MEGASA

Hot-rolled mesh-quality wire rod

from the electric arc furnace of SN Seixal plant

EN ISO 14025:2010 | EN 15804:2012+A2:2019/AC:2021 | UNE 36904-1:2018

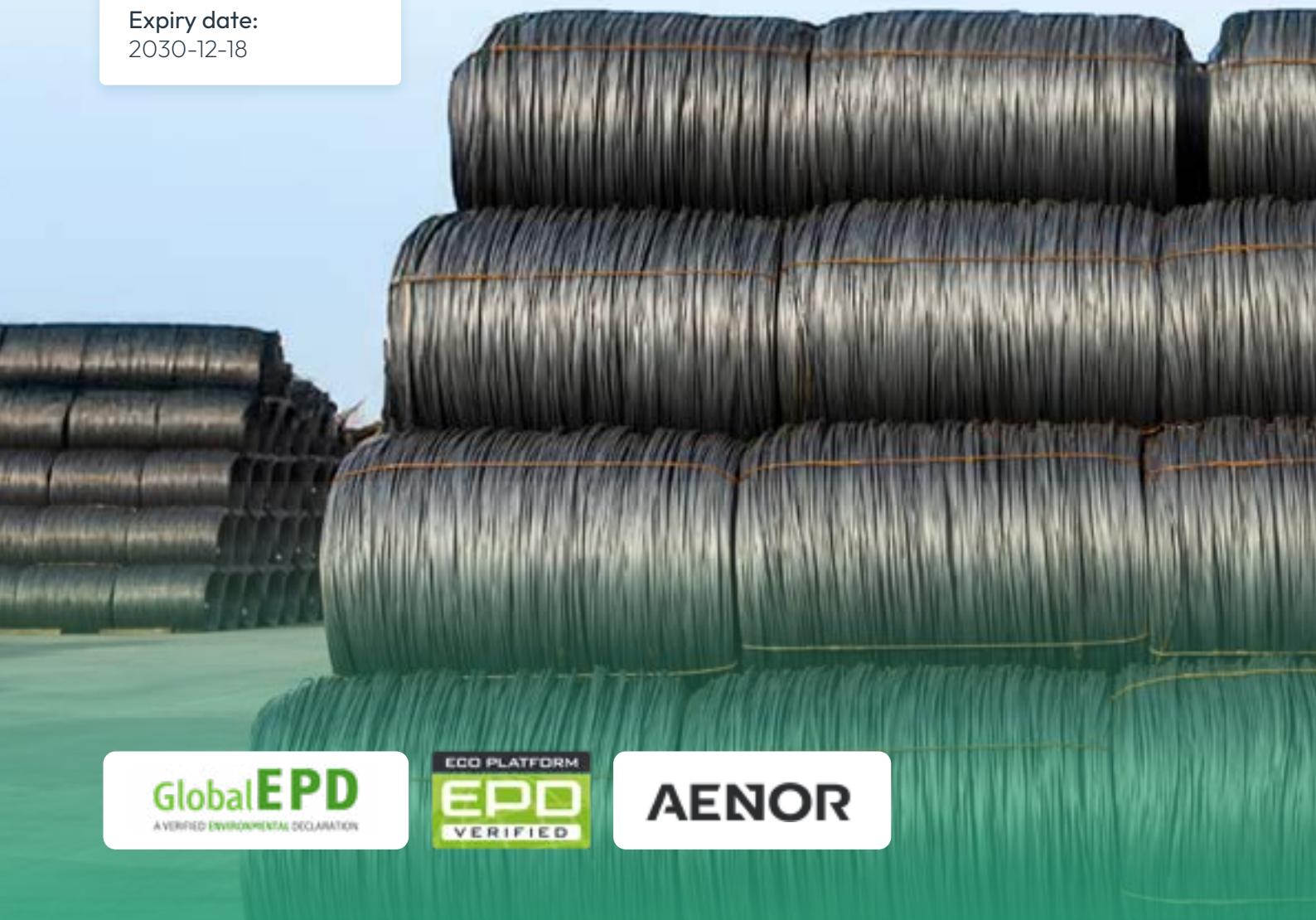
Issue date:
2025-12-19

Revision date:
2026-01-30

Expiry date:
2030-12-18

The declared validity is subject to registration and publication at www.aenor.com

Registration code:
GlobalEPD 001-033-rev1



GlobalEPD
A VERIFIED ENVIRONMENTAL DECLARATION

ECO PLATFORM
EPD
VERIFIED

AENOR

INDEX

The holder of this Declaration is responsible for its content, as well as for keeping the supporting documentation that justifies the data and statements included in it for the duration of its validity.

AENOR is a founding member of ECO Platform, the European Association of Environmental Product Declaration Verification Programmes.

Holder of the Declaration

SN Seixal Siderúrgica Nacional S.A.
Rua Independência Nacional 10, 2840-996
Aldeia de Paio Pires, Seixal, Portugal.

+351 21 227 8500
info@megasa.com
www.megasa.com

LCA study

Abaleo S.L.
D. José Luis Canga Cabañes.
c/ Poza de la Sal, 8; 3º A.
28031 Madrid, Spain.

(+34) 639 901 043
jlcanga@abaleo.es / info@abaleo.es
www.abaleo.es

GlobalEPD Programme Administrator

AENOR CONFÍA, S.A.U.
C/ Génova 6
28004 Madrid
Spain.

