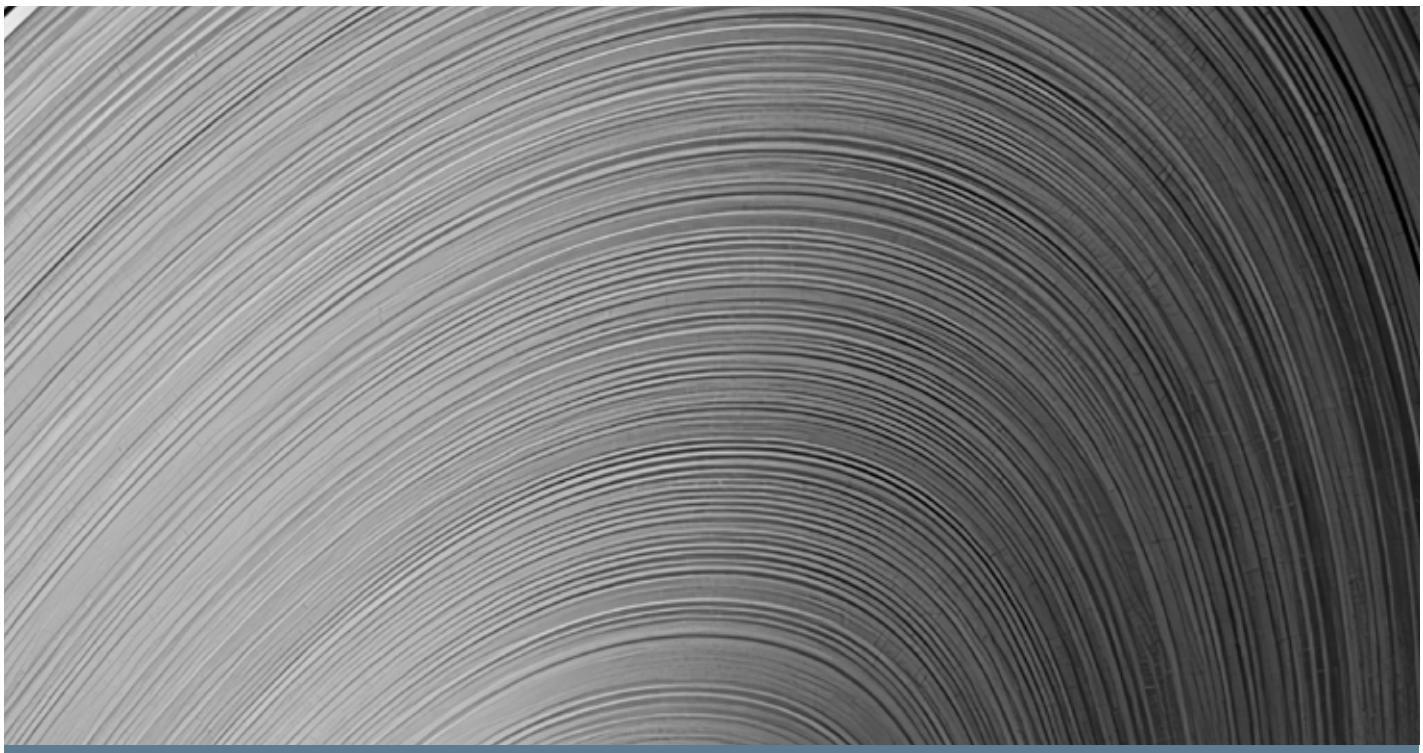

ENVIRONMENTAL PRODUCT DECLARATION

EN

Programme:
The International EPD® System
www.environdec.com

Programme operator:
EPD International AB

EPD registration number:
EPD-IES-0018180

Publication date:
22-12-2024

Valid until:
22-12-2029

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

In accordance with ISO 14025:2006 and
EN 15804:2012+A2:2019/AC:2021 for:
EPD of multiple products,
based on the representative product

