

Environmental Product Declaration



INTERNATIONAL EPD SYSTEM



In accordance with ISO 14025:2006 and EN 15804:2012+A2:2019/AC:2021 for:

Steel wire cable tray products

EPD of multiple products, based on the average results of the product group, comprising:

- Light duty (VFUL) in heights 30mm, 35mm and 60mm; widths 65mm to 300mm
- Heavy Duty (VFU) in heights 35mm, 60mm, 85mm, 110mm, 160mm; widths 150mm to 500mm.

from

Atkore Vergokan



Programme:	The International EPD System, www.environdec.com
Programme operator:	EPD International AB
Type of EPD:	EPD of multiple products, based on the average results of the product group
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An EPD may be updated or depublished if conditions change. To find the latest version of the EPD and to confirm its validity, see www.environdec.com



GENERAL INFORMATION

Programme Information	
Programme:	The International EPD® System
Address:	EPD International AB Box 210 60 SE-100 31 Stockholm Sweden
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Product Category Rules (PCR)
CEN standard EN 15804 serves as the Core Product Category Rules (PCR)
Product Category Rules (PCR): <i>PCR 2019:14 Construction products EN 15804-A2 (2.0.1) (EPD International, 2025)</i>
PCR review was conducted by: <i>The Technical Committee of the International EPD System. See www.environdec.com for a list of members. Review chair: Claudia A. Peña, University of Concepción, Chile. The review panel may be contacted via the Secretariat www.environdec.com/contact</i>

Third-party Verification
Independent third-party verification of the declaration and data, according to ISO 14025:2006 (ISO 14025, 2021), via:
☒ Individual EPD verification without a pre-verified LCA/EPD tool Third-party verifier: <i>Matt Fishwick, Fishwick Environmental Ltd</i> Approved by: International EPD System
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 published in different EPD programmes, may not be comparable. For two EPDs to be comparable, they shall be based on the same PCR (including the same first-digit 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 identical scope in terms of included life-cycle stages (unless the excluded life-cycle stage is demonstrated to be insignificant); apply identical impact assessment methods (including the same version of characterisation factors); and be valid at the time of comparison. For further information about comparability, see EN 15804 and ISO 14025.

INFORMATION ABOUT EPD OWNER

Owner of the EPD: Atkore Vergokan

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Address and contact information of the LCA practitioner commissioned by the EPD owner: Marcella Volta, ERM, marcella.volta@erm.com

Description of the organisation: Atkore is a leading manufacturer of electrical and critical infrastructure products for commercial, industrial, data center, telecommunications, water, and solar applications. Significant product categories include metal conduit, plastic conduit, electrical cable and flexible conduit, metal framing, and cable management systems.

Product-related or management system-related certifications: CE European conformity

PRODUCT INFORMATION

Product name: Steel wire cable tray products

Product identification: Steel cable management products made of steel (either galvanized or stainless steel).



Steel wire cable tray product

UN CPC code: 42190

Product description: Atkore steel wire cable tray products are primarily made from steel, that can be galvanized steel or stainless steel and less than 1% cardboard filler. In addition to that, bio-ethanol based plastic is used for wire tray feet. Applicable regional standard is CE for supporting electrical infrastructure from source to termination. Offered as Atkore brand Vergokan®.

They are used in a variety of applications across every industry as an engineered cable management system. Product families included in this EPD are listed below:

- Light duty (VFUL) in heights 30mm, 35mm and 60mm; widths 65mm to 300mm
- Heavy Duty (VFU) in heights 35mm, 60mm, 85mm, 110mm, 160mm; widths 150mm to 500mm.

Further information can be found at <https://www.atkore.com/en-eu/products/cable-management-systems?l2names=cable-basket>.

Name and location of production site: Oudenaarde, Belgium

Manufacturing description: A wire form is a component crafted from a single piece of wire that primarily utilizes galvanized steel or stainless-steel wire for this purpose. Wire forms are produced through processes such as straightening, cutting, chamfering, bending, forming, threading, swaging (flattening), piercing, drilling, and milling.