(+34) 902 102 201
aenordap@aenor.com
www.aenor.com

AENOR is a founding member of ECO Platform, the European Association of Environmental Product Declaration Verification Programmes.

UNE 36904-1:2018

European Standard EN 15804:2012+A2:2019/ AC:2021 serves as RCP

Independent verification of the declaration and data, in accordance with Standard EN ISO 14025:2010

☐ Internal ☑ External

Verification body:

AENOR

Product certification body accredited by ENAC with accreditation No. 1/C-PR468

1 GENERAL INFORMATION

1.1. The organisation

GRUPO MEGASA is a family-owned company specialising in the production and distribution of long steel products.
The group has more than a thousand employees, spread across its various production plants and distribution units in the Iberian Peninsula and France.

With an installed capacity of over three million tonnes, MEGASA uses electric arc furnaces to produce a wide range of long steel products: ribbed round bars, wire rod, electro-welded mesh, and commercial and structural profiles.

SN Seixal, located on the outskirts of Lisbon, specialises in the manufacture of low, medium and high carbon wire rod. Thanks to its flexibility, it can offer reinforcing bars and coils.

1.2. Scope of the Declaration

This environmental product declaration describes the environmental information relating to the cradle-to-gate life cycle with options, modules C1-C4 and module D (A1-A3 + A4 + C + D) of hot-rolled wire rod for wire fabric from an electric arc furnace manufactured by SN Seixal Siderúrgica Nacional S.A.

Seixal (Portugal)
Rua Independência Nacional 10, 2840-996
Aldeia de Paio Pires, Seixal (Portugal)

1.3. Life cycle and conformity

This EPD has been developed and verified in accordance with Standards UNE-EN ISO 14025:2010 and EN 15804:2012+A2:2019/AC:2021 and UNE 36904-1:2018.

Steel industry. Environmental product declarations. Product category rules. Steel products for structures. Part 1: Basic products.

Registration/version	UNE-EN 36904-1
Date of issue	2018
Administrator	AENOR

> The function performed by the product system studied is the production of steel for use as a structural element in the construction sector.

System boundaries. Information modules considered			
Product stage	A1	Supply of raw materials	X
	A2	Transport to factory	X
	A3	Manufacturing	X
Construction	A4	Transport to site	X
	A5	Installation/construction	ND
Stage of use	B1	Use	ND
	B2	Maintenance	ND
	B3	Repair	ND
	B4	Replacement	ND
	B5	Rehabilitation	ND
	B6	Energy use in service	ND
	B7	Water consumption during operation	ND
End of life	C1	Deconstruction/demolition	X
	C2	Transport	X
	C3	Waste treatment	X
	C4	Disposal	X
	D	Potential for reuse, recovery and/or recycling	X

***X** = Module included in the LCA; **ND** = Module not declared*

This EPD may not be comparable with those developed in other programmes or in accordance with different reference documents; specifically, it may not be comparable with declarations not developed and verified in accordance with Standard EN 15804.

Similarly, EPDs may not be comparable if the source of the data is different (e.g. databases), not all relevant information modules are included, or they are not based on the same scenarios.

The comparison of construction products must be made on the same function, applying the same declared unit and at the level of the building (or architectural or engineering work), i.e. including the behaviour of the product throughout its life cycle, as well as the specifications of section 6.7.2 of Standard EN ISO 14025.

1.4. Differences from previous versions of this EPD

Revision 1 of this EPD has been issued to change the format and to correct some errors in the text.

2 THE PRODUCT

2.1. Product identification

This EPD applies to mesh-quality wire rod produced in an electric arc furnace.

SN SEIXAL manufactures mesh-quality wire rod with diameters ranging from 5.5 mm to 27 mm. For its production process, the factory has equipment that allows it to carry out secondary metallurgy appropriate to each case, and continuous casting with different jet protection systems, depending on the type of material manufactured. Its rolling mill has in-line heat treatment and a cooling conveyor. The products manufactured vary depending on the intended end use, which defines the technical properties to be guaranteed, both in terms of chemical composition, mechanical characteristics, surface properties and microstructure.

The intended use of the product is as a structural element in the construction sector.

CPC code: 4124 - Bars and rods, hot-rolled, of iron or steel.

2.2. Product composition

The following average composition of the product studied is declared:

Material	% by weight
Post-consumer scrap	86.04
Pre-consumer scrap	13.96

During the product's life cycle, no hazardous substances listed in the "Candidate List of Substances of Very High Concern (SVHC) for authorisation" are used in a percentage greater than 0.1% of the product's weight.

2.3. Packaging

The primary packaging used to ship the product (distribution packaging) has been included in the study:

Material	kg/unit declared
Labels	9.88E-04
Wooden bars	3.00E-01
Binding wire rod	6.14E-01

Material	kg/unit declared
Metal hooks	2.79E-03
Tape	1.80E-02

2.4. Regulations applicable to the product

The chemical composition and other properties are established in the various applicable product standards:

Regulations – Wire rod for welded wire fabric	
UNE 36066	Non-alloy steel wire rod intended for the manufacture, by cold deformation, of plain or ribbed wire for reinforced concrete reinforcement.
ET IPQ 104	Non-alloy steel wire rod intended for the manufacture by cold deformation of plain or ribbedwires for reinforced concrete reinforcement.
BS 4482	Steel wire for the reinforcement of concrete products - Specification
ASTM A510/A510M	Standard Specification for general requirements for wire rods and coarse round wire, carbon steel, and alloy steel
UNE EN ISO 16120	Non-alloy steel wire rod for conversion to wire.