COLD ROLLED STRIPS AND SHEETS

From
SIA Marcegaglia Baltics

MARCEGAGLIA CARBON STEEL

ECO PLATFORM EPD VERIFIED

EPD® THE INTERNATIONAL EPD® SYSTEM

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PROGRAMME INFORMATION

Programme:	The International EPD® System
Address:	EPD International AB Box 210 60 SE-100 31 Stockholm Sweden
Website:	www.environdec.com
E-mail:	info@environdec.com

Accountabilities for PCR, LCA and independent, third-party verification

Product Category Rules (PCR)
CEN standard EN 15804 serves as the Core Product Category Rules (PCR)
Product Category Rules (PCR): Construction products, 2019:14, version 1.3.4, UN CPC 54

PCR review was conducted by:
The Technical Committee of the International EPD® System.

Life Cycle Assessment (LCA)
LCA accountability: SIA Marcegaglia Baltics - Made HSE S.r.l.

Third-party verification
Independent third-party verification of the declaration and data, according to ISO 14025:2010, via:
☒ EPD verification by accredited certification body

Third-party verification:
Bureau Veritas is an approved certification body accountable for the third-party verification
The certification body is accredited by: Accredia

Procedure for follow-up of data during EPD validity involves third party verifier:
☒ Yes ☐ 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:
SIA Marcegaglia Baltics

Contact:
To obtain more information about this product declaration and / or its configurations, the following references are available:

Mail: baltics@marcegaglia.com

Phone: +371 26571599

Description of the organisation:
Marcegaglia Baltics is a company specialized in the transformation and marketing of flat products (strips and sheets).

The company, thanks to advanced production technology and the most modern automation systems, enters the market for the creation of any type of finish on components and accessories, allowing it to satisfy the most demanding and personalized requests.

The Marcegaglia manufacturing facility in Riga is dedicated to the production of strips and sheets for a wide range of applications and serves as a distribution and service center for all of Marcegaglia group's steel products.

Flat products from hot rolled, pickled, cold rolled and galvanized coils are developed in specific sizes and tolerances for applications such as heating and ventilation systems, pressure equipment, furniture components and fitness devices.

Product-related or management system-related certifications:

- Quality management system compliant with the requirements of the standard ISO 9001:2015 (certificate n° LV008232 issued by Bureau Veritas Latvia SIA);
- Environmental management system in compliance with the requirements of the UNI EN ISO 14001:2015 standard (certificate n° LV008231 issued by Bureau Veritas Latvia SIA);
- Occupational Health and Safety Management System compliant with the requirements of the UNI ISO 45001:2018 standard (certificate n° LV008233 issued by Bureau Veritas Latvia SIA).

Name and location of production site:
Str. Starta 13• LV-1039 Riga – Latvia

PRODUCT INFORMATION

Product name:
Strips and sheets from carbon steel cold rolled coils.

Product identification:
Strips and sheets from carbon steel cold rolled coils.

Product description:
A wide range of cold rolled flat steel products are dedicated to mechanical applications, structural works, agriculture and farming.

From the company website it is possible to consult the product catalogs with the technical characteristics described in detail.

Electricity information:
The electricity used in the manufacturing process of module A3 accounts for less than 30% of the GWP-GHG results of modules A1-A3 and the impact of electricity use in the manufactory phases is 0.68 kg CO_2 Eq/kWh.

UN CPC CODE:
UN CPC 41231 Flat-rolled products of non-alloy steel, clad, plated, coated or otherwise further worked

Geographical scope:
Worldwide

LCA INFORMATION

Functional unit:
The functional unit of the system considered is 1 tonne of flat product.

Reference service life - RSL:
50 years.

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

Database(s) and LCA software used:

Ecoinvent database v.3.10 – March 2024, Software SimaPro rel. 9.6.0.1

Description of the system boundaries:
From Cradle to gate with modules C1-C4 and module D (A1 - A3 + C + D); Modules A1-A3 include material procurement processes (raw and auxiliary materials) as well as manufacturing processes.

