



# Environmental Product Declaration

---



In accordance with  
ISO 14025 and UNI EN 15804:2012+A2:2019/AC:2021 for:

## HOT ROLLED STEEL PLATES

**Marcegaglia Plates S.p.A**

---

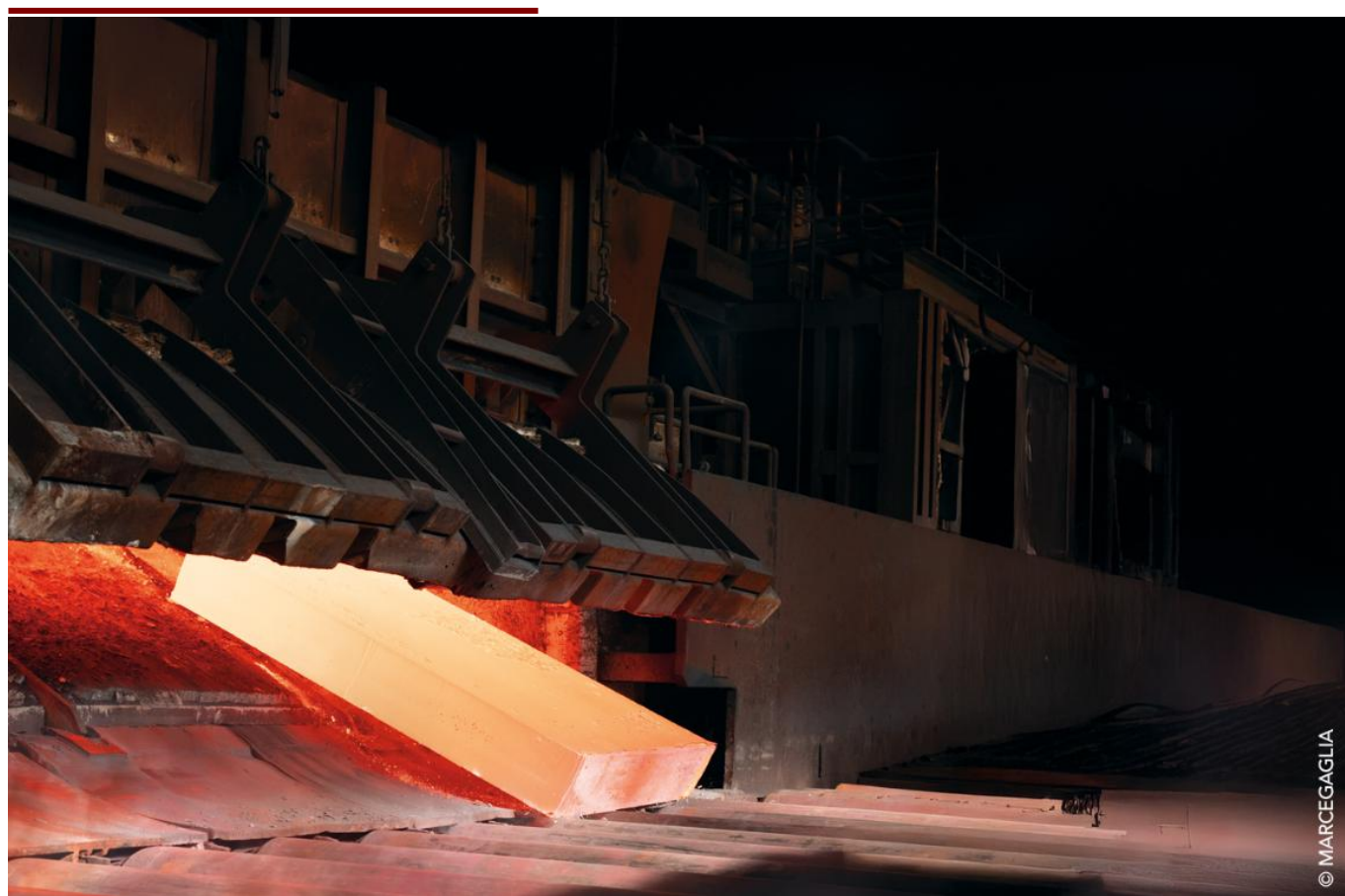
This EPD covers multiple products, based on the average results of the product group

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

Programme operator: EPD International AB  
EPD registration number: S-P-07868  
Publication date: 2022-12-23  
Revision date: 2025-12-05  
Valid until: 2027-12-23