Wire fabrication involves assembling or welding multiple wire and metal parts to create a more complex component. Methods for joining these elements include welding, riveting, staking, fastening, and other mechanical or manual assembly techniques. Galvanization coating is applied to the standard steel product to protect the material from corrosion. The finished product is packed before being sent to the client. Different types of packaging are used: cardboard boxes and tape. Steel and stainless scraps are sent to recycling, at which point (upon reaching the recycling facility) they have reached the end-of-waste state. Additives such as lubricants and welding gases are used during the manufacturing process.

CONTENT DECLARATION

Content declaration of multiple products: This EPD covers multiple products. The content declaration corresponds to an average, calculated based on the production-weighted contributions of each included product that can be made either of galvanized steel or stainless steel. The mass (weight) of one unit of a product, per declared unit = 1 kg.

Product content	Mass, kg per DU	Mass range, (%)	Post-consumer recycled material, % of DU	Biogenic material, % of DU	Biogenic material, kg C/DU
Galvanized Steel	0.976	95-100%	25.7%	0.00%	0
Stainless steel	0.014	0-5%	1.39%	0.00%	0
Cardboard filler	0.001	0-5%	0.05%	0.03%	2.56E-04
Bioethanol-based plastic	0.009	0%-1%	0.00%	0.41%	4.14E-03
TOTAL	1		27.1%	0.44%	4.39E-03

Packaging materials	Mass, kg per DU	Mass range, %	% of product mass	Biogenic material, kg C/DU
Cardboard boxes	3.41E-03	60-68%	0.34%	1.42E-03
Tape (PE film)	1.70E-03	30-35%	0.17%	0
TOTAL	5.11E-03		0.51%	1.42E-03

1 kg biogenic carbon in the product/packaging is equivalent to the uptake of 44/12 kg of CO₂.

Hazardous substances from the candidate list of SVHC	EC No.	CAS No.	% per product or declared unit
None present above threshold	-	-	-

No substances listed in the Candidate List of Substances of Very High Concern for Authorization under the REACH Regulations are used in this product, either above the threshold limit or above 0.1% (w/w).

LCA INFORMATION

Declared unit: The declared unit is 1 kg of average steel wire cable tray products.

Time representativeness:

Primary data for the core process were gathered for one year of operation for calendar year 2023.

Geographical scope: Europe

Geographical scope description: Module A3 reflects conditions specific to Belgium, while modules A1–A2, C1–C4, and D are representative of Europe.

Databases and LCA software used:

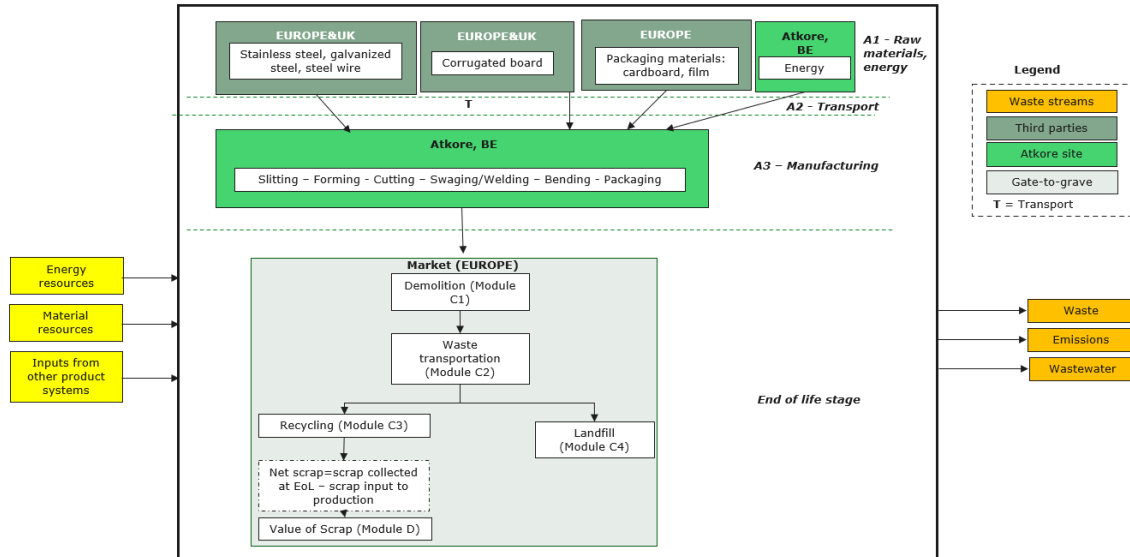
The LCA software SimaPro (version 10.2.0.3) was used to build a model for the product systems under investigation using specific and generic inventory data. SimaPro was also used to apply characterization models and factors from the impact assessment methods to generate LCIA results. Primary data were based on the manufacturer's specific data inventory. Secondary data were sourced from the LCI database ecoinvent v3.11 (cut-off) (ecoinvent, 2025) and Industry data 2.0 (Industry Data 2.0, 2021). Secondary datasets were carefully checked for consistency with EN15804 and no inconsistencies that would materially impact results was identified.