Modules C1-C4 consider the uninstallation, transport, sorting and disposal of components deriving from the end-of-life operations. These operations are not directly controllable by the company: in this regard, literature data relating to the construction sector are therefore used. It is considered an average distance of 80 km to transport the material to the recovery center.

Module D considers the recovery and recycling potential of steel deriving from end-of-life processes: the calculation of the environmental benefits deriving from the recovery of steel is based on the indications provided by 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 ".

The structural use of flat steel products entails complicated processes of recovery and recycling; in this study it's assumed that the quantity of steel destined for recovery is equal to 89.1%, as indicated in the ISPRA "Special waste report" - n° 385/2023.

SCHEME OF THE MANUFACTURING PROCESS OF FLAT PRODUCTS

CARBON STEEL PRODUCTS MANUFACTURING PROCESS

BLACK COILS
COILS NERI

Pickling
Decapaggio

Cold rolling
Laminazione a freddo

Annealing
Ricottura

Skinpass
Skinpass

FULL HARD COILS
COILS FULL HARD

PICKLED COILS
COILS DECAPATI

Hot dip galvanizing
Zincatura

Pre-painting
Preverniciatura

BLACK COILS
COILS NERI

BLACK SHEETS
LAMIERE NERE

PICKLED COILS
COILS DECAPATI

PICKLED SHEETS
LAMIERE DECAPATE

PICKLED STRIPS
NASTRI DECAPATI

COLD ROLLED COILS
COILS LAMINATI A FREDDO

SHEETS FROM COLD ROLLED COILS
LAMIERE DA COILS LAMINATI A FREDDO

COLD ROLLED STRIPS
NASTRI LAMINATI A FREDDO

SKINPASSED STRIPS
NASTRI SKINPASSATI

HOT DIP GALVANIZED COILS
COILS ZINCATI

HOT DIP GALVANIZED SHEETS
LAMIERE ZINCATE

HOT DIP GALVANIZED STRIPS
