welding operations. At the end of the activity, the strip collected in the accumulation is used up and the process speed is adjusted, together with the reel in operation.

### Forming rolls, fin passes and guide roll

The entire system consists of a series of shoulders with forming rollers, vertical and horizontal regulators, in which the strip is progressively formed, until it assumes the shape of a tube with the preset diameter. In this transformation, the rollers are lubricated and cooled with a 4% emulsion.

### High frequency induction welding (hfiw) and scarfers

As a result of the induced current, the edges of the tube are superheated to the melting point and, under the action of a controlled pressure, they are welded by letting out the liquid metal containing the melting impurities. This metal, blocked with rapid cooling in the form of beads external and internal to the pipes, is removed mechanically with three scarfers of which two operate external to the pipe and one, if required, internal to the pipe itself.

### Cooling tank

The tube is subjected to controlled cooling in a closed-circuit tank to bring it to room temperature.

### Calibration rolls, turkish heads

This system consists of a series of shoulders with vertical and horizontal grooved rollers where the tube is calibrated on the circumferences and, subsequently, deformed in profile by means of the turkish heads and intended for bars with round, square, rectangular section or with special profiles. The operation involves the use of a 4% lubricant-cooling emulsion.

### Identification of the weld

Only for the Automotive department, at the specific request of the customer, the identification of the tube welding area with red dye is carried out. The operation is carried out automatically through a special spray applicator installed on the lines.

### Air-blowing, deburring

During the transfer, all the round/square/rectangular bars stop briefly in the blowing sector where they are internally cleaned from the emulsion and scarfing residues. The liquid nebulised by the pressurised air is collected, together with the scarfing residues, in a soundproof structure on the opposite side.

### Round, square or rectangular tube brushing machines, spray marker

The bars moved on the original generator are conveyed to the brushing machines for surface finishing; these brushing machines also work in soundproofed safety structures. Subsequently, they are conveyed, through the rollers, to the packaging table.

### Packing and weighing machine

The marked tube is made to move again and grouped, according to the round, square or rectangular section, in planes to be superimposed in packs of shape respectively: hexagonal, square, rectangular; the finished pack reaches the packaging machine that provides for circumferential strapping.

**LASER STAINLESS STEEL LINES**

**Strips storage**

It is the area in front of the entrance of each line where the strips are deposited, in homogeneous batches, ready for transformation into a tube. The semi-finished product has particular dimensions with a width from 33.7 mm to 855.3 mm.

**Unwinding reel**

The lines are equipped with two unwinding reels, mounted on a rotating structure, which alternatively, with a 180° rotation, allow the rapid delivery of the material to the line. The strip that will have to go into production is placed on the reel waiting, in such a way that during the unwinding the equiverse burr is oriented upwards.

**Strips joint**

It allows the shearing of the consecutive parts of the strips, head-tail, and the alignment of the edges at the right distance for a first weld.

**Accumulation floop**

The accumulation function is activated by storing a quantity of useful material to keep the output flow unchanged during the reel change and welding operations. At the end of the activity, the strip collected in the accumulation is used up and the material flow adjusts, together with the reel in operation, to the process speed.

**Forming rolls, fin passes and guide roll**

The entire system consists of a series of shoulders with forming rollers, vertical and horizontal axes, in which the strip is progressively formed, until it assumes the shape of a tube with the preset diameter. Rollers are lubricated and cooled with 4% emulsion.

**Welding laser and seam lamination**

The edges of the tube are aligned together with appropriate pressure and are welded through a laser beam. The source protection mask is connected to a limit switch which, if excited, puts the line in emergency.

**Belt scarfer and flap wheel scarfer**

To eliminate the excess material created during welding, the welding bead is subjected to an operation similar to brushing by passing through scarfers placed longitudinally (flap wheels) and transversely (belt) to the direction of advancement of the tube.

**Calibration rolls, turkish heads**

This system consists of a series of shoulders with vertical and horizontal groove rollers where the tube is calibrated on the circumferences and, subsequently, deformed in profile by means of the Turkish heads and, if required, intended for bars with round, square, rectangular section or with special profiles. In this transformation, the rollers are cooled with water.