Description of system boundaries:

This study is a cradle-to-gate (A1-A3) with modules C1-C4 and module D, carried out based on EN15804+A2 and the relevant PCR 2019:14 version 2.0.1 (Construction Products) (EPD International, 2025). The study comprises extraction of raw materials, transportation of raw materials to manufacturing plant, and the manufacturing of the product itself. This also includes the end-of-life of the product and the benefits and loads arising from the product life cycle.

The life cycle stages are shown in the flow diagram. Modules declared, geographical scope, share of specific data (in GWP-GHG indicator) and data variation are presented in the table.

System boundary of the life cycle assessment for Steel wire cable tray products



Pre-consumer main output from product system: Metal scrap generated from the manufacturing processes does not reach the end-of-waste state and is therefore considered waste, not a co-product. Such scrap is sent to off-site recycling, and it is included in the module D calculation.

Post-consumer main input to product system: steel (either galvanized or stainless steel) does contain recycled material that is predominantly post-consumer and follows the cut-off allocation approach, which follows PCR 2019:14 version 2.0.1 (Construction Products) (EPD International, 2025).

Justification for omission of modules: Module B has been excluded as it is not relevant for this product and therefore does not contribute to environmental impacts. Modules A4 and A5 have been omitted as optional, given the wide range of potential scenarios depending on the specific end use; these aspects can be more accurately modelled by downstream users based on project-specific assumptions

The life cycle stages included within the system boundaries are:

- **A1. Raw materials supply**
 - Raw materials extraction and production used for products manufactured in Atkore sites are included in this module. Raw materials used are steel supplied in coils and wire and additives.
 - Generation of electricity from primary energy resources, also including their extraction, refining and transport according to EN 15804 +A2 (BS EN 15804:2012+A2:2019, 2019)
- **A2. Transport**
 - This stage includes the transportation of all raw materials, auxiliaries and outbound packaging from suppliers to production site by truck.
- **A3. Manufacturing**
 - Packaging of the finished product. Different types of packaging are used: cardboard boxes and PE film (tape).
 - Argon gas and lubricating oil are used as ancillary materials.

- Metal scrap generated from the manufacturing processes does not reach the end-of-waste state at the point of generation and then is considered as waste and not as co-product. It is assumed to be 100% recycled. It is considered in module D calculation.
- The manufacturing of steel wire cable tray products includes several processes: slitting, forming, cutting, swaging/welding, bending, galvanizing.
- **C1. Deconstruction and demolition**
 - Following PCR 2019:14 (EPD International, 2025), 1.1 kWh/metric ton of final product from diesel energy carrier is needed for steel demolition/deconstruction.
- **C2. Transport to waste processing**
 - Accounts for transportation of waste e.g. to recycling site or to final disposal. Following PCR 2019:14 (EPD International, 2025), 80 km is the default distance applied for transport to recycling or landfill disposal site.
- **C3. Transport to waste processing**
 - Sorting, collection, processing of waste fabricated products for the different routes (reuse, recycling, energy recovery, final disposal) at a waste processing facility. Following PCR 2019:14 (EPD International, 2025), 7.4 kWh/ton of final product from diesel energy carrier is used for steel frapping.
- **C4. Waste disposal**
 - Final disposal at disposal site, including any required pre-treatment and the management of the disposal facility. Following PCR 2019:14 (EPD International, 2025), 1.6 kWh/ton of final product from diesel energy carrier is used for compacting inert construction waste for landfills (including backfilling).
- **D. Potential benefits and loads beyond the system boundary, expressed as net impacts and benefits**
 - Benefits and burdens associated with recovery/recycling that affects previous or future life cycles.