*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)*

<b>GENERAL INFORMATION.....</b>	<b>2</b>
PROGRAMME INFORMATION .....	2
COMPANY INFORMATION .....	3
PRODUCTS INFORMATION .....	3
LCA INFORMATION .....	4
DESCRIPTION OF MAIN ACTIVITIES .....	5
SYSTEM DIAGRAM .....	7
CONTENT INFORMATION .....	8
MODULES DECLARED.....	8
<b>ENVIRONMENTAL INFORMATION .....</b>	<b>9</b>
HEAVY PLATES .....	10
PLATES PROCESSINGS.....	11
<b>ADDITIONAL ENVIRONMENTAL INFORMATION .....</b>	<b>12</b>
<b>DIFFERENCES FROM THE PREVIOUS EPD VERSION .....</b>	<b>12</b>
<b>REFERENCES .....</b>	<b>13</b>



## GENERAL INFORMATION

### PROGRAMME INFORMATION

<b>Programme:</b>	The International EPD® 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>

Standard EN 15804 serves as the Core Product Category Rules (PCR)
Product category rules (PCR): <i>Construction products</i> , 2019:14, version 1.11, UN CPC 4123
PCR review was conducted by: The Technical Committee of the International EPD System. Review chair: Claudia A. Peña – Contact through the secretariat <a href="http://www.environdec.com/contact">www.environdec.com/contact</a>
Life Cycle Assessment (LCA) LCA accountability: Made HSE S.r.l.
Third-party verifier: Independent third-party verification of the declaration and data, according to ISO 14025, via: <input checked="" type="checkbox"/> EPD verification by accredited certification body
Third-party verification: <i>Bureau Veritas Italia S.p.A.</i> is an approved certification body accountable for the third-party verification The certification body is accredited by: <i>Accredia</i>
Procedure for follow-up of data during EPD validity involves third party verifier: <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No

The EPD owner has the sole ownership, liability, and responsibility for the EPD.

EPDs within the same product category but registered in different EPD programmes, or not compliant with EN 15804, may not be comparable. For two EPDs to be comparable, they must be based on the same PCR (including the same version number) or be based on fully-aligned PCRs or versions of PCRs; cover products with identical functions, technical performances and use (e.g. identical declared/functional units); have equivalent system boundaries and descriptions of data; apply equivalent data quality requirements, methods of data collection, and allocation methods; apply identical cut-off rules and impact assessment methods (including the same version of characterisation factors); have equivalent content declarations; and be valid at the time of comparison. For further information about comparability, see EN 15804 and ISO 14025.

## COMPANY INFORMATION

### Owner of the EPD:

Marcegaglia Plates S.p.A. – <https://www.heavyplates.marcegaglia.com/it/>

### Contact:

For more information on this product declaration and/or its configurations, the following references are available:

Mail: [marco.ferrone@marcegaglia.com](mailto:marco.ferrone@marcegaglia.com) Tel.: +39 0431 624204

### Company description:

Marcegaglia Plates S.p.A, located in San Giorgio di Nogaro, operates in the hot rolling sector and produces heavy plate using a four-high rolling mill. The production process is fed by a single raw material, a semi-finished steel product called slab which, thanks to integrated logistics, arrives first by ship or train and is then transported by truck to the plant. Thanks to the versatility of the various production lines, it is possible to obtain a wide range of products, including custom orders, through subsequent processing of the heavy plate. The products can be manufactured in different sizes, with different thermal resistance or surface finishes.

### Product/system certifications:

- Quality management system ISO 9001
- Environmental management system ISO 14001
- Health and safety management system ISO 45001
- Energy management system ISO 50001
- Social responsibility management system SA 8000
- Carbon Footprint Product systematic approach ISO 14067:2018
- Organisation Carbon Footprint ISO 14064-1:2018

### Production site's name and localization:

- Via Enrico Fermi 33, San Giorgio di Nogaro (UD)
- Via Enrico Fermi 28, San Giorgio di Nogaro (UD)

## PRODUCTS INFORMATION

**Product name:** Hot rolled steel plate

**Product identification:** Hot rolled steel plate

### Product description:

The production cycle begins with the arrival of the slabs (raw material) at the plant. The raw material is sent to the rolling mill after undergoing an initial oxygen cutting process (slab cutting). The slab loading phase consists of feeding the reheating furnace using a bridge crane equipped with an electromagnet. The next heating phase takes place inside the “push” furnace with vaulted burners (the temperature inside the furnace can reach a heat of about 1250°C); the slabs travel the distance in about six hours to reach the optimum temperature for rolling. At the furnace exit, descaling is carried out to remove the scale formed by oxidation during the heating of the steel product. The slab is then rolled until the desired thickness is obtained, after which the sheet is transferred via the roller conveyor to the shear for cutting to size. Various reworking operations can then be applied: trimming, milling, shot blasting, and normalizing heat treatment. The company website provides access to product catalogs containing comprehensive descriptions of the technical characteristics of the products.