3 INFORMATION ON LCA

3.1. Life cycle analysis

The Life Cycle Assessment Report for the EPD of Megasa Group steel products, dated December 2025, was carried out by the company Abaleo S.L.

The LCA study follows the recommendations and requirements of international standards:

ISO 14040:2006 ISO 14044:2006

UNE 36904-1:2018 EN 15804:2012+A2:2019/AC:2021.

3.2. Scope of the study

The scope of this EPD is the production of cradle-to-door mesh-quality wire rod with options and modules C and D (A1-A3 + A4 + C + D) of the mesh-quality wire rod manufactured by SN Seixal.

The specific data on the production process comes from the Seixal plant where the product is manufactured and corresponds to production data for the year 2024, which is considered representative.

The product is manufactured in Portugal and distributed worldwide, although the LCA calculation has been carried out for Europe.The following have not been included in the LCA:

- All equipment with a useful life of more than 3 years.
- The construction of the plant buildings or other capital goods.
- Staff business travel nor staff commute to and from work.
- Research and development activities.
- Long-term emissions.

3.3. Declared unit

The declared unit is one tonne (1,000 kg) of product, plus its distribution packaging.

3.4. Allocation criteria

In accordance with the criteria of the reference standard, the allocation of inputs and outputs from the system has been applied on the basis of economic values, as the difference between the income from the product and the co-products is very high. This allocation criterion has been applied to the plant's general consumption (consumption of raw materials and energy), emissions, transport and waste.

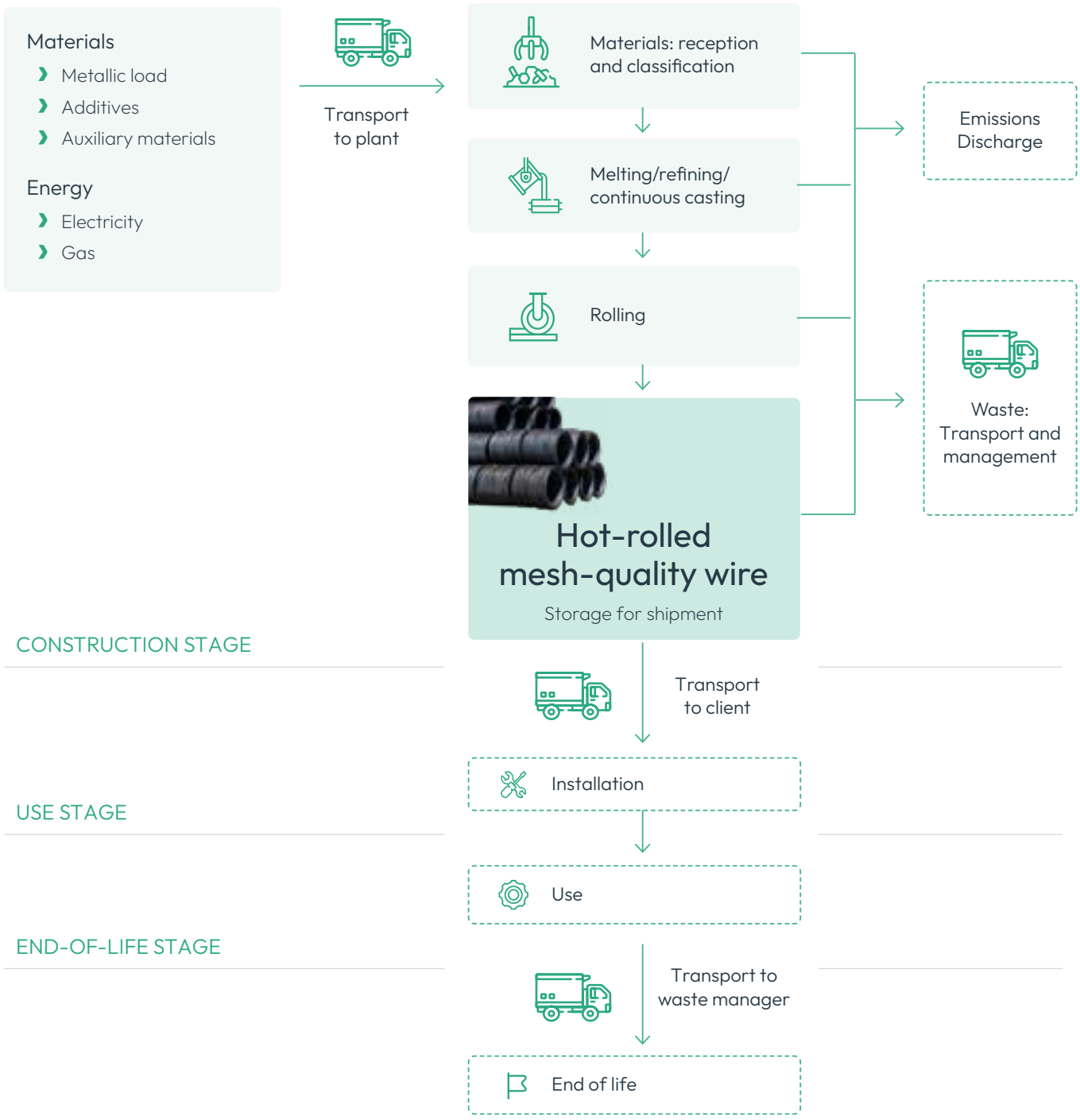
The quantities of the different materials used and produced in the manufacturing process come from measurements taken at the steel plant itself.

