GlobalEPD

A VERIFIED ENVIRONMENTAL DECLARATION

AENOR

Wrapped flatwire family of copper products

Environmental Product Declaration

EN ISO 14025:2010

EN 15804:2012+A2:2019

EN 15804:2012+A2:2019/AC:2021

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VICENTE TORNS

Vicente Torns S.A.U

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 during the period of validity.

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

The European Standard EN 15804:2012+A2:2019 serves as the basis for PCR
Independent verification of the declaration and data in accordance with 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

Vicente Torns is a familiar group with international impact which is dedicated to investigation, development, manufacturing and commercialization of copper and aluminum products for different sectors. (Energy, automotive, construction, infrastructures…).

The company was founded in 1924 and has its headquarters in Rubi (Barcelona, Spain). The group is present in different countries with production plants and distribution warehouses. The wide experience within the sector and the constant development of new technologies within its production processes enable the company to offer efficient solutions to its customers' needs.

With more than 100 years of experience, Vicente Torns has established itself as a strategic partner for customers seeking quality, reliability, and responsiveness in a global environment.

Over the past decades, the group has developed an ambitious growth plan that has enabled it to expand its production capacity, diversify its portfolio, and strengthen its international presence. Among the most notable milestones are:

- 2007: Opening of the plant in Slovakia, reinforcing coverage in Europe and Eastern countries.
- 2017: Integration of TORNS SOFILEC (France), incorporating advanced technologies in special cables.
- 2021: Acquisition of DELLE FIL SAS, consolidating European leadership in electrical conductors and boosting entry into sectors such as renewable energy and electric mobility.
- 2022: Incorporation of APAREL, expanding the product range and offering comprehensive solutions for the low-voltage electrical sector.

1.2. Scope of the declaration

This Environmental Product Declaration (EPD) describes the environmental information related to the cradle-to-gate life cycle, with modules C1–C4 and module D (A1–A3 + C + D) scope, covering the stages of raw material extraction and processing, transportation to the manufacturing plant, the flatwire manufacturing process, and the end-of-life stage of the wrapped flatwire.

The product under assessment is wrapped flatwire family of copper products manufactured by Vicente Torns. The main function of the product is energy transmission.

Based on the production data for 2024 and the composition of each of the products included in the study, the weighted average composition of the Vicente Torns study family has been identified. Thus, the final product is not an actual product existing in the market but a representation of the average product.

1.3. Life cycle and compliance.

Product Category Rules Information	
PCR	Construction products
Registration code and version	PCR 2019:14 Construction products, version 1.3.4
Publication date	30-04-2024
Compliance	EN 15804:2012 + A2:2019
Programme Operator	AENOR

System boundaries.

Information modules considered

Product Stage	A1	Raw material extraction	X
	A2	Transport to factory	X
	A3	Manufacture	X
Construction	A4	Transport to construction site	ND
	A5	Installation/Construction	ND
Use stage	B1	Use	ND
	B2	Maintenance	ND
	B3	Repair	ND
	B4	Replacement	ND
	B5	Refurbishment	ND
	B6	Use of energy in service	ND
	B7	Use of water in service	ND
End of life stage	C1	Deconstruction/demolition	X
	C2	Transport	X
	C3	Waste treatment	X
	C4	Disposal	X
Benefits & Load	D	Potential for reuse, recovery and/or recycling	X

X = Module included in the LCA; NR = Module not relevant; ND = Module not assessed/declared

This Environmental declaration includes the following stages of the life cycle:

This EPD may not be comparable with those developed in other Programmes or according to different reference documents, in particular it may not be comparable with EPDs not developed according to UNE-EN 15804+A2.

Similarly, this EPD may not be comparable if the origin 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 should be done on the same function, applying the same functional 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 the UNE-EN ISO 14025 standard

2. The Product

2.1. Identification of the product

The object of this study is the copper wire wrapped with layers of Nomex or Kraft paper or Thermo HD paper or Crepe paper or Crepe paper with Thermal Upgrading, manufactured by Vicente Torns, for power transmission applications, among others.