**Testing and brushing machines for round, square or rectangular tubes**

This tool, closely connected to the quality of the product, allows to identify minimum inaccuracies and irregularities, below a certain threshold, related to the quality of the weld.

The tubes pass through one or more boxes inside which the brushing machines that intervene on the surfaces operate, reducing surface roughness.

**Marking and cutting into bars**

This last section, which is common to all tubes, is marked with an ink jet.

Cutting can be done with the blade method, with the disc method or by using a laser cut.

**Visual inspection, deburring, strapping and weighing**

The tubes are first grouped on the side of the bench thanks to an automatic mechanical structure; the operator performs a visual check of the welding and the linearity of the tube. The operator in charge of deburring proceeds to grind or control it on the end of the tube; once this operation is finished, the dust created is removed using compressed air. The tubes, with the operator's consent, are thus unloaded into the discharge cradle to be arranged in homogeneous packages and then compacted by applying and tightening the strap using a special pneumatic strapping machine.



**ALLOCATION RULES**

Mass-based allocation took place for energy consumption, air emissions, waste and water drains.

**MODULES DECLARED**

Modules declared, geographical scope, share of specific data (in GWP-GHG indicator) and data variation:

Module	Product stage			Construction process stage		Use stage							End of life stage				Resource recovery stage
	Raw material supply	Transport	Manufacturing	Transport	Construction installation	Use	Maintenance	Repair	Replacement	Refurbishment	Operational energy use	Operational water use	De-construction demolition	Transport	Waste processing	Disposal	Reuse - Recovery - Recycling potential
Module	A1	A2	A3	A4	A5	B1	B2	B3	B4	B5	B6	B7	C1	C2	C3	C4	D
Modules declared	X	X	X	ND	ND	ND	ND	ND	ND	ND	ND	ND	X	X	X	X	X
Geography	GLO	GLO	IT	-	-	-	-	-	-	-	-	-	GLO	GLO	GLO	GLO	IT
Specific data	> 90%					-	-	-	-	-	-	-	-	-	-	-	-
Variations-product	Not relevant					-	-	-	-	-	-	-	-	-	-	-	-
Variations-site	Not relevant					-	-	-	-	-	-	-	-	-	-	-	-

**X** = Considered  
**ND** = Not considered  
**GLO** = Global  
**IT** = Italy



## Environmental information

The environmental performance indicators refer to 1 ton of welded tube.

### ENVIRONMENTAL IMPACT

Impact category	ID	U.o.M.
Global warming - total	GWP - t	kg CO <sub>2</sub> eq
Depletion of ozone layer	ODP	kg CFC11 eq
Global warming - fossil resources	GWP - fossil	kg CO <sub>2</sub> eq
Global warming - biogenic	GWP - biogenic	kg CO <sub>2</sub> eq
Global warming - land use	GWP - luluc	kg CO <sub>2</sub> eq
Global warming - greenhouse effect gas	GWP - GHG	kg CO <sub>2</sub> eq
Photochemical ozone creation	POCP	kg NMVOC eq
Acidification	AP	mol H+ eq
Eutrophication	EP - freshwater	kg P eq
	EP - marine	kg N eq
	EP - terrestrial	mol N eq
Net water use	WDP	m <sup>3</sup> depriv.
Abiotic resources depletion (fossil)	ADP - F	MJ
Abiotic resources depletion (non-fossil)	ADP - MM	kg Sb eq

### CONSUMPTION OF RESOURCES

Impact category	ID	U.o.M.
Renewable energy resources (excluding raw materials)	PERE	MJ
Renewable energy resources (with raw materials)	PERM	MJ
Total renewable energy resources	PERT	MJ
Non-renewable energy resources (excluding raw materials)	PENRE	MJ
Non-renewable energy resources (with raw materials)	PENRM	MJ
Total non-renewable energy resources	PENRT	MJ
Secondary resources	SM	kg
Renewable secondary fuel	RSF	MJ
Non-renewable secondary fuel	NRSF	MJ
Net freshwater use	FW	m <sup>3</sup>

### WASTE PRODUCTION

Impact category	ID	U.o.M.
Hazardous waste	HW	kg
Non-hazardous waste	NHW	kg
Radioactive waste	RW	kg