3.5. Cut-off rule

The LCA includes the gross weight/volume of all materials used in the manufacturing process, so that at least 99% of the environmental impacts are obtained.

No energy consumption has been excluded.

3.6. Manufacturing process diagram



The factory produces steel using the electric arc furnace route. The steelworks mainly melt scrap metal, adjusting the chemical composition to obtain the required steel specifications.
The resulting material is solidified into billets of different sections and lengths, which constitute the intermediate product used as raw material in the hot rolling process.

At this stage, the billets are reheated to the appropriate temperature and rolled through successive roller mills, where the section is progressively reduced and the material elongated until achieving the dimensions and characteristics of the final product. After cooling, the steel is ready for shipment or further processing.

3.7. Representativeness, quality and selection of data

To model the manufacturing process of the product under study, specific production data from the Seixal plant for the year 2024 a period with representative production data – has been used.

The plant is authorised as a ferrous metal waste treatment facility for recovery operations, using the scrap metal it receives directly as secondary raw material in the production process without any treatment prior to melting in the electric furnace; therefore, the scrap metal used as raw material is considered to be burden free, as is its transport to the steelworks, the impact of which corresponds to the previous product system.

Internal scrap metal consumption has not been considered in the calculation of the secondary material indicator used. Where necessary, the Ecoinvent 3.11 database (March 2025) has been used, which is the latest version available at the time of the LCA.

SimaPro 10.2.0.0 software – the most up-to-date version available at the time of the study – was used for the inventory data, to model the LCA and to calculate the environmental impact categories required by the reference standard.

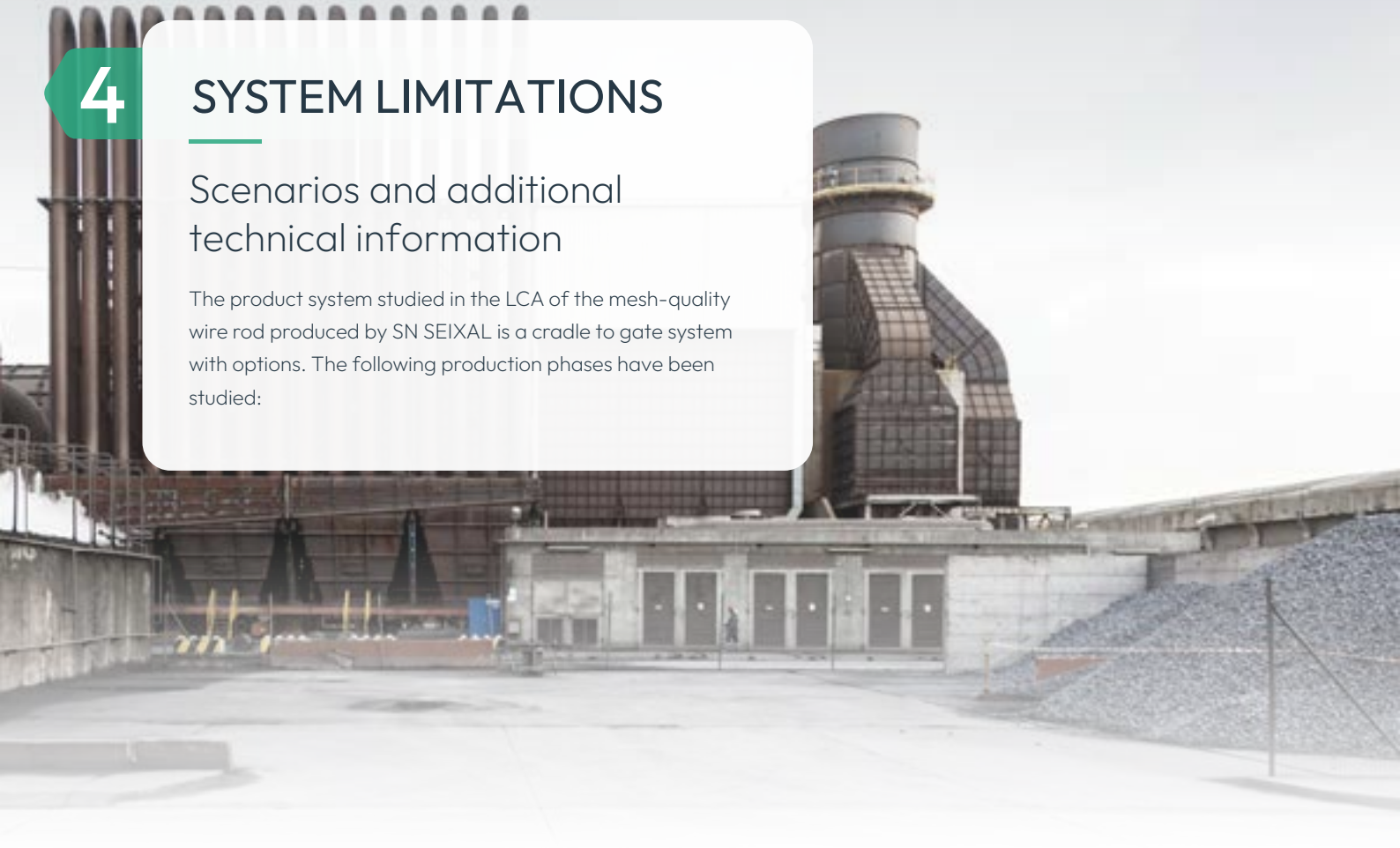
The semi-quantitative data quality assessment criteria proposed by the European Union in its Environmental Footprint Guidance for Products and Organisations were applied to assess the quality of the primary data used in the LCA. The following results were obtained:

- Technological representativeness (TeR) – 1.99
- Geographical representativeness (GeR) – 2.23
- Temporal representativeness (TiR) – 1.86
- Accuracy (A) – 1.00.