- Dimensions for copper wire: between 5 mm² to 200 mm² according the IEC 60317.
- Surface: completely blank and fat-free, without any surface defects (no scratches, flakes, etc..)

Based on the production data for 2024 and the composition of each of the products included in the study, the weighted average composition of the Vicente Torns study family has been identified. Thus, the final product is not an actual product existing in the market but a representation of the average product.

2.2. Product Features

The manufacturer declares the following information on the technical specifications of the product:

Product Features

Feature Name	*Calculation method*	*Value*	*Unit*
Dimension	IEC 60317	5 - 200	mm2

Vicente Torns produces a wide range of insulated flat wires of copper for its application in:

- Generators
- Motors
- Transformers
- Welding machines

2.3. Product Composition

The average product of the cable family has been calculated, since all cables follow the same production processes and has the same raw materials. In this way, the average product represents the sum of the percentage of the total production of Vicente Torns brand corresponding to each product in the family, multiplied by the quantity of the parameter of each product. The components of the average cable product are:

Product Composition

Component	*Content*	*Unit*
Conductor	9.40E-01	Kg
Insulation	5.98E-02	Kg

Conductor

- Copper: type ETP1 / OF1
- Chemical Composition: 99,9% minimum
- Tensile Strength: 200-250 MPa
- Elongation: > 38%
- Bending Angle: ≤ 3,5º
- Resistivity at 20ºC: ≤ 0,017241 Ω.mm2/m

Insulation

- Isolation can be overlapped, butt-lapped or interlocked
- Insulation increase: it depends on the customer order.
- The isolation will be put with big tension to avoid air inside the isolation.
- Temperature index for insulation type:

Kraft Thermo HD	Microcreped Upgraded (+Epoxy)	Polyester	Mica (+Epoxy)	Aramid (+Epoxy)	Polyamide
105ºC 120ºC	105ºC 120ºC	155ºC	155ºC	180ºC	220ºC

The manufacturer declares that none of the components of the final product are included in the "Candidate ready of substances of very high concern for authorization" (SVHC) of the REACH Regulation.

3. Information regarding the LCA

3.1. Life Cycle Assesment

The goal of this Environmental Product Declaration is analyzing the potential environmental impacts of the wrapped flatwire family of copper products manufactured by Vicente Torns at their production plant, based in Rubi (Barcelona, Spain).

To carry out the LCA, the following Product Category Rule has been followed: “PCR 2019:14 Construction products, version 1.3.4”, published the 30-04-2024, valid until 20-06-2025, based on the European standard UNE-EN 15804:2012+A2:2019/AC:2021. To carry out the LCA study, 2024 has been taken as the reference year, and Vicente Torns has provided the data.

Information of this EPD is based on the report “Life Cycle Assessment of the copper products WRAPPED FLATWIRE produced by Vicente Torns Enterprises, S.A.U”. The LCA study, as well as the present EPD, has been performed by Anthesis Group in 2025, using SimaPro software v10.2.0.0 and Ecoinvent database version 3.11.

The characterisation factors used are those set out in standard EN 15804:2012+A2:2019/AC:2021, in accordance with the Environmental Footprint (E.F. 3.1) method.

3.2. Declared Unit

The declared unit used is:
1 kg of wrapped flatwire

3.3. Reference Service Life (RSL)

Not applicable to the products included in the DAP.

3.4. Allocation rules

An allocation of mass loads per kg of product produced during the study year, 2024, has been performed for the calculation of the following impacts:

- Resources used in the manufacturing process.
- Packaging used and waste generated during the manufacturing process.

3.5. Cutt of rule and exclusions

In accordance with the provisions of the PCR 2019:14 construction products, version 2.0.1 and the standard UNE-EN 15804:2012+A2:2020, 100% of total inflows (raw materials and energy) and outflows (including wastes) per module have been considered.

All infrastructure and capital goods are excluded for all upstream, main and downstream processes. In addition, the following processes have not been included in the scope of the study:

- Manufacture of equipment used in the production of faucets, buildings or any other capital good.
- Business travel;
- Plant maintenance activities;
- Transport of personnel to and within the plant;
- Diffuse emissions of particulate matter during the transport and storage of raw materials;
- Long-term issuances.