**UN CPC code:** UN CPC 4123 Flat-rolled products of steel further worked than hot -rolled or cold-rolled.

**Geographical scope:** global

## LCA INFORMATION

### Functional unit:

The functional unit of the system considered is the ton of hot rolled steel plate.

### Reference service life – RSL:

For the products under study, it is not possible to quantify their exact useful life, as this depends largely on their future use. However, it should be noted that even at the end of its life, the product can be recycled and reused to generate other raw materials.

### Time representativeness:

The data used is representative of the year 2024.

### Data Quality:

The primary data come from the company, and the secondary data come from Ecoinvent database.

### Database e software:

Ecoinvent database v.3.11, April 2025 / Software used SimaPro rel. 10.2.0.2.

### Description of system boundaries:

The study is entitled "Cradle to gate with modules C1–C4 and module D (A1–A3 + C + D)" (reference: PCR 2019:14 vers.1.11).

Modules A1-A3 cover material procurement processes (raw and auxiliary materials) as well as production processes.

Modules C1-C4 consider the uninstallation, transport, sorting and disposal of components resulting from end-of-life operations of the product. These operations are not directly controllable by the company: in this regard, data from the construction sector are therefore used:

- an average consumption of diesel equivalent to 239 MJ as well as 28 kWh of electricity for each ton of demolished material;
- an average distance of 80 km to transport the material to the recovery centre.

Module D considers the potential for recovery and recycling of steel from end-of-life processes: the calculation of the environmental benefits of steel recovery is based on the guidelines provided in the document "Product Category Rules for Type III environmental product declaration of construction products to EN 15804:2012 – Par. 6.3.4.6. Benefits and loads beyond the product system boundary, information Module D".





## DESCRIPTION OF MAIN ACTIVITIES

Marcegaglia Plates rolling process begins with the marking of the slabs (for full product traceability) and continues with slab cutting and re-heating treatment. In each plant, the rolling equipment has an out-put of approximately 400.000 tons/year of heavy plates, some of which are supplied to the service centre, while others undergo normalization for specific applications.

The production process begins with the arrival of steel slabs at the company, transported by lorry or train and delivered to the plant. The raw materials consist of slabs from outsourcing accredited sources.

Rolling Process in detail:

### **SLAB CUTTING**

The raw material reaches the rolling mill after undergoing an initial oxy-fuel cutting process (slab cutting). To achieve dimensions suitable for the subsequent rolling stage, the slabs are transferred from the storage area to the cutting line. The oxy-fuel cutting is carried out on a dedicated line equipped with oxyfuel nozzles.

Additionally, a slab preheating station is installed upstream of the cutting process to heat the cutting area to 300°C.

### **RE-HEATING FURNACE**

The slab charging phase consists in feeding the heating furnace using an overhead crane equipped with an electromagnet. The system features a three-strand pusher-type furnace with vault burners. The slabs, positioned on the furnace charging table, are moved by dedicated pushers that insert them into the furnace in such a way that for each slab exiting the furnace, a new one is simultaneously pushed in. The temperature inside the furnace reaches approximately 1250°C, and the slabs remain inside for about six hours to achieve the optimal rolling temperature.

At the furnace exit, a chute transfers the slabs onto the rolling mill roller table. From the control pulpit located above the mill, operators initiate the process, which begins with descaling, aimed at removing the oxide scale formed during the heating phase. This operation is performed by spraying high-pressure water jets onto the slab surface, effectively removing the incandescent layer of oxidized material.

### **REVERSING ROLLING MILL FOR HR PLATES**

After descaling, the slab undergoes rolling in a four-high reversible mill (consisting of two work rolls and two backup rolls), controlled from the operator pulpit. During the process, the slab passes several times between the rolls; with each pass, the roll gap is gradually reduced, decreasing the slab thickness while increasing its length and width, until the desired thickness is achieved.

### **CUTTING AND HOT-LEVELLING**

Once the rolling process is completed and the desired sheet thickness has been achieved, the plate is transferred along the roller table to the guillotine shear, where the operator performs cutting to the required dimensions. The cut sections are then conveyed, again via the roller table, to the leveling station, where the sheet passes through a series of rolls that ensure final flatness by partially relieving the internal stresses and distortions induced during the rolling processes.

### **COOLING AREA**

After leveling, the sheets move onto a movable-beam cooling bed, where they are cooled in room-temperature air before being picked up by special devices equipped with electromagnets for transport and storage in the warehouse. The finished plates are marked with identification data and then placed in the storage area, ready

either for delivery to customers or for further processing such as cutting, milling, shot blasting, or additional leveling.