FIGURES USED TO DEVELOP THE END-OF-LIFE SCENARIO, PER KG OF PRODUCT – Galvanized and stainless steel

Parameter	Value (per unit declared)
Collection process specified by type	1 kg collected separately
Recovery system, specified by type	0 kg for reuse
	0.90 kg for recycling
	0 kg for energy recovery
Disposal, specified by type	0.10 kg for final disposal (landfill)
Assumptions for scenario development (transport)	Transport of waste-to-waste processing facility Lorry EURO 5: 80 km

Net scrap calculation for wire cable tray scrap per DU: $(1 \times 0.9^1 \text{ kg} + 0.0965^2 \text{ kg} - 0.297^3 \text{ kg}) = 0.699 \text{ kg/DU}$

FIGURES USED TO DEVELOP THE END-OF-LIFE SCENARIO, PER KG OF PRODUCT – cardboard filler and bioplastic

Parameter	Value (per unit declared)
Collection process specified by type	1 kg collected separately
Recovery system, specified by type	0 kg for reuse
	0 kg for recycling
	0 kg for energy recovery
Disposal, specified by type	1 kg for final disposal (landfill)
Assumptions for scenario development (transport)	Transport of waste-to-waste processing facility Lorry EURO 5: 80 km

Cut-off rules:

LCI data shall according to EN 15804 include a minimum of 99% of total inflows (mass and energy) per unit process and 95% of total inflows (mass and energy) per life-cycle stages A1-A3, and C1-C4, and module D. An expanded 5% cut-off rule is applied to cover at least 95% of the environmental impact per such aggregated module shall be included. In this assessment, all materials have been included, and no cut-offs were applied to the study.

Exclusion according to PCR:

Business travel of personnel, travel to and from work by personnel, and research and development activities were excluded according to section 4.3.5 of the (EPD International, 2025).

Infrastructure and capital goods: excluded both from primary and secondary data.

Pallets for packaging are often re-used multiple times and information on the number of uses was not always available. Pallets are considered as capital goods.

Supporting activities: Activities directly associated with the production at a site were included (e.g., the use of the production equipment), together with supporting activities such as heating of, and water use at, premises in accordance with PCR 2019 (EPD International, 2025).

¹ Recycling rate

² Process scrap from manufacturing (A3)

³ Secondary material input (A1)

Assumptions:

- Gases used in production: production of welding gases (argon and helium) were modelled together with related emissions to air as they do not end up in the final product.
- As a conservative assumption, when reported outputs are lower than inputs (with differences < 1%), the missing mass was assumed to represent manufacturing scrap, which was uplifted accordingly.
- Transport: when primary data on distance travelled and mode of transport from packaging suppliers to Atkore's site were not available, 100 km by a 16–32-ton EURO 5 truck was assumed.
- Raw materials used for wire cable trays manufacturing are steel, stainless steel and cardboard filler. As the recycled content was not available, average recycled content from Worldsteel and European Federation of Corrugated Board Manufacturers (FEFCO) datasets were used.
- End-of-life scenarios: end-of-life was modelled based on information from prEN 17662 (prEN 17662 , 2021) considering 90% to recycling and 10% to landfill scenario for product end of life, while (EPD International, 2025) was used as a reference for energy consumption values in end-of-life processes. Cardboard filler and bioplastic were sent to landfill as a conservative choice.
- A 3 kWp slanted-roof installation, multi-Si, panel, was assumed for photovoltaic panels installed at the Oudenaarde site.
- Whenever the manufacturing processes for steel and stainless steel were not known, it was assumed that cold-rolled coil was used.
- Bolts, clips and other similar components were modelled as galvanized engineering steel.