3.6. Representativeness, quality and selection of data

For the development of this study, the data quality requirements established by the EN 15804 standard have been considered. All processes relevant to the different products and representing the specific situation of each product have been used.

The selected datasets were representative of the Spanish or European reality to the possible extent.

Primary inventory data has been provided by Vicente Torns, corresponding to year 2024. Vicente Torns has given data related to the raw material consumption and suppliers of each material, manufacturing process of the cable (all the resources needed and waste generated), packaging and distribution of the cables.

Secondary data was sourced from the Ecoinvent database version 3.11, included in the internationally recognized SimaPro v10.2.0.0 software. The selected datasets were representative of the Spanish or European reality to the possible extent. This data has been used for the production and transport of raw materials as well as for electricity generation and waste management processes over which the manufacturer has no direct influence.

To ensure consistency, data at the same level of detail and developed under the same methodological considerations have been used. The methods and data used have been described in such a way that they can be reproduced by an independent professional.

The requirements for coverage and representativeness are the following, in accordance with Table E.1 of Annex.

- Temporal: The life cycle analysis has been based on actual data from 2024 collected by Vicente Torns.
- Geographic: Data representative of either Spain or Europe has been used to the possible extent.
- Technological: The Ecoinvent v3.11 datasets used have been selected considering the average technologies available for the sector.

3.7. Other calculation rules and hypotheses

All specific data used in this study corresponds to 2024.

The model of calculation is made with SimaPro software and using the Ecoinvent 3.11 database method Cut-Off.

For the cable family included in this report, composed of different references, the study has been carried out for its resulting average product. The family is composed of different references, which have been weighted by production, resulting in the average product for which the results obtained are shown.

The copper used to manufacture the cables include recycled content. An average of 6.8% of recycled content has been considered.

Auxiliar materials used during the production process have been considered.

Vicente Torns has an installation of photovoltaic panels, which during 2024 was responsible for 28% of electricity consumption. From the total energy consumption of Vicente Torns site, 72% is provided by the electricity supplier and 28% is auto-produced by its solar panels.

For the modelling of the energy consumption related to the cable manufacturing process provided by the electricity supplier, the Ecoinvent energy mix process has been modified to the energy mix of Vicente Torns supplier.

The source of electricity from the suppliers mix is shown below:

Origin	Endesa mix
Renewable	7.50%
High Efficiency Cogeneration	1.80%
C.C. Natural Gas	31.00%
Coal	9.20%
Fuel/Gas	2.30%
Nuclear	38.40%
Other	9.80%

The GWP of the electricity mix is 0,328 kg CO2e/kWh.

For the auto-produced electricity by Vicente Torns solar panels an Ecoinvent process has been selected. The GWP of the electrictiy from solar panels is 1,92E-6 kg CO2e/kWh.

It has been assumed that all truck transports for module A2 and A3 comply with EURO VI emission standards, as they are carried out within European territory (EcoTransIT, 2021).

At the end-of-life stage, it is assumed that 100% of cable waste is collected and transported for final treatment, with an estimated average transport distance of 100 km.

To define the end-of-life scenario, it has been assumed that 95% of the copper is recycled, based on sector-specific recyclability rates recommended by the European Commission within the Environmental Footprint framework. The remaining materials are treated as waste and disposed of in landfill.

4. System boundaries, scenarios and additional technical information

This LCA report considers the cradle to gate with modules C1-C4 and module D (A1–A3 + C + D) scope, covering the stages of extraction and processing of raw materials, their transportation to the production plant, the cable manufacturing process and the end of life of the flatwire.

The life cycle stages considered in the assessment are described below.

4.1. Processes that precede manufacturing (upstream).

Raw materials (A1)
Considers raw material extraction and processing, as well as the production of the electricity and fuels used for the assembly of the products. The datasets representing this stage take into account the transformation operations of materials, energy, waste treatments and emissions derived from these procedures, which are included in the SimaPro processes.

Manufacturing processes for the transformation of raw materials have been included in Module A1.

The copper used to manufacture the cables include recycled content. An average of 6.8% of recycled content has been considered.