### **SERVICE CENTRE**

By cutting it is meant the head-to-tail or edges removal, which is run by different equipments: such as oxy-fuel and plasma cutting machines. The factory has five pantographs with oxy-fuel cutting technology and one pantograph with plasma cutting technology. The oxy-fuel system uses torches mounted on mobile supports powered by oxygen and methane, while the plasma cutting system uses mobile supports powered by compressed air and electricity. Both types of pantograph reduce the sheet metal to market standard or customers requests. The pantographs consist of a fixed bed and a mobile cutting carriage on which the torches are mounted. The positioning of the cutting torches and the advancement of the carriage are controlled by numerical control, whose console, located on the line, is integral with the carriage.

The edge milling is performed to remove surface layers of metal until the required dimensional characteristics are achieved. The milling machine consists of a mobile bed on which the sheets are positioned and fixed, and two milling heads that machine the side edges of the sheets.

In-line shot blasting and levelling is a surface treatment of steel that allows the mechanical removal of iron oxides by throwing manganese metal "shots" against the surface being processed in order to prepare the surface of the sheet metal for subsequent treatments or surface processing.

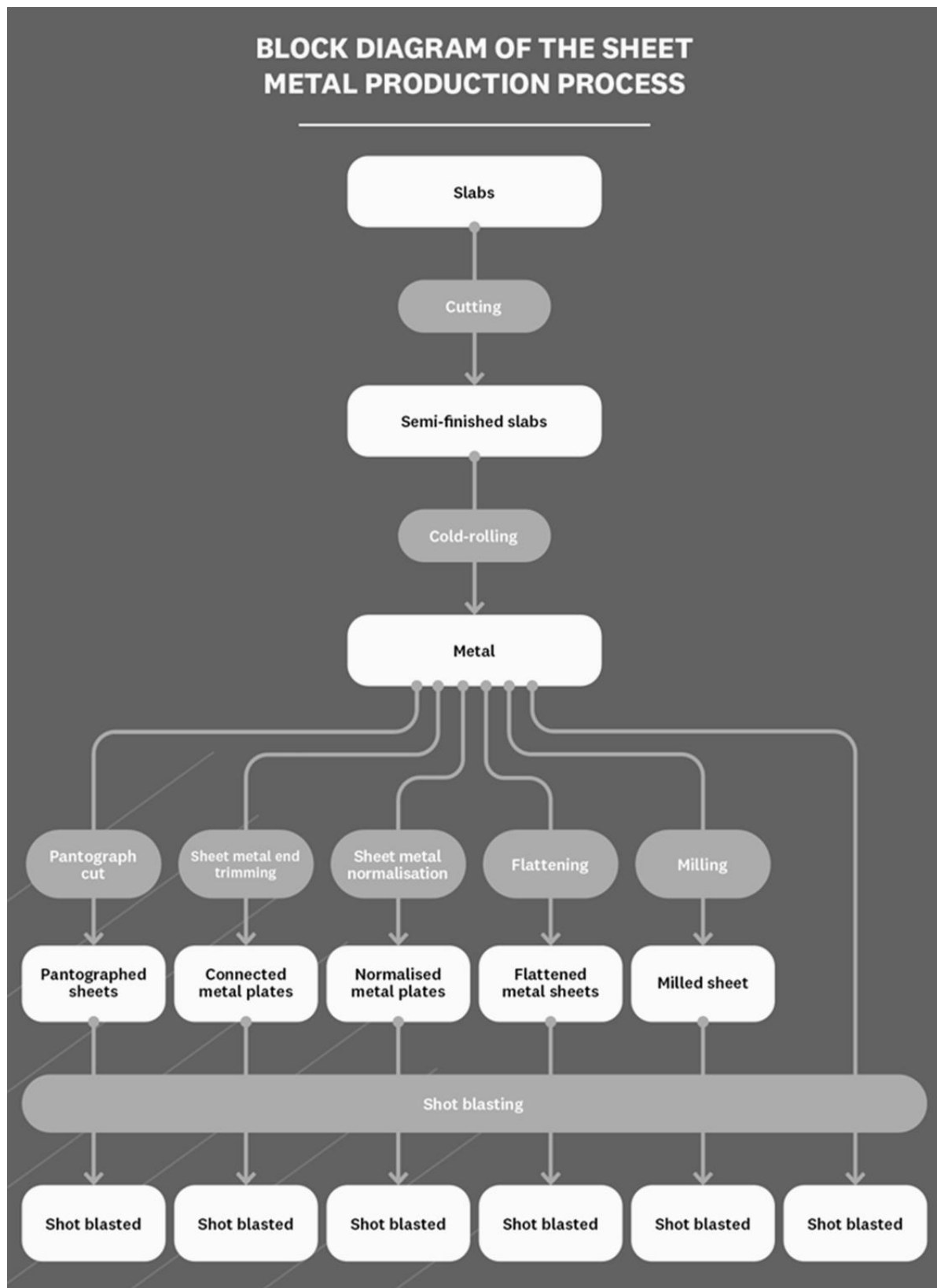
### **NORMALIZATION**

Normalization is a heat treatment that consists of heating the pieces coming from the rolling mill to a specific temperature in order to achieve a designated chemical, structural and mechanical characteristic. The loading phase takes place via a roller conveyor. Inside the heating chamber, the sheets are heated to between approximately 800 and 950°C, depending on the type of steel being treated. Upon exiting the furnace, the sheets are then cooled to room temperature.