According to the above data, the Data Quality Rating (DQR) takes the following value 1.79, indicating that the data quality is very good.

To better understand the data quality assessment carried out, it should be noted that the rating for each criterion ranges from 1 to 5 (the lower the rating, the higher the quality) and that the following table is used to obtain the final rating:

Overall data quality rating (DQR)	Overall data quality level
≤ 1.6	Excellent quality
1.6 to 2.0	Very good quality
2.0 to 3.0	Good quality
3 to 4.0	Reasonable quality
> 4	Insufficient quality



4 SYSTEM LIMITATIONS

Scenarios and additional technical information

The product system studied in the LCA of the mesh-quality wire rod produced by SN SEIXAL is a cradle to gate system with options. The following production phases have been studied:

Module A1:
Raw material production

This module covers the raw material production process, which includes:

- The extraction of resources and production of raw materials.
- Transport to raw material treatment/production centres.
- Energy and fuel consumption during the production of raw materials.
- The consumption of other resources (such as water) during the production of raw materials.
- The generation of waste and emissions to air and discharges to water and soil during the production of raw materials.
- The generation of electricity used in the manufacturing process.

Module A2:
Transport

Transport by truck and ship of raw and auxiliary materials from the production sites (suppliers) to the steelworks has been considered. The transport distances have been provided by the plant managers, who are aware of the location of their suppliers' facilities.

Internal plant transport is also included.

Module A3:
Manufacturing

At this stage, consideration has been given to the consumption of auxiliary materials for production (auxiliary materials and general plant consumption); the production of packaging necessary for the distribution of the product to the customer; emissions to air and water; and the transport and treatment by waste managers of the waste generated during this stage of the life cycle.

The transport distances for waste have been provided by plant managers, who are aware of the location of their waste managers' facilities.

Module A4:
Transport to the place of use

Finished product transport from the plant where the steel is manufactured to the customer has been considered, using data from 2024, distinguishing the means of transport used: EURO 6 lorry (18-32 tonnes), average European freight train or container ship.

Parameter		Value (per declared unit)
Litres of diesel	EURO 5 Lorry (GVW: 15.9 ton)	0.044 l/tkm
	Ship	0.003 l/tkm
	Train	0.013 l/tkm
Average distance	EURO 5 Lorry (GVW: 15.9 ton)	301.29 km
	Ship	591.02 km
	Train	11.43 km
Occupancy rate (including empty return journeys)		50%
Apparent density of transported products		7,850 kg/m3
Useful capacity factor		1

Module C1:
Deconstruction/demolition

The LCA assumes that 100% of the processed steel product has been used as reinforcement in construction, i.e. integrated into other structures.

A generic process from the Ecoinvent 3.11 database has been used to represent the demolition process.

Module C2:
Transport to the waste treatment/ recovery site

It is considered that, at the end of its useful life, the product studied is transported to the waste management point by EURO 5 lorry (18-32 tonnes), average European freight train and container ship. The average transport of scrap metal received at the steel plant, authorised as a waste treatment facility for recovery operations (R4 – recycling or recovery of metals and metal compounds), has been considered.

Life Cycle Information UNE-EN 15804															Additional information
A1 to A3			A4 to A5		B1 to B7							C1 to C4				D
Product stage			Construction process stage		Use stage							End-of-life stage				Benefits and burdens beyond the system
A1	A2	A3	A4	A5	B1	B2	B3	B4	B5	B6	B7	C1	C2	C3	C4	D
X	X	X	X	MNE	MNE	MNE	MNE	MNE	MNE	MNE	MNE	X	X	X	X	X
Supply of raw materials	Transport	Manufacturing	Transport	Construction/installation process	Use	Maintenance	Repair	Replacement	Refurbishment	Energy use in service	Water consumption during operation	Deconstruction, demolition	Transport	Waste treatment	Waste disposal	Potential for reuse, recovery and recycling
			Scenario	Scenario	Scenario	Scenario	Scenario	Scenario	Scenario	Scenario	Scenario	Scenario	Scenario	Scenario	Scenario	

X: Module evaluated. / **MNE:** Module not declared.

Module C3 and C4:
Waste treatment, and Waste disposal

To determine the recycling and landfill/incineration percentages of the products studied, the criteria in Part C of Annex 2 V2.1 (May 2020) of the Circular Footprint Formula of the European Union's Environmental Footprint methodology are applied (COMMISSION RECOMMENDATION (EU) 2021/2279 of 15 December 2021 on the use of environmental footprint methods to measure and communicate the environmental performance of products and organisations throughout their life cycle).