To model the recycled content in SimaPro, the following process has been selected to include the sorting of the metal needed and the process to transform it into scrap.

Raw materials transport (A2)
Transportation of all raw materials covered by module A1, from the extraction, production and processing site to the factory gate, considering the specific distances of each material supplier's location to Vicente Torns production plant.

For this module all transports to and from the different production sites have considered the following truck: 16-32 tonnes and EURO 6 emissions. It has been assumed that all truck transports for module A2 comply with EURO 6 emission standards, as they are carried out within European territory (EcoTransIT, 2021).

4.2. Product Manufacturing (A3)

This module considers the impacts associated with the manufacturing of the final product and its packaging. This includes the production and transport to plant of downstream packaging materials the in-plant consumption of fuels (specifically, nitrogen and natural gas), renewable electricity and process water, and the transport and processing of production plant waste up to the end-of-waste state (i.e., when the waste flow is no longer considered a waste material but a raw material for a subsequent cycle) or disposal.

The general manufacturing process includes the drawing of copper for conductor and screen, the extrusion of polymers and their cross-linking for insulation and sheathing, and the packaging process for distribution.

Regarding the transport of packaging, specific distances per supplier and material have been used.

A treatment has been assigned to each waste generated in the production plant based on the management pathways provided by Vicente Torns. For the distribution of each type of treatment, based on the type of waste, official sources have been consulted.

For the transport of waste from the production plant (Rubí, Spain), specific distances have been assigned based on the province of location of each manager, depending on its type. This information has been provided by Vicente Torns. Regarding the type of transport, the scenario has been determined, "Truck 16-32 metric ton".

4.3. End of life stage

Demolition: Includes dismantling processes in accordance with manufacturer specifications or applicable regulations, as well as the initial management of resulting waste. Energy consumption associated with dismantling is assumed to be negligible.

Transport: Covers the transport of waste from the point of generation to the treatment facility. An average transport distance of 100 km is assumed.

Waste processing: Includes sorting and treatment of waste fractions for reuse, recycling, or energy recovery. Processes beyond the end-of-waste state are excluded from the system boundaries.

Disposal: Accounts for the final disposal of materials that cannot be recovered, including landfill and incineration.

End of life

Parameter	Unit (expressed by functional unit)
Collection process, specified by type	1 kg collected with mixed wast
Recovery system	0,89 kg for recycling
Disposal	0,11 kg product or material for final disposal

4.4. Benefits and burdens beyond the system

This module includes the potential environmental benefits and burdens associated with the reuse, recycling, and recovery of materials beyond the defined system boundaries.

The impacts of cupper waste treatment have been modelled as burdens, while the recovery of material has been considered as benefits. Likewise, the following values have been assumed to perform the balance:

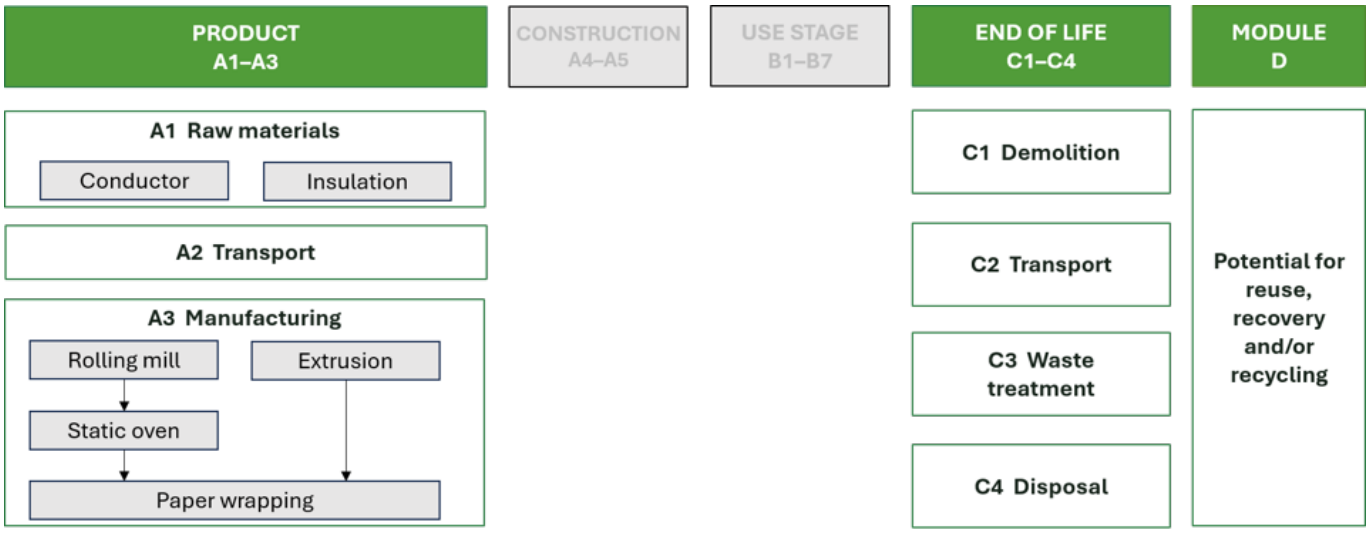
- Share of recycled copper incorporated as input material (MMR_in): 6.8%.
- Quality ratio of the material after the recycling process (QR_out / Q_sub): 95%.