### **PLATES STORAGE AND SHIPMENTS**

Finished products are stored in dedicated storage areas. The final stage involves the handling and dispatch of products leaving the plant. The most commonly used transport method is road vehicles, which depart daily, delivering the products either to their final destination or to the nearest logistics hub for subsequent transportation by rail or ship.

## SYSTEM DIAGRAM





## CONTENT INFORMATION

Product content	Weight, kg	Post-consumer recycled content	Biogenic material, weight-% and kg C/kg
Heavy plate	1,000	23 %	0

The materials used for packaging the final products consist of plastic and/or metal strapping, wooden saddles and polyester bands. The quantities of such packaging in relation to one ton of final product represent less than 1%.

### Allocation rules

An allocation was made on a mass basis for energy consumption, water discharges, atmospheric emissions and waste.

## MODULES DECLARED

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

	A1-A3 Product stage			A4-A5 Construction process stage		B1-B7 Use stage							C1-C4 End of life stage				D Benefits and loads beyond the system boundary
	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	> 50%					-	-	-	-	-	-	-	-	-	-	-	-
Variations-product	Not relevant					-	-	-	-	-	-	-	-	-	-	-	-
Variations-site	< 10%					-	-	-	-	-	-	-	-	-	-	-	-

**X** = Module considered      |      **ND** = Module not declared      |      **GLO** = Global      |      **IT** = Italy

## ENVIRONMENTAL INFORMATION

The environmental performance indicators refer to 1 ton of hot rolled steel plate.

### Environmental impact

Impact category	Abb.	Unit
Climate change - total	GWP - t	kg CO <sub>2</sub> eq
Climate change - Fossil	GWP - fossil	kg CO <sub>2</sub> eq
Climate change - Biogenic	GWP - biogenic	kg CO <sub>2</sub> eq
Climate change - Land use and LU change	GWP - luluc	kg CO <sub>2</sub> eq
Climate change - Greenhouse Gases	GWP - GHG	kg CO <sub>2</sub> eq.
Ozone depletion	ODP	kg CFC11 eq
Photochemical ozone formation	POCP	kg NMVOC eq
Acidification of land and water	AP	mol H+ eq
Eutrophication	EP - freshwater	kg P eq
	EP - marine	kg N eq
	EP - terrestrial	mol N eq
Water use *	WDP	m <sup>3</sup> depriv.
Resource use, fossils *	ADP - F	MJ
Resource use, minerals, and metals *	ADP - MM	kg Sb eq

\* The results of this environmental impact indicator shall be used with care as the uncertainties of the results are high and as there is limited experience with the indicator.

### Resource use

Impact category	Abb.	Unit
Use of renewable primary energy excluding renewable primary energy resources used as raw materials	PERE	MJ
Use of renewable primary energy resources used as raw materials	PERM	MJ
Total use of renewable primary energy resources (primary energy and primary energy resources used as raw materials)	PERT	MJ
Use of non-renewable primary energy excluding non-renewable primary energy resources used as raw materials	PENRE	MJ
Use of non-renewable primary energy resources used as raw materials	PENRM	MJ
Total use of non-renewable primary energy resources (primary energy and primary energy resources used as raw materials)	PENRT	MJ
Use of secondary material	SM	kg
Use of renewable secondary fuels	RSF	MJ
Use of non-renewable secondary fuels	NRSF	MJ
Use of net fresh water	FW	m <sup>3</sup>

### Waste production

Impact category	Abb.	Unit
Hazardous waste disposed	HW	kg
Non-hazardous waste disposed	NHW	kg
Radioactive waste disposed	RW	kg

### Output flows

Impact category	Abb.	Unit
Reuse	REUSE	kg
Materials for recycling	RECYCLE	kg
Materials for energy recovery	EN-REC	kg
Exported energy-electricity	EE-E	MJ
Exported energy-thermal energy	EE-T	MJ