Electricity: Electricity used in the manufacturing process of module A3 has been modelled as 40% Photovoltaic electricity (from company-owned panels) and 60% residual mix (AIB, 2024). The electricity mix climate impact as measured by the GWP-GHG indicator is 0.129 kg CO₂ eq./kWh with the composition detailed below.

Electricity used in the manufacturing process (A3)

Energy source	
Photovoltaic	40%
Residual mix (Belgium)	
Natural gas	20.2%
Nuclear	37.2%
Hard coal	1.72%
Others	0.936%

Allocation:

The Oudenaarde plant produces several types of products that belong to the same subcategory (e.g., steel wire cable trays) within the main product category of steel cable management. Mass allocation was used to assign raw materials inputs, energy consumption and wastes to the specific product subcategory assessed in this EPD.

Incoming scrap made of steel (either galvanized or stainless steel) follows the cut-off allocation approach, which is aligned with PCR 2019:14 version 2.0.1 (Construction Products) (EPD International, 2025); it enters the system carrying no upstream burden.

For module D, there is no scrap input that has undergone co-product allocation (e.g., for pre-consumer scrap which is negligible in quantity). Co-product allocation for scrap from manufacturing processes (module A3) was not conducted as scrap is sent to off-site recycling before reaching its end of waste state. Cut-off allocation approach has been used for recycling in module C3.

Scrap (recycled material) inputs contribution level: Less than 10% of the GWP-GHG results in modules A1-A3 come from scrap inputs.

Data quality:

- Manufacturing data of the year 2023 has been provided by Atkore Company, Oudenaarde site.
- A brief description of processes and inputs for the product is given in Manufacturing Process and in simplified Process Flow Diagram.
- Primary data collected using data collection questionnaires and were used for the study and for processes modelling by using ecoinvent 3.11 and Industry Data 2.0 databases, in the most recent version existing at the time of the study.
- Data quality has been assessed using the quality matrix adapted from Annex E Table E.1 of EN15804. The data quality information has been provided according to the requirements of EN 15941:2024. (ISO 15941, 2024).
- The quality of both specific and generic data was judged as adequate to perform a life cycle assessment aligned with the established goal and scope.
- The total share of primary data contributing to the declared GWP-GHG results of modules A1-A3 are shown in following table.
- The data quality matrix used to assess the quality of the data indicates that the overall quality level is considered good, with very good temporal representativeness and good geographical and technological representativeness.
- The dataset to model the biobased plastic does have a fair quality score and does contribute +30% to ODP indicator and GWP-biogenic, but other than this, no data scored poor or very poor or fair contribute to +30% of core indicators.

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

	Product stage			Distribution/ installation stage		Use stage							End-of-life stage				Beyond product life cycle
	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	EU	EU	BE	-	-	-	-	-	-	-	-	-	EU	EU	EU	EU	EU
Share of primary data	0.391%			-	-	-	-	-	-	-	-	-	-	-	-	-	-
Variation – products	85%			-	-	-	-	-	-	-	-	-	-	-	-	-	-
Variation – sites	N/A (single site)			-	-	-	-	-	-	-	-	-	-	-	-	-	-

Key: X: included in LCA; ND: module not declared; BE = Belgium; EU = European Union

Variations for all mandatory LCIA impact categories exceed 10%, as stainless steel—despite representing less than 0.2% of the product's production volume—has a higher production impact than galvanized steel across most mandatory impact categories.

Declaration of data sources, reference years, data categories, and share of primary data:

Process	Source type	Source	Reference year	Data category	Share of primary data, of GWP-GHG results for A1-A3
Steel production	Database	Ecoinvent v3.11 Industry Data 2.0	2023 2021	Secondary data	0%
Manufacturing of product and packaging	Collected data	EPD owner	2023	Primary data, Secondary data	0.0673%
Generation of energy used in manufacturing of product	Database	Ecoinvent v3.11	2023	Primary data	0.324%
Total share of primary data, of GWP-GHG results for A1-A3					0.391%

The share of primary data is calculated based on GWP-GHG results. It is a simplified indicator for data quality that supports the use of more primary data, to increase the representativeness of and comparability between EPDs. Note that the indicator does not capture all relevant aspects of data quality and is not comparable across product categories.