### OUTPUT FLOWS

Impact category	ID	U.o.M.
Reuse components	REUSE	kg
Materials for recycle	RECYCLE	kg
Materials for energy recovery	EN-REC	kg
Exported energy-electrical energy	EE-E	MJ
Exported energy-electrical energy	EE-T	MJ



Stainless steel  
welded tubes



**WELDED TUBE**

ID	U.o.M.	A1-A3	C1	C2	C3	C4	D
GWP - t	kg CO <sub>2</sub> eq	4.52E+03	1.13E+01	9.63E+00	1.13E+01	7.65E-01	-1.76E+03
GWP - fossil	kg CO <sub>2</sub> eq	4.40E+03	1.13E+01	9.62E+00	1.13E+01	7.64E-01	-1.75E+03
GWP - biogenic	kg CO <sub>2</sub> eq	1.15E+02	5.69E-02	4.97E-03	5.69E-02	1.05E-04	-1.50E+01
GWP - luluc	kg CO <sub>2</sub> eq	2.26E+00	8.50E-04	3.29E-03	8.50E-04	3.93E-04	-1.34E+00
GWP - GHG	kg CO <sub>2</sub> eq	4.31E+03	1.04E+01	8.81E+00	1.04E+01	6.71E-01	-1.62E+03
ODP	kg CFC-11 eq	7.35E-03	1.95E-07	1.93E-07	1.95E-07	2.21E-08	-1.20E-05
POCP	kg NMVOC eq	1.41E+01	2.97E-02	5.06E-02	2.97E-02	8.07E-03	-5.83E+00
AP	mol H+ eq	2.13E+01	3.87E-02	3.11E-02	3.87E-02	5.41E-03	-9.70E+00
EP - freshwater	kg P eq	1.37E+00	1.95E-03	6.54E-04	1.95E-03	6.35E-05	-5.60E-01
EP - marine	kg N eq	3.83E+00	7.02E-03	1.06E-02	7.02E-03	2.06E-03	-1.76E+00
EP - terrestrial	mol N eq	4.07E+01	7.40E-02	1.15E-01	7.40E-02	2.25E-02	-1.87E+01
WDP	m <sup>3</sup> depriv.	1.20E+03	7.30E-01	6.64E-01	7.30E-01	8.19E-01	-3.85E+02
ADP - F	MJ	4.94E+04	1.57E+02	1.39E+02	1.57E+02	1.87E+01	-1.92E+04
ADP - MM	kg Sb eq	9.10E-01	1.04E-05	2.60E-05	1.04E-05	1.19E-06	-4.31E-02
PERE	MJ	1.53E+03	4.97E+00	2.73E+00	4.97E+00	2.27E-01	-5.33E+03
PERM	MJ	0.00E+00	0.00E+00	1.00E+00	2.00E+00	3.00E+00	0.00E+00
PERT	MJ	1.53E+03	4.97E+00	3.73E+00	6.97E+00	3.23E+00	-5.33E+03
PENRE	MJ	4.33E+04	4.96E+01	1.33E+01	4.96E+01	1.45E+00	-1.45E+04
PENRM	MJ	0.00E+00	0.00E+00	1.00E+00	2.00E+00	3.00E+00	0.00E+00
PENRT	MJ	4.33E+04	4.96E+01	1.43E+01	5.16E+01	4.45E+00	-1.45E+04
SM	kg	1.46E+02	1.88E-02	0.00E+00	1.88E-02	0.00E+00	0.00E+00
RSF	MJ	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
NRSF	MJ	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
FW	m <sup>3</sup>	5.52E+00	3.51E-02	2.58E-02	3.51E-02	1.95E-02	-7.81E+00
HW	kg	9.93E+00	1.02E-02	0.00E+00	1.02E-02	0.00E+00	0.00E+00
NHW	kg	7.90E-01	4.85E-04	0.00E+00	4.85E-04	0.00E+00	0.00E+00
RW	kg	1.60E-01	1.48E-03	0.00E+00	1.48E-03	0.00E+00	0.00E+00
REUSE	kg	0.00E+00	0.00E+00	1.00E+00	2.00E+00	3.00E+00	0.00E+00
RECYCLE	kg	2.33E+00	2.23E-02	0.00E+00	2.23E-02	0.00E+00	0.00E+00
EN-REC	kg	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
EE-E	MJ	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
EE-T	MJ	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00

## Additional information

It should be noted that the deviations between the various indicators of the stainless steel tubes, welded either by laser or HF technology, is less than 10%, regardless of the processing carried out on the tube during welding (annealing and/or pickling).