Parámetro	Valor (por ud. declarada)	
Demolition	0.626 MJ	
Recovery system, specified by type	0 kg - reuse	
	950 kg - recycling.	
Disposal, specified by type	27.5 kg - final disposal (landfill)	
	22.5 kg - incineration	
Assumptions for scenario development	Waste transport to the waste managers	Lorry: 154.94 km
		Ship: 890.75 km
		Train: 37.54 km

Module D:
Benefits and burdens beyond the system

This module declares the benefits and burdens resulting from the net flow of fuels or secondary materials leaving the product system, excluding flows classified as co-products.

It is assumed that metals reach their final waste state after a sorting and shredding process. The treatment, as well as the net benefits and burdens of reuse or recycling potentials (only for the net amount of scrap), are grouped in this module.

The potential environmental benefits are presented for the net steel scrap produced at the end of the product's life, calculated as follows: Net scrap = Amount of steel recycled at the end of life – Scrap from previous product life cycles. A reduction coefficient of 10% is applied for material loss in avoided product recovery.

5 DECLARATION OF LCA AND LCI ENVIRONMENTAL PARAMETERS

The results of the end-of-life stages (modules C1-C4) must be considered when using the results of the product stage (modules A1-A3). The estimated impact results are relative and do not indicate the final value of the impact categories, nor do they refer to threshold values, safety margins or risks. The EN 15804 characterisation factors are based on EF 3.1.

Mandatory impact category indicators according to EN 15804							
Parameter	**A1-A3**	**A4**	**C1**	**C2**	**C3**	**C4**	**D**
GWP-total	3.28E+02	5.13E+01	5.92E+01	3.30E+01	4.81E+00	2.66E-01	1.33E+00
GWP-fossil	3.24E+02	5.13E+01	5.92E+01	3.30E+01	4.79E+00	2.66E-01	9.77E-01
GWP-biogenic	6.07E-01	1.82E-03	2.97E-03	2.53E-03	7.47E-03	3.19E-04	3.51E-01
GWP-luluc	2.99E+00	9.16E-04	2.44E-03	2.41E-03	9.66E-03	8.49E-06	3.80E-04
ODP	9.64E-06	1.12E-06	9.02E-07	6.73E-07	7.29E-08	5.37E-09	1.04E-08
AP	8.73E-01	2.37E-01	5.47E-01	3.30E-01	3.02E-02	1.96E-03	3.01E-03
EP-freshwater	4.57E-03	3.27E-05	5.58E-05	7.90E-05	3.18E-04	9.00E-07	1.90E-05
EP-marine	2.06E-01	5.91E-02	2.58E-01	9.03E-02	9.07E-03	9.04E-04	2.28E-03
EP-terrestrial	1.88E+00	6.54E-01	2.83E+00	1.00E+00	9.99E-02	9.92E-03	1.26E-02
POFP	9.71E-01	2.48E-01	8.44E-01	3.01E-01	3.03E-02	3.03E-03	3.98E-03
ADP-minerals&-metals [2]	1.98E-04	1.24E-06	2.08E-06	7.31E-07	2.67E-07	8.82E-09	2.21E-08
ADP-fossil [2]	5.65E+03	6.76E+02	7.75E+02	4.36E+02	9.64E+01	3.52E+00	8.04E+00
WDP [2]	2.06E+02	2.17E-01	5.78E-01	2.60E-01	6.94E-01	4.31E-03	2.34E-02

- **GWP-total (kg CO_2 eq):** Global warming potential.
- **GWP-fossil (kg CO_2 eq):** Global warming potential of fossil fuels.
- **GWP - biogenic (kg CO_2 eq):** Biogenic global warming potential.
- **GWP - luluc (kg CO_2 eq):** Global warming potential of land use and land use change.
- **EP-marine (kg N eq):** Eutrophication potential, fraction of nutrients reaching the final marine water compartment.
- **EP-terrestrial (mol N eq):** Eutrophication potential, cumulative surplus.
- **POFP (kg NMVOC eq):** Tropospheric ozone formation potential.
- **ODP (kg CFC-11 eq):** Ozone depletion potential.
- **AP (mol H+ eq):** Acidification potential, cumulative surplus.
- **EP-freshwater (kg P eq):** Eutrophication potential, fraction of nutrients reaching the final freshwater compartment.
- **ADP-minerals&metals (kg Sb eq):** Abiotic depletion potential for non-fossil resources.
- **APD-fossil (MJ, v.c.n):** Abiotic depletion potential for fossil resources.
- **WDP (m^3):** Water deprivation potential (user), weighted water deprivation consumption.

Additional mandatory and voluntary impact category indicators							
Parameter	**A1-A3**	**A4**	**C1**	**C2**	**C3**	**C4**	**D**
GWP-GHG*	3.28E+02	5.13E+01	5.92E+01	3.30E+01	4.81E+00	2.66E-01	1.33E+00
PM	3.07E-05	2.90E-06	1.58E-05	1.81E-06	4.66E-07	7.28E-08	5.19E-08
IRP [1]	2.95E+01	6.35E-02	6.44E-02	1.60E-01	6.73E-01	3.74E-04	2.63E-02
ETP-fw [2]	3.93E+02	2.48E+01	2.22E+01	1.83E+01	6.68E+00	5.16E+00	6.72E+00
HTP-c [2]	2.73E-07	3.63E-09	3.16E-09	2.91E-09	4.26E-10	3.65E-10	4.04E-10
HTP-nc [2]	5.27E-06	3.13E-07	5.82E-08	1.78E-07	1.80E-08	1.48E-09	9.89E-09
SQP [2]	1.36E+02	8.61E-01	1.32E+00	2.10E+00	8.65E+00	3.42E+00	7.71E-01

- **GWP-GHG.** Global warming potential excluding biogenic carbon.
- **PM (disease incidence).** Potential for disease incidence due to particulate matter emissions.
- **IRP (kBq U235 eq).** Human exposure efficiency relative to U235.
- **ETP-fw (CTUe).** Comparative toxic unit potential for ecosystems - freshwater.
- **HTP-c (CTUh).** Comparative toxic unit potential for ecosystems - carcinogenic effects.
- **HTP-nc (CTUh).** Comparative toxic unit potential for ecosystems - non-carcinogenic effects.
- **SQP (Pt).** Soil quality potential index.