## HEAVY PLATES

Abb.	Unit	A1	A2	A3	C1	C2	C3	C4	D
GWP - t	kg CO <sub>2</sub> eq	2.24E+03	9.75E+01	1.73E+02	2.41E+01	8.45E+00	1.67E+01	7.61E-01	-1.35E+03
GWP - fossil	kg CO <sub>2</sub> eq	2.24E+03	9.72E+01	1.74E+02	2.41E+01	8.44E+00	1.64E+01	7.57E-01	-1.34E+03
GWP - biogenic	kg CO <sub>2</sub> eq	1.28E+00	2.09E-01	-7.21E-01	4.83E-03	4.97E-03	2.81E-01	3.09E-03	-2.17E+00
GWP - luluc	kg CO <sub>2</sub> eq	1.18E+00	8.63E-02	3.31E-02	2.46E-03	3.04E-03	1.61E-03	4.34E-04	-8.57E-01
GWP - GHG	kg CO <sub>2</sub> eq	2.24E+03	9.73E+01	1.74E+02	2.41E+01	8.44E+00	1.64E+01	7.58E-01	-1.35E+03
ODP	kg CFC-11 eq	9.83E-06	1.36E-06	7.81E-06	3.57E-07	1.84E-07	2.99E-07	2.11E-08	-6.48E-06
POCP	kg NMVOC eq	7.24E+00	1.56E+00	6.68E-01	3.28E-01	4.42E-02	4.66E-02	8.02E-03	-4.50E+00
AP	mol H <sup>+</sup> eq	9.53E+00	2.19E+00	2.76E-01	2.15E-01	2.79E-02	7.27E-02	5.30E-03	-5.77E+00
EP - freshwater	kg P eq	1.39E+00	1.23E-02	1.40E-02	7.74E-04	5.95E-04	4.83E-03	6.63E-05	-7.92E-01
EP - marine	kg N eq	2.05E+00	5.01E-01	1.27E-01	1.00E-01	9.48E-03	1.26E-02	2.04E-03	-1.31E+00
EP - terrestrial	mol N eq	2.18E+01	5.56E+00	8.89E-01	1.10E+00	1.03E-01	1.30E-01	2.22E-02	-1.34E+01
WDP	m <sup>3</sup> depriv.	5.91E+02	8.87E+00	3.89E+01	9.06E-01	7.01E-01	1.91E+00	4.22E-01	-4.16E+02
ADP - F	MJ	2.31E+04	1.26E+03	3.03E+03	3.13E+02	1.23E+02	2.35E+02	9.27E+00	-1.42E+04
ADP - MM	kg Sb eq	1.84E-02	1.63E-04	2.03E-04	8.38E-06	2.37E-05	1.21E-05	1.11E-06	-9.88E-03
PERE	MJ	2.43E+03	5.08E+01	1.35E+02	1.97E+00	1.90E+00	1.10E+01	1.73E-01	-1.42E+03
PERM	MJ	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
PERT	MJ	2.43E+03	5.08E+01	1.35E+02	1.97E+00	1.90E+00	1.10E+01	1.73E-01	-1.42E+03
PENRE	MJ	2.31E+04	1.26E+03	3.03E+03	3.13E+02	1.23E+02	2.35E+02	9.27E+00	-1.42E+04
PENRM	MJ	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
PENRT	MJ	2.31E+04	1.26E+03	3.03E+03	3.13E+02	1.23E+02	2.35E+02	9.27E+00	-1.42E+04
SM	kg	2.59E+02	9.45E-01	4.22E-01	1.30E-01	5.21E-02	2.78E-02	2.31E-03	-2.42E+02
RSF	MJ	2.52E-01	2.42E-03	6.69E-03	3.40E-04	6.88E-04	2.08E-04	4.82E-05	-1.48E-01
NRSF	MJ	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
FW	m <sup>3</sup>	1.55E+01	2.27E-01	9.58E-01	2.21E-02	1.72E-02	4.53E-02	1.00E-02	-1.07E+01
HW	kg	9.53E+02	3.00E+00	2.66E+00	3.51E-01	1.80E-01	7.98E-01	1.80E-02	-5.37E+02
NHW	kg	8.69E+03	6.98E+01	7.71E+01	5.12E+00	3.67E+00	2.45E+01	3.44E-01	-7.21E+03
RW	kg	1.41E-02	1.32E-03	1.25E-03	3.27E-05	3.40E-05	2.83E-04	1.35E-06	-1.06E-02
REUSE	kg	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
RECYCLE	kg	1.07E+00	1.14E+00	4.31E-02	1.39E-03	1.49E-03	1.33E-02	1.00E-04	-6.98E-01
EN-REC	kg	1.04E-02	4.42E-05	4.67E-05	4.45E-06	5.45E-06	3.51E-06	1.78E-07	-5.53E-03
EE-E	MJ	3.77E+00	1.20E-01	6.59E-01	1.48E-02	2.08E-02	1.12E-02	6.02E-04	-3.85E+00
EE-T	MJ	1.32E+01	9.31E-01	2.53E-01	6.94E-03	2.21E-02	1.33E-02	3.19E-04	-7.29E+00