NASTRI ZINCATI

PRE-PAINTED COILS
COILS PREVERNICIATI

PRE-PAINTED SHEETS
LAMIERE PREVERNICIATE

PRE-PAINTED STRIPS
NASTRI PREVERNICIATI

Tube forming and welding
Formatura e saldatura del tubo

Pointing
Appuntitura

Pickling
Decapaggio

Drawing
Trafilatura

Heat treatments
Trattamenti termici

Straightening and cutting
Raddrizzatura e taglio

Skiving/roller burnishing
Pelorullatura

COLD-DRAWN TUBES
TUBI TRAFILATI

Heat treatments
Trattamenti termici

Straightening and cutting
Raddrizzatura e taglio

Tube forming and welding
Formatura e saldatura del tubo

Heat treatments
Trattamenti termici

Straightening and cutting
Raddrizzatura e taglio

WELDED TUBES FROM HOT ROLLED PICKLED STRIP
TUBI SALDATI DA NASTRO LAMINATO A CALDO

Tube forming and welding
Formatura e saldatura del tubo

Polishing
Spazzolatura

WELDED TUBES FROM COLD ROLLED STRIP
TUBI SALDATI DA NASTRO LAMINATO A FREDDO

Tube forming and welding
Formatura e saldatura del tubo

Sizing and drawing
Calibratura e trafilatura

Heat treatments
Trattamenti termici

Galvanizing
Zincatura

Passivation
Passivazione

REFRIGERATION TUBES
TUBI REFRIGERAZIONE

Tube forming and welding
Formatura e saldatura del tubo

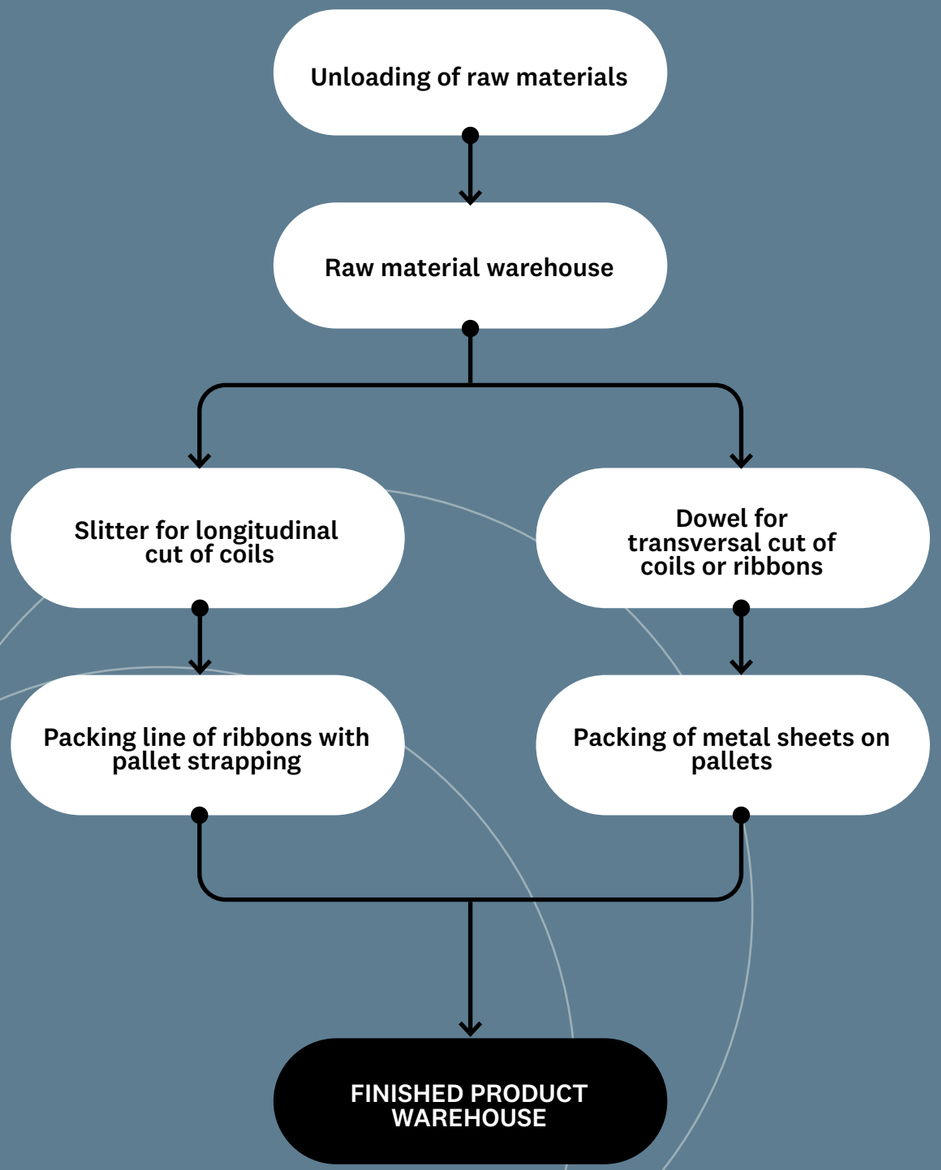
Straightening and cutting
Raddrizzatura e taglio

WELDED TUBES FROM GALVANIZED STRIP
TUBI SALDATI DA NASTRO ZINCATO A CALDO

CUSTOM

The wide range of additional processing and special grades satisfies the requirements of several industry sectors with value added, highly customized solutions.
La vasta gamma di lavorazioni e di qualità impiegate consente di soddisfare i requisiti dei più diversi settori produttivi con soluzioni ad alto grado di personalizzazione e valore aggiunto.