4.5. Biogenic carbon content

The calculation of the amount of biogenic carbon contained in the materials used for product and packaging at the door of the production plant is shown in the following table

	Cointained in product	Cointained in packaging
Material content per kg of average product (kg)	4.09E-02	2.27E-02
Biogenic carbon (kg C)	1.83E-02	1.01E-02
Biogenic carbon dioxide (kg biogenic CO2)	6.69E-02	3.71E-02

Life cycle stages included in the assessment



5. Declaration of LCA and LCI environmental parameters

Environmental Impacts

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.

Parameter	Unit	A1	A2	A3	A1-A3	C1	C2	C3	C4	D
GWP-total	kg CO_2 eq	9.13E+00	5.15E-02	2.85E-02	9.28E+00	0.00E+00	1.56E-02	4.42E-02	3.74E-02	-3.74E+00
GWP-fossil	kg CO_2 eq	9.07E+00	5.15E-02	9.45E-02	9.21E+00	0.00E+00	1.56E-02	4.37E-02	3.34E-04	-3.69E+00
GWP-biogenic	kg CO_2 eq	4.84E-02	1.15E-05	-6.61E-02	4.93E-02	0.00E+00	3.08E-06	4.18E-04	3.71E-02	-3.65E-02
GWP-luluc	kg CO_2 eq	1.75E-02	8.41E-07	7.08E-05	1.76E-02	0.00E+00	6.69E-07	9.28E-05	1.31E-07	-8.33E-03
GWP-total-IPCC	kg CO_2 eq	9.20E+00	5.15E-02	6.56E-02	9.32E+00	0.00E+00	1.56E-02	4.42E-02	3.39E-04	-3.74E+00
ODP	kg CFC11 eq	1.64E-07	1.16E-09	2.22E-09	1.68E-07	0.00E+00	2.43E-10	2.49E-10	4.38E-12	-3.19E-08
AP	mol H^+ eq	7.84E-01	1.06E-04	2.54E-04	7.84E-01	0.00E+00	2.26E-05	2.13E-04	2.77E-06	-6.14E-01
EP-freshwater	kg P eq	4.27E-02	2.68E-07	1.10E-05	4.27E-02	0.00E+00	6.52E-07	2.10E-05	1.28E-07	-3.02E-02
EP-marine	kg N eq	3.11E-02	2.49E-05	9.12E-05	3.12E-02	0.00E+00	4.81E-06	4.33E-05	1.21E-06	-1.98E-02
EP-terrestrial	mol N eq	4.26E-01	2.74E-04	8.61E-04	4.27E-01	0.00E+00	5.19E-05	4.29E-04	1.32E-05	-2.89E-01
POCP	Kg NMVOC eq	1.31E-01	1.54E-04	4.60E-04	1.32E-01	0.00E+00	3.60E-05	1.27E-04	3.98E-06	-9.07E-02
ADP-minerals& metals [2]	kg Sb eq	1.09E-02	1.32E-09	1.05E-08	1.09E-02	0.00E+00	1.02E-09	1.29E-09	1.11E-11	-8.97E-03
ADP-fossil [2]	MJ	1.21E+02	6.84E-01	1.78E+00	1.23E+02	0.00E+00	2.04E-01	5.88E-01	4.31E-03	-4.35E+01
WDP [2]	m^3 world eq depriv	1.19E+01	2.24E-04	2.39E-02	1.20E+01	0.00E+00	2.10E-04	5.78E-03	1.02E-05	-9.07E+00