## PLATES PROCESSINGS

Abb.	Unit	A1	A2	A3	C1	C2	C3	C4	D
GWP - t	kg CO <sub>2</sub> eq	2.41E+03	1.05E+02	3.33E+02	2.41E+01	8.45E+00	1.42E+01	7.61E-01	-1.36E+03
GWP - fossil	kg CO <sub>2</sub> eq	2.40E+03	1.04E+02	3.33E+02	2.41E+01	8.44E+00	1.40E+01	7.57E-01	-1.34E+03
GWP - biogenic	kg CO <sub>2</sub> eq	1.37E+00	2.24E-01	1.33E-02	4.83E-03	4.97E-03	2.39E-01	3.09E-03	-1.83E+01
GWP - luluc	kg CO <sub>2</sub> eq	1.27E+00	9.27E-02	8.10E-02	2.46E-03	3.04E-03	1.44E-03	4.34E-04	-8.61E-01
GWP - GHG	kg CO <sub>2</sub> eq	2.41E+03	1.05E+02	3.33E+02	2.41E+01	8.44E+00	1.40E+01	7.58E-01	-1.34E+03
ODP	kg CFC-11 eq	1.06E-05	1.46E-06	1.49E-05	3.57E-07	1.84E-07	2.54E-07	2.11E-08	-6.52E-06
POCP	kg NMVOC eq	7.78E+00	1.68E+00	1.21E+00	3.28E-01	4.42E-02	3.98E-02	8.02E-03	-4.50E+00
AP	mol H <sup>+</sup> eq	1.02E+01	2.35E+00	5.27E-01	2.15E-01	2.79E-02	6.22E-02	5.30E-03	-5.78E+00
EP - freshwater	kg P eq	1.49E+00	1.32E-02	2.91E-02	7.74E-04	5.95E-04	4.13E-03	6.63E-05	-7.89E-01
EP - marine	kg N eq	2.21E+00	5.39E-01	2.75E-01	1.00E-01	9.48E-03	1.07E-02	2.04E-03	-1.31E+00
EP - terrestrial	mol N eq	2.34E+01	5.98E+00	1.81E+00	1.10E+00	1.03E-01	1.11E-01	2.22E-02	-1.35E+01
WDP	m <sup>3</sup> depriv.	6.35E+02	9.53E+00	8.63E+01	9.06E-01	7.01E-01	8.87E-01	4.22E-01	-3.46E+02
ADP - F	MJ	2.49E+04	1.35E+03	5.63E+03	3.13E+02	1.23E+02	2.01E+02	9.27E+00	-6.89E+03
ADP - MM	kg Sb eq	1.97E-02	1.75E-04	3.33E-04	8.38E-06	2.37E-05	1.32E-05	1.11E-06	-1.00E-02
PERE	MJ	2.61E+03	5.46E+01	2.53E+02	1.97E+00	1.90E+00	2.54E+01	1.73E-01	-1.41E+03
PERM	MJ	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
PERT	MJ	2.61E+03	5.46E+01	2.53E+02	1.97E+00	1.90E+00	2.54E+01	1.73E-01	-1.41E+03
PENRE	MJ	2.49E+04	1.35E+03	5.63E+03	3.13E+02	1.23E+02	2.01E+02	9.27E+00	-6.89E+03
PENRM	MJ	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
PENRT	MJ	2.49E+04	1.35E+03	5.63E+03	3.13E+02	1.23E+02	2.01E+02	9.27E+00	-6.89E+03
SM	kg	2.78E+02	1.02E+00	2.01E+00	1.30E-01	5.21E-02	2.60E-02	2.31E-03	-1.17E+02
RSF	MJ	2.71E-01	2.60E-03	9.09E-03	3.40E-04	6.88E-04	1.84E-04	4.82E-05	-7.17E-02
NRSF	MJ	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
FW	m <sup>3</sup>	1.67E+01	2.44E-01	2.12E+00	2.21E-02	1.72E-02	3.89E-02	1.00E-02	-9.91E+00
HW	kg	1.02E+03	3.23E+00	5.55E+00	3.51E-01	1.80E-01	6.85E-01	1.80E-02	-4.98E+02
NHW	kg	9.34E+03	7.49E+01	1.70E+02	5.12E+00	3.67E+00	2.10E+01	3.44E-01	-5.63E+03
RW	kg	1.52E-02	1.42E-03	2.85E-03	3.27E-05	3.40E-05	2.41E-04	1.35E-06	-5.12E-03
REUSE	kg	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
RECYCLE	kg	1.15E+00	1.22E+00	3.16E-01	1.39E-03	1.49E-03	1.33E-02	1.00E-04	-3.38E-01
EN-REC	kg	1.12E-02	4.75E-05	8.08E-05	4.45E-06	5.45E-06	3.06E-06	1.78E-07	-2.68E-03
EE-E	MJ	4.05E+00	1.29E-01	1.56E+00	1.48E-02	2.08E-02	9.87E-03	6.02E-04	-1.87E+00
EE-T	MJ	1.42E+01	1.00E+00	4.11E-01	6.94E-03	2.21E-02	1.15E-02	3.19E-04	-3.54E+00