BLOCK DIAGRAM OF THE PRODUCTION PROCESS FOR HE PRODUCTION OF FLAT PRODUCTS



More information:

DESCRIPTION OF THE MAIN ACTIVITIES

The production cycle begins with the arrival at the company of carbon steel coils from different suppliers. The transport is intermodal: by road, sea and railway. Mostly, they arrived at the plant by road. The final products are strips and sheets.

The strips are made through the passage of the incoming raw material on shearing systems that cut the incoming coil longitudinally.

The main sections of the lines are listed below:

- Coil loading car
- Uncoiler
- Peeler Breaker
- Crop Shear
- Pinch Rolls
- Roller Leveler
- Slitter
- Scrap Winder
- Shear
- Drop Stacker
- Stack Table

The sheets are made through the passage of the incoming raw material on levelling systems that makes the steel sheets and cut to length the product.

The main sections of the lines are listed below:

- Bay to bay storage wagon
- Entry coil car
- Double decoiler with sliding base
- Entry frame with motorized pressure rolls
- Hydraulic coil opening table
- Straightener
- Brushing machine
- Hydraulic crop shear
- Leveller
- Mechanical centering device
- Electronic flying shear
- Movable exit belt conveyor
- Automatic anti-scratch stacker
- Hydraulic lifting platforms with chains
- Chains conveyors

Allocation rules
An allocation was made on a mass for energy consumption, atmospheric emissions and waste.

EPD of multiple products, based on a representative product:
The production from cold rolled coils is divided into:

Production 2023	Mass [%]
Cold rolled strips	26%
Cold rolled sheets	74%

Based on production volume, the representative product is cold rolled sheet. The environmental impact indicator results have a difference of less than 10% between strips and sheets.

Material	Carbon steel
Density	7’850 kg/m³
Thickness of strips	0.5 – 3.0 mm
Thickness of sheets	0.5 – 3.5 mm

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	LV	-	-	-	-	-	-	-	-	-	GLO	GLO	GLO	GLO	GLO
Specific data	50%			-	-	-	-	-	-	-	-	-	-	-	-	-	-
Variations-product	-3%*			-	-	-	-	-	-	-	-	-	-	-	-	-	-
Variaition-site	-			-	-	-	-	-	-	-	-	-	-	-	-	-	-

X = Module considered
ND = Module not declared
GLO = Global
LV = Latvia
*Variation of the GWP-GHG indicator for modules A1-A3. The range is reported for the cold rolled strips respect the representative product.

Content information

Product components	Weight, kg	Post-consumer material, weight-%	Biogenic material, weight-% and kg C/kg
Steel	1000	17.23%	0% - 0
TOTAL	**1000**	**17.23%**	**0% - 0**

Packaging materials	Weight, kg	Weight-% (versus the product)	Weight biogenic carbon, kg C/kg
Steel strap	0.368	0.04%	-
Paper	0.034	0.00%	0.015
Plastic strap	0.027	0.00%	-
Wood pallet	1.603	0.16%	0.801
Cardboard corner	0.039	0.00%	0.017
TOTAL	**2.071**	**0.21%**	**0.834**

Additional information

The raw material purchased by SIA Marcegaglia Baltics is characterized by a recycled content of 17,23%: this percentage is calculated as a weighted average of the same value associated with the incoming raw material. This data are from Type III environmental declarations, self-declarations compliant with the UNI EN ISO standard 14021 and, if not avaiable specif data, the global average recycled value. The incoming steel comes all from blast furnace.

The products do not contain hazardous substances from the SVHC Candidate List for Authorization in quantities greater than 0,1%.

Environmental information

The environmental performance indicators refer to 1 tonne of flat product.