The impact of the input raw material, which corresponds to 93% of the total impacts for welded, annealed and pickled tubes, and 96% of the total impacts for welded tubes only.

Since the raw material is the same for all products, what differentiates the various products is the type of welding used (laser or HF technology) and the processing possibly carried out at the end of the welding (pickling and/or annealing).

### SUSTAINABILITY

Note that stainless steel products are ideally completely recyclable an infinite number of times.

Considering the structural use and the possible combined use with other materials that can make recovery and recycling complicated, as a precaution we refer to what is indicated in the “Special Waste Report” of ISPRA – No. 389/2023: the amount of steel for recycling is 89.1%;

The products made are characterised by a recycled content of 73.2%. This percentage is calculated as a weighted average of the same value associated with the raw material inflow and resulting both from environmental declarations Type III as well as self-declarations in accordance with UNI EN ISO 14021.

All emissions generated by the processes are conveyed into the atmosphere and where necessary are equipped with appropriate abatement systems before they are released into the environment.

The materials used for packaging the end products consist of metal straps and plastic caps.

The quantities of these packages compared to a tonne of final product identify a value of less than 1%. The products do not contain hazardous substances from the SVHC Candidate List for Authorization in quantities greater than 0.1%

### MANAGEMENT SYSTEM

With reference to the management systems used by the company, it is emphasised that the presence of an environmental management system (certified according to UNI EN ISO 14001:2015), safety management system (certified according to UNI ISO 45001:2018), energy management system (certified according to UNI EN ISO 50001:2018) and social responsibility management system (SA8000:2014) testifies to the company’s commitment to pursue the continuous improvement of its environmental, energy, social and safety performance. Within the environmental management system, there is also a special data management procedure to study the life cycle of products. Year after year, the company plans new improvement objectives aimed at increasing its performance.

As part of the energy management system, the company carries out annual energy analysis and develops action plans and interventions to reduce consumption and increase the efficiency of the significant energy usage of the plant.

### VARIATION COMPARED TO THE PREVIOUS VERSION OF THE EPD

Compared to the previous version of this EPD, the raw material and process data were updated with the data relating to 2023, which led to an increase in the percentage of post-consumer recycled material compared to the previous year with the consequent improvement of all the indicators of the A1-A3 form. In addition, the database used (shifted to Ecoinvent 3.10) and the residual mix of the various countries were updated, of which the update relating to 2023 was used.

## Reference

General Programme Instructions of the International EPD<sup>®</sup> System. Version 4.0;  
 PCR 2019:14 - Version 1.3.1 "CONSTRUCTION PRODUCTS";  
 BRE Global Product Category Rules (PCR) for Type III EPD of construction products to EN 15804+A2;  
 Ecoinvent database v.3.10 - May 2024;  
<http://unstats.un.org/unsd/default.htm>;  
 UNI EN ISO 14025: 2010 "Environmental labels and declarations - Type III environmental declarations - Principles and procedures";  
 UNI EN ISO 14040: 2021 "Environmental management - Life cycle assessment - Principles and framework";  
 UNI EN ISO 14044:2021 "Environmental management - Life cycle assessment - Requirements and guidelines";  
 UNI EN ISO 15804:2021 "Sustainability of construction - Environmental product declarations - Core rules for development of the product category";  
 European Residual Mixes 2023 Association of Issuing Bodies "European Residual Mixes Results of the calculation of Residual Mixes for the calendar year 2023", 2024-06-05;  
 ISPRA "Special waste report" - no. 389/2023.





Via Mattei, 20  
47034 - Forlimpopoli (FC)  
Phone +39 0543 470309 / +39 335 1797674  
info@marcegaglia.com  
[www.marcegaglia.com](http://www.marcegaglia.com)



THE INTERNATIONAL EPD® SYSTEM

[www.evirondec.com](http://www.evirondec.com)