GWP - Total: Global Warming Potential; **GWP - fossil**: Global warming potential of fossil fuels; **GWP - biogenic**: Biogenic Global Warming Potential; **GWP - luluc** : Global warming potential of land use and land use change; **ODP:** Stratospheric Ozone Depletion Potential; **AP:** Acidification potential, accumulated surplus; **EP-freshwater:** Eutrophication potential, fraction of nutrients that reach the final freshwater compartment; **EP-marine:** Eutrophication potential, fraction of nutrients that reach the final compartment of seawater; **EP-terrestrial:** Eutrophication potential, cumulative surplus; **POCP:** tropospheric ozone formation potential; **ADP-minerals&metals**: Abiotic resource depletion potential for non-fossil resources; **APD-fossil:** Abiotic Resource Depletion Potential for fossil resources; **WDP:** Water deprivation potential (user), weighted water deprivation consumption. **NR:** Not relevant

Aditional environmental impacts

Parameter	Unit	A1	A2	A3	A1-A3	C1	C2	C3	C4	D
PM	disease incidence	1.52E-06	3.04E-09	2.29E-09	1.53E-06	0.00E+00	9.08E-10	1.95E-09	7.38E-11	-1.02E-06
IRP [1]	kBq U235 eq	1.26E+00	1.71E-04	3.52E-03	1.27E+00	0.00E+00	4.06E-05	6.25E-03	9.29E-06	-2.49E-01
ETP-fw [2]	CTUe	7.71E+02	8.10E-02	3.18E-01	7.71E+02	0.00E+00	3.78E-02	3.57E-01	7.12E-04	-5.59E+02
HTP-c [2]	CTUh	1.78E-07	5.03E-12	4.29E-11	1.78E-07	0.00E+00	1.49E-12	1.86E-11	3.19E-14	-1.44E-07
HTP-nc [2]	CTUh	1.79E-05	6.51E-10	4.77E-10	1.79E-05	0.00E+00	1.95E-10	2.36E-09	1.15E-12	-1.44E-05
SQP [2]	-	2.30E+02	8.70E-04	3.49E+00	2.34E+02	0.00E+00	1.58E-03	5.27E-02	1.05E-02	-1.75E+02

PM: Potential incidence of diseases due to particulate matter (PM) emissions**; IRP:** Human Potential Exposure Efficiency Relative to U235; **ETP-fw:** Comparative Ecosystem Toxic Unit Potential - Freshwater; **HTP-c:** Comparative Ecosystem Toxic Unit Potential - Carcinogenic Effects**; HTP-nc:** Comparative Ecosystem Toxic Unit Potential - Non-Carcinogenic Effects**; SQP:** Soil quality potential index**; NR**: Not relevant

Notice 1: This impact category deals mainly with the eventual impacts of low doses of ionizing radiation on human health, from the nuclear fuel cycle. It does not consider the effects due to possible nuclear accidents or occupational exposure due to the disposal of radioactive waste in underground facilities. The ionizing radiation potential of the ground, due to radon or from some construction materials, is not measured with this parameter either.

Warning 2: The results of this indicator of environmental impact should be used with caution, since the uncertainties of the results are high and the experience with this parameter is limited.