Note 1. This impact category deals mainly with the potential impacts of low doses of ionising radiation on human health from the nuclear fuel cycle. It does not consider the effects of possible nuclear accidents or occupational exposure due to the disposal of radioactive waste in underground facilities. The ionising radiation potential of soil due to radon or certain building materials is also not measured in this parameter.

Note 2. The results of this environmental impact indicator should be used with caution as the uncertainties in the results are high and experience with this parameter is limited.

*This indicator accounts for all greenhouse gases except the absorption and emissions of biogenic carbon dioxide and biogenic carbon stored in the product. Therefore, the indicator is identical to the total GWP, except that the conversion factor for biogenic CO_2 is set to zero.

Indicators for resource use							
Parameter	**A1-A3**	**A4**	**C1**	**C2**	**C3**	**C4**	**D**
PERE	1.33E+03	1.62E+00	1.66E+00	3.95E+00	1.65E+01	1.18E-02	6.46E-01
PERM	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
PERT	1.33E+03	1.62E+00	1.66E+00	3.95E+00	1.65E+01	1.18E-02	6.46E-01
PENRE	5.65E+03	6.76E+02	7.75E+02	4.36E+02	9.69E+01	3.54E+00	8.04E+00
PENRM	5.13E-01	0.00E+00	0.00E+00	0.00E+00	-4.87E-01	-2.56E-02	0.00E+00
PENRT	5.65E+03	6.76E+02	7.75E+02	4.36E+02	9.64E+01	3.52E+00	8.04E+00
SM	8.91E+02	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
RSF	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
NRSF	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
FW	4.25E+00	1.30E-02	2.35E-02	1.62E-02	4.54E-02	1.67E-04	1.68E-03

- PERE (MJ, v.c.n.). Use of renewable primary energy excluding renewable primary energy resources used as raw materials.
- PERM (MJ, v.c.n.). Use of renewable primary energy used as raw materials.
- PERT (MJ, v.c.n.). Total use of renewable primary energy.
- PENRE (MJ, v.c.n.). Use of non-renewable primary energy, excluding non-renewable primary energy resources used as raw materials.
- PENRM (MJ, v.c.n.). Use of non-renewable primary energy used as raw materials.
- PENRT (MJ, v.c.n.). Total use of non-renewable primary energy;.
- SM (kg). Use of secondary materials.
- RSF (MJ, v.c.n.). Use of renewable secondary fuels
- NRSF (MJ, v.c.n.). Use of non-renewable secondary fuels.
- FW (m3). Net use of fresh water resources.

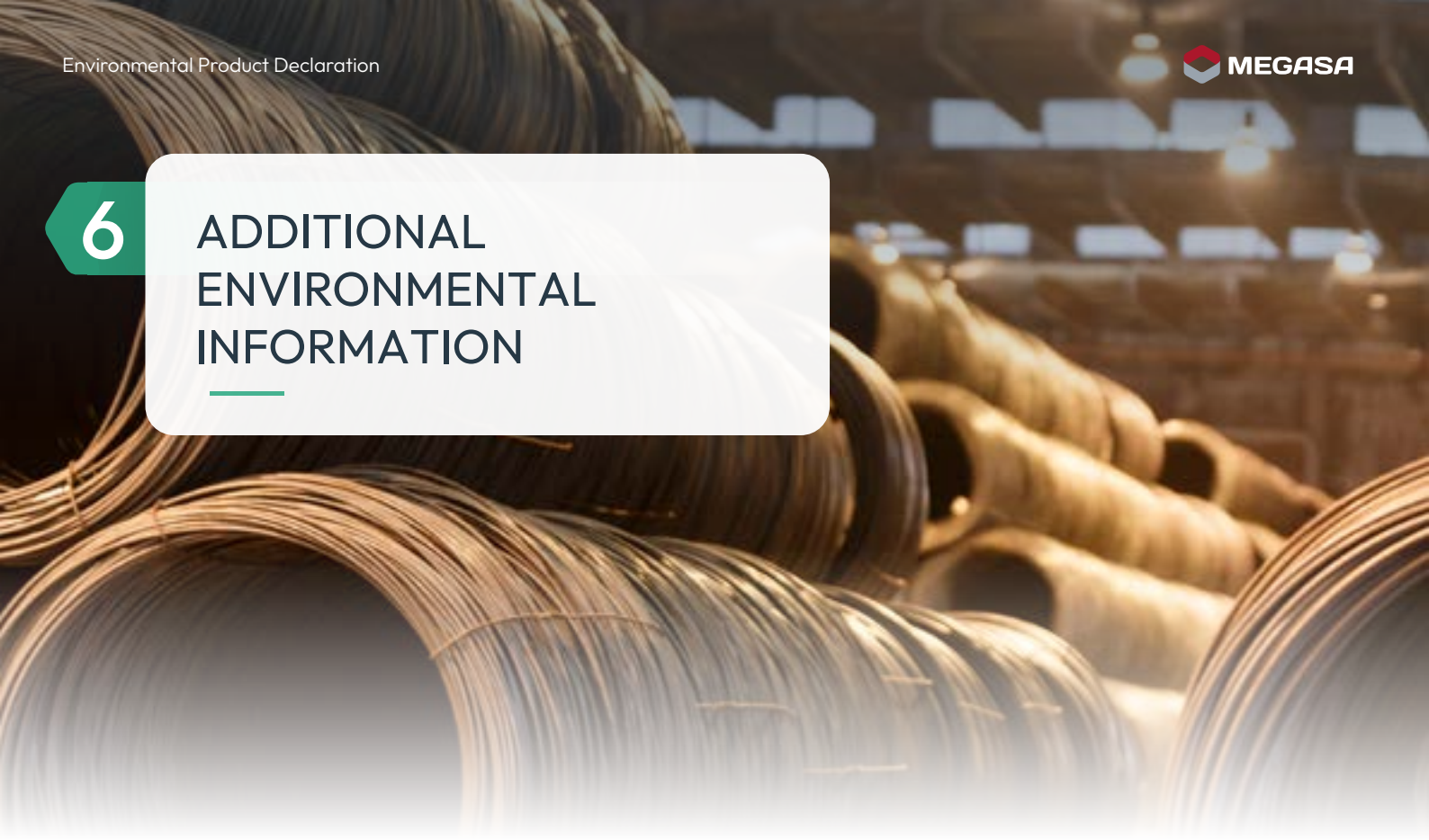
> The balance of biogenic CO_2 and the energy used as raw material for packaging has been calculated in modules A1-A3.