RESULTS OF THE ENVIRONMENTAL PERFORMANCE INDICATORS

Results per functional or declared unit							
Indicator	**Unit**	**A1-A3**	**C1**	**C2**	**C3**	**C4**	**D**
GWP-fossil	kg CO_2 eq.	2.94E+03	9.33E+00	8.99E+00	9.33E+00	7.15E-01	-1.63E+03
GWP-biogenic	kg CO_2 eq.	0.00E+00	-7.94E-03	4.64E-03	-7.94E-03	3.64E-01	-1.43E+00
GWP-luluc	kg CO_2 eq.	1.29E+00	9.84E-04	3.08E-03	9.84E-04	3.68E-04	-7.90E-01
GWP-total	kg CO_2 eq.	2.94E+03	9.32E+00	9.00E+00	9.32E+00	1.08E+00	-1.64E+03
ODP	kg CFC 11 eq.	1.56E-05	1.46E-07	1.81E-07	1.46E-07	2.07E-08	-7.83E-06
AP	mol H+ eq.	1.20E+01	6.51E-02	2.90E-02	6.51E-02	5.06E-03	-6.85E+00
EP-freshwater	kg P eq.	1.03E+00	2.66E-03	6.11E-04	2.66E-03	5.93E-05	-6.68E-01
EP-marine	kg N eq.	2.56E+00	1.03E-02	9.86E-03	1.03E-02	1.93E-03	-1.55E+00
EP-terrestrial	mol N eq.	2.75E+01	1.08E-01	1.07E-01	1.08E-01	2.11E-02	-1.59E+01
POCP	kg NMVOC eq.	9.78E+00	3.59E-02	4.73E-02	3.59E-02	7.54E-03	-5.33E+00
ADP-minerals&metals*	kg Sb eq.	1.91E-02	1.19E-05	2.43E-05	1.19E-05	1.12E-06	-1.10E-02
ADP-fossil*	MJ	3.05E+04	1.38E+02	1.30E+02	1.38E+02	1.75E+01	-1.67E+04
WDP*	m^3	8.45E+02	1.23E+00	6.21E-01	1.23E+00	7.66E-01	-3.08E+02

Acronyms

GWP-fossil = Global Warming Potential fossil fuels;
GWP-biogenic = Global Warming Potential biogenic;
GWP-luluc = Global Warming Potential land use and land use change;
ODP = Depletion potential of the stratospheric ozone layer;
AP = Acidification potential, Accumulated Exceedance;
EP-freshwater = Eutrophication potential, fraction of nutrients reaching freshwater end compartment;
EP-marine = Eutrophication potential, fraction of nutrients reaching marine end compartment;
EP-terrestrial = Eutrophication potential, Accumulated Exceedance;
POCP = Formation potential of tropospheric ozone;
ADP-minerals&metals = Abiotic depletion potential for non-fossil resources;
ADP-fossil = Abiotic depletion for fossil resources potential;
WDP = Water (user) deprivation potential, deprivation-weighted water consumption

*Disclaimer: The results of this environmental impact indicator shall be used with care as the uncertainties of these results are high or as there is limited experience with the indicator.

ADDITIONAL MANDATORY AND VOLUNTARY IMPACT CATEGORY INDICATORS

Results per functional or declared unit							
Indicator	**Unit**	**A1-A3**	**C1**	**C2**	**C3**	**C4**	**D**
GWP-GHG [1]	kg CO_2 eq.	2.94E+03	9.33E+00	9.00E+00	9.33E+00	7.15E-01	-1.63E+03

Additional voluntary indicators e.g. the voluntary indicators from EN 15804 or the global indicators according to ISO 21930:2017

[1] This indicator accounts for all greenhouse gases except biogenic carbon dioxide uptake and emissions and biogenic carbon stored in the product. As such, the indicator is identical to GWP-total except that the CF for biogenic CO_2 is set to zero.