Use of resources

Parámetro	Unidades	A1	A2	A3	A1-A3	C1	C2	C3	C4	D
PERE	MJ	3.05E+01	2.26E-01	5.32E-01	3.12E+01	0.00E+00	4.39E-04	7.63E-02	1.15E-04	-1.52E+01
PERM	MJ	7.77E-01	0.00E+00	4.31E-01	1.21E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
PERT	MJ	3.13E+01	2.26E-01	9.63E-01	3.25E+01	0.00E+00	4.39E-04	7.63E-02	1.15E-04	-1.52E+01
PENRE	MJ	6.83E+01	4.74E-03	1.94E-01	6.85E+01	0.00E+00	1.10E-02	4.21E-01	6.60E-04	-2.25E+01
PENRM	MJ	3.85E-01	0.00E+00	1.41E-01	5.26E-01	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
PENRT	MJ	6.86E+01	4.74E-03	3.35E-01	6.90E+01	0.00E+00	1.10E-02	4.21E-01	6.60E-04	-2.25E+01
SM	kg	6.41E-02	0.00E+00	0.00E+00	6.41E-02	0.00E+00	0.00E+00	0.00E+00	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	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	0.00E+00	0.00E+00	0.00E+00
FW	m^3	2.85E-01	1.32E-05	5.03E-04	2.85E-01	0.00E+00	8.08E-06	2.46E-04	4.33E-07	-2.06E-01

PERE: Use of renewable primary energy excluding primary renewable energy resources used as raw material; **PERM:** Use of primary renewable energy used as raw material; **PERT:** Total use of primary renewable energy; **PENRE**: Use of non-renewable primary energy, excluding non-renewable primary energy resources used as raw materials; **PENRM**: Use of non-renewable primary energy used as raw material; **PENRT**: Total use of non-renewable primary energy; **SM:** Use of secondary materials; **RSF:** Use of renewable secondary fuels; **NRSF**: Use of non-renewable secondary fuels; **FW:** Net use of running water resources; **NR:** Not relevant

Waste Catergories

Parameter	Unit	A1	A2	A3	A1-A3	C1	C2	C3	C4	D
HWD	kg	4.79E-04	4.52E-06	1.73E-05	5.01E-04	0.00E+00	1.35E-06	1.49E-06	2.57E-08	-2.01E-04
NHWD	kg	1.30E+00	2.27E-05	2.57E-03	1.30E+00	0.00E+00	1.46E-05	2.92E-04	5.98E-02	-9.09E-01
RWD	kg	3.28E-04	4.09E-08	8.81E-07	3.29E-04	0.00E+00	9.73E-09	1.52E-06	2.27E-09	-7.19E-05

HWD: Hazardous Waste Disposed; **NHWD:** Non-hazardous waste disposed of; **RWD:** Radioactive waste disposed of; **NR:** Not relevant

Output flows

Parameter	Unit	A1	A2	A3	A1-A3	C1	C2	C3	C4	D
CRU	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	0.00E+00
MFR	kg	0.00E+00	0.00E+00	1.58E-01	1.58E-01	0.00E+00	0.00E+00	9.40E-01	0.00E+00	0.00E+00
MER	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	0.00E+00
EE	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	0.00E+00

CRU: Components for reuse; **MFR:** Materials for recycling; **MER:** Materials for energy recovery**; EE:** Exported energy**; NR:** Not relevant

Information on biogenic carbon content

Biogenic carbon content	Unit	Result by declared functional unit
Product biogenic carbon content - KgC	Kg C	1.83E-02
Biogenic carbon content packaging - KgC	Kg C	1.01E-02

References

[1] General Instructions of the GlobalEPD Program 3rd revision 09-10 2023

[2] EN ISO 14025:2010 Environmental labels and declarations Tpye III engironmental delcarations. Principles and procedures (ISO 14025:2006).

[3] EN 15804:2012+A2:2019 Sustainability of construction Works. Environmental product declarations. Core rules for the product category of contruction.

[4] EN ISO 14040. Environmental managment. Life cycle assesment. Principles and frame work. (ISO 14040:2006).

[5] EN ISO 14044. Environmental managment. Life cycle assesment. Requirements and guidelines (ISO 14044:2006).

[6] Life Cycle Assessment of the copper products WRAPPED FLATWIRE produced by Vicente Torns Enterprises, S.A.U – June 2026

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