Waste categories							
Parameter	**A1-A3**	**A4**	**C1**	**C2**	**C3**	**C4**	**D**
HWD	2.25E-02	4.38E-03	5.32E-03	2.65E-03	2.88E-04	2.30E-05	4.07E-05
NHWD	1.52E+01	2.17E-02	2.77E-02	2.14E-02	4.95E-02	4.23E+01	7.43E-01
RWD	1.50E-02	3.95E-05	3.61E-05	1.23E-04	5.53E-04	2.34E-07	2.15E-05

- HWD (kg). Hazardous waste disposed of.
- NHWD (kg). Non-hazardous waste disposed of.
- RWD (kg). Radioactive waste disposed of.

Output flows							
Parameter	**A1-A3**	**A4**	**C1**	**C2**	**C3**	**C4**	**D**
CRU	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
MFR	6.81E-01	0.00E+00	0.00E+00	0.00E+00	9.50E+02	0.00E+00	0.00E+00
MER	1.02E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	2.25E+00	0.00E+00
EEE	1.30E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
EET	1.75E+01	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00

- CRU (kg). Components for reuse.
- MFR (kg). Materials for recycling.
- MER (kg). Materials for energy recovery.
- EEE (MJ). Electrical energy exported.
- EET (MJ). Thermal energy exported.



6 ADDITIONAL ENVIRONMENTAL INFORMATION

6.1. Other indicators

The manufacture of the wire rod for welded wire fabric studied generates the following co-products for sale to third parties:

Parameter	Kg (per declared unit)
Flakes/Mill scale	2.09E+01
Scrap soil	1.48E+01
Black slag	1.78E+02

6.2. Indoor air emissions

The manufacturer declares that the steel studied does not generate emissions to indoor air during its useful life.

6.3. Emissions to soil and water

The manufacturer declares that the steel studied does not generate significant emissions to soil or water during its useful life.

6.4. Biogenic carbon content

The manufacturer declares that the products studied do not contain materials with biological content.

The packaging containing biogenic carbon used for the distribution of the products is shown in the following table:

Parameter	kg biogenic carbon (per declared unit)
Product	0
Packaging	1.32E-01

6.5. Electricity mix used

The base energy mix of the Portuguese mainland system for 2024 has been used.

Mix - GWP - gCO2 eq/kWh	
Average Mix	137.94

REFERENCES

1

UNE 36904-1:2018. Steel industry. Environmental product declarations. Product category rules. Steel products for structures. Part 1: Basic products.

2

EN 15804:2012+A2:2019/AC:2021. Sustainability in construction. Environmental product declarations. Basic product category rules for construction products.

3

General Instructions for the GlobalEPD Programme, 3rd revision. AENOR. October 2023.

4

EN ISO 14025:2010 Environmental labels. Type III environmental claims. Principles and procedures (ISO 14025:2006).

5

EN ISO 14040:2006/A1:2021. Environmental management. Life cycle assessment. Principles and framework. Amendment 1. (ISO 14040:2006/Amd 1:2020).

6

EN ISO 14044:2006/A1:2021. Environmental management. Life cycle assessment. Requirements and guidelines. Amendment 2. (ISO 14044:2006/Amd 2:2020).

7

Life Cycle Assessment Report for Environmental Product Declarations for Megasa Group steel products, prepared by Abaleo S.L., December 2025. Version 2.

8

Environmental impact assessment databases and methodologies applied using SimaPro 10.2.0.0.

MEGASA

A verified environmental declaration