RESOURCE USE INDICATORS

Results per functional or declared unit							
Indicator	**Unit**	**A1-A3**	**C1**	**C2**	**C3**	**C4**	**D**
PERE	MJ	3.69E+03	8.57E+00	2.13E+00	8.57E+00	1.70E-01	-1.54E+03
PERM	MJ	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
PERT	MJ	3.69E+03	8.57E+00	2.13E+00	8.57E+00	1.70E-01	-1.54E+03
PENRE	MJ	2.66E+04	6.84E+01	2.12E+02	6.84E+01	8.02E+01	-1.59E+04
PENRM	MJ	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
PENRT	MJ	2.66E+04	6.84E+01	2.12E+02	6.84E+01	8.02E+01	-1.59E+04
SM	kg	2.21E+02	1.61E-02	5.32E-02	1.61E-02	4.30E-03	-2.83E+02
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^3	1.75E+01	3.40E-02	2.47E-02	3.40E-02	1.84E-02	-1.86E+01

Acronyms

PERE = Use of renewable primary energy excluding renewable primary energy resources used as raw materials;
PERM = Use of renewable primary energy resources used as raw materials;
PERT = Total use of renewable primary energy resources;
PENRE = Use of non-renewable primary energy excluding non-renewable primary energy resources used as raw materials;
PENRM = Use of non-renewable primary energy resources used as raw materials;
PENRT = Total use of non-renewable primary energy re-sources;
SM = Use of secondary material;
RSF = Use of renewable secondary fuels;
NRSF = Use of non-renewable secondary fuels;
FW = Use of net fresh water

WASTE PRODUCTION

Results per functional or declared unit							
Indicator	**Unit**	**A1-A3**	**C1**	**C2**	**C3**	**C4**	**D**
Hazardous waste disposed	kg	1.34E+02	1.32E-01	2.20E-01	1.32E-01	1.97E-02	-9.12E+01
Non-hazardous waste disposed	kg	4.68E+02	2.81E-01	4.05E-01	2.81E-01	4.57E-02	-3.35E+02
Radioactive waste disposed	kg	2.02E-01	2.63E-03	4.22E-04	2.63E-03	2.88E-05	-1.25E-01

OUTPUT FLOW INDICATORS

Results per functional or declared unit							
Indicator	**Unit**	**A1-A3**	**C1**	**C2**	**C3**	**C4**	**D**
Components for re-use	kg	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Material for recycling	kg	1.07E+01	2.28E-02	6.11E-02	2.28E-02	7.07E-03	-7.76E+02
Materials for energy recovery	kg	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Exported energy, electricity	MJ	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Exported energy, thermal	MJ	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00

Additional information

Regardless of the type of product considered, the element that most affects the final result is the ingoing steel, intended for the production of semi-finished products. The impacts of energy consumption within the company boundaries are marginal compared to the impact associated with the supply of raw materials.

SUSTAINABILITY

It should be noted that at the end of its useful life, the product is recycling. In particular, the amount of steel destined for recycling is 89.1% in line with the ” Special waste report “ of ISPRA – n° 385/2023.

MANAGEMENT SYSTEM

With reference to the management systems used by the company, it is emphasized that the presence of a quality management system (certified pursuant to EN ISO 9001: 2015) and Environmental management system (certified pursuant to UNI EN ISO 14001:2015) ensure that the products are completely traceable throughout the entire production chain, from the original material to chemical and mechanical properties, to guarantee absolute suitability for the specific applications in accordance with the relevant standards.

References

General Programme Instructions of the International EPD® System. Version 4.0;

PCR 2019:14 - Version 1.3.4 “CONSTRUCTION PRODUCTS”;

Product Category Rules for Type III environmental product declaration of construction products to EN 15804:2012;

Ecoinvent database v.3.10 – march 2024;

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 2023 Association of Issuing Bodies “European Residual Mixes Results of the calculation of Residual Mixes for the calendar year 2023”, version 1.0, 2024-05-30;

ISPRA “Rapporto rifiuti speciali” – n° 385/2023 - Edizione 2023.

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