## ADDITIONAL ENVIRONMENTAL INFORMATION

The raw material purchased by Marcegaglia Plates S.p.A. has an average recycled content of 23%: this percentage is calculated as the weighted average of the same value associated with the incoming raw material and derives from both Type III environmental declarations and self-declarations in accordance with the UNI EN ISO 14021 standard. The steel comes from both the integral cycle (with an average recycled content of 18,9%) and electric furnaces (with an average recycled content of 86,8%).

The materials used for packaging the final products consist of metal strapping and wooden strip. The quantities of such packaging per ton of final product are less than 1%.

It should be noted that at the end of its useful life, the product is intended for recycling. Specifically, the quantity of steel intended for recycling is 87,9%, in line with the figures indicated in ISPRA "Special Waste Report" – No. 402/2024.

The products do not contain hazardous substances from the SVHC candidate list for authorization in quantities exceeding 0.1%.

### **Heavy plate**

The most significant factor in the production of heavy plate is the slab entering the plant, whose manufacture and subsequent provisioning accounts for 95% of the total impact of the final product. Rolling with rolling mill technology accounts for the remaining 5%, mainly due to the natural gas used during the hot process.

### **Plate processings**

The element that has the greatest impact is the slab entering the plant, whose manufacture and subsequent provisioning accounts for 91.5% of the total impact of the final product.

The rolling phase, carried out using rolling mill technology, accounts for approximately 4.5% of the overall impact, while further processings account for the remaining 4%.

## DIFFERENCES FROM THE PREVIOUS EPD VERSION

Compared to the previous version of the EPD Declaration (revision date 03/12/2024), the main changes made to the data under analysis are listed below:

- Site-specific data (for forms A1, A2 and A3) was collected and used in relation to all environmental matrices with reference to the year 2024. It should be noted that part of the electricity was purchased through Guarantees of Origin (GO);
- The reference database updated to the latest available version was used as well as the new version of the software (all processes refer to Ecoinvent 3.11 – April 2025 and the software SimaPro version 10.2.0.2);
- Italian updated energy residual mix has been considered (ref.: "European Residual Mixes Results of the calculation of Residual Mixes for the calendar year 2024").

## REFERENCES

- General Programme Instructions of the International EPD® System. Version 3.01;
- PCR 2019:14 - Version 1.11 "CONSTRUCTION PRODUCTS" – Date 2021-02-05;
- Product Category Rules for Type III environmental product declaration of construction products to EN 15804:2012;
- Ecoinvent database v.3.11 – April 2025;
- UNI EN ISO 14025: 2010 "Etichette e dichiarazioni ambientali - Dichiarazioni ambientali di Tipo III - Principi e procedure";
- UNI EN ISO 14040: 2021 "Gestione ambientale - Valutazione del ciclo di vita - Principi e quadro di riferimento";
- UNI EN ISO 14044:2021 "Gestione ambientale - Valutazione del ciclo di vita - Requisiti e linee guida";
- UNI EN ISO 15804:2021 "Sostenibilità delle costruzioni – Dichiarazioni ambientali di prodotto – Regole quadro di sviluppo per categoria di prodotto;
- European Residual Mixes 2024 Association of Issuing Bodies "European Residual Mixes Results of the calculation of Residual Mixes for the calendar year 2024" – 2025-05-30;
- CSIRO "Metal recycling: The need for a life cycle approach" – May 2013;
- Ingegneria dell'ambiente "I RIFIUTI DA COSTRUZIONE E DEMOLIZIONE LCA DELLA DEMOLIZIONE DI 51 EDIFICI RESIDENZIALI" – Michele Paleari, Politecnico di Milano – 26-11-2015;
- ISPRA "Rapporto rifiuti speciali" – n° 402/2024.





© MARCEGAGLIA



**Registered seat:**

Via Bresciani, 16 - 46040  
Gazoldo degli Ippoliti (MN) – Italy

**Main offices and plants:**

Via Enrico Fermi 28  
San Giorgio di Nogaro (UD) - Italy

Via Enrico Fermi 33  
San Giorgio di Nogaro (UD) - Italy

Phone +39 0431 624204  
[marco.ferrone@marcegaglia.com](mailto:marco.ferrone@marcegaglia.com)  
[www.marcegaglia.com](http://www.marcegaglia.com)



 **EPD**  
INTERNATIONAL EPD SYSTEM