ENVIRONMENTAL PERFORMANCE

This EPD contains environmental information for the declared unit of 1kg of steel wire cable tray product indicator values calculated using the methods specified in EN 15804:2019+A2, covering environmental impact potentials, resource and energy use, and waste generation for all declared modules; the A1 - A3 modules are shown on an aggregated basis.

Mandatory impact category indicators according to EN 15804 + A2

Results per 1 kg of steel wire cable tray products							
Indicator	Unit	A1-A3	C1	C2	C3	C4	D
GWP-total	kg CO ₂ eq.	2.84E+00	3.75E-04	1.30E-02	2.25E-03	1.82E-02	-1.19E+00
GWP-fossil	kg CO ₂ eq.	2.85E+00	3.75E-04	1.30E-02	2.25E-03	1.19E-03	-1.19E+00
GWP-biogenic	kg CO ₂ eq.	-1.47E-02	1.88E-08	8.50E-07	1.13E-07	1.70E-02	4.84E-04
GWP-luluc	kg CO ₂ eq.	1.28E-03	1.54E-08	6.61E-07	9.25E-08	3.18E-08	-2.55E-05
ODP	kg CFC 11 eq.	4.67E-09	5.70E-12	1.53E-10	3.42E-11	7.65E-12	-2.70E-15
AP	mol H ⁺ eq.	8.58E-03	3.46E-06	3.66E-05	2.07E-05	3.69E-06	-2.66E-03
EP-freshwater	kg P eq.	8.95E-06	3.53E-10	9.03E-08	2.11E-09	1.39E-09	-2.24E-07
EP-marine	kg N eq.	1.67E-03	1.63E-06	1.27E-05	9.78E-06	2.63E-06	-4.67E-04
EP-terrestrial	mol N eq.	1.74E-02	1.79E-05	1.40E-04	1.07E-04	1.80E-05	-4.10E-03
POCP	kg NMVOC eq.	5.78E-03	5.34E-06	5.21E-05	3.20E-05	6.09E-06	-1.90E-03
ADP-minerals & metals*	kg Sb eq.	1.90E-05	1.31E-11	1.06E-09	7.87E-11	5.15E-11	-3.08E-06
ADP-fossil*	MJ	3.25E+01	4.90E-03	1.69E-01	2.94E-02	6.45E-03	-1.14E+01
WDP*	m ³	-2.51E+01	3.66E-06	2.25E-04	2.20E-05	-1.50E-04	-1.48E+01
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						

* The results of this environmental impact indicator should be used with care as the uncertainties on these results are high or as there is limited experienced with the indicator. A WDP negative value is reported when background datasets indicate that water is withdrawn from regions with lower average water scarcity than regions to which it is returned. Limitations in regionalization of water flows in background datasets can lead to geographical mismatches relating to regions of water withdrawals and returns.

The estimated impact results are relative statements that do not indicate the endpoints of the impact categories, exceeding threshold values, safety margins and/or risks. The results of the end-of-life stage (modules C1-C4) should be considered when using the results of the product stage (modules A1-A3).

The product features cardboard packaging. Since the A5 module is not included within the system boundaries, a “balancing-out report” is incorporated in the A1-A3 results, in accordance with PCR 2019 (PCR, 2019:14). This indicates that the biogenic carbon uptake by the cardboard, represented as biogenic CO₂, is offset by an equivalent amount of biogenic CO₂ emissions within A1-A3.

Additional mandatory and voluntary impact category indicators

Results per 1 kg of steel wire cable tray products							
Indicator	Unit	A1-A3	C1	C2	C3	C4	D
GWP-GHG ⁴	kg CO ₂ eq.	2.86E+00	3.75E-04	1.30E-02	2.25E-03	2.06E-03	-1.19E+00

Resource use indicators

Results per 1 kg of steel wire cable tray products							
Indicator	Unit	A1-A3	C1	C2	C3	C4	D
PERE	MJ	2.01E+00	1.07E-05	3.43E-04	6.40E-05	1.85E-01	7.15E-01
PERM	MJ	1.85E-01	0.00E+00	0.00E+00	0.00E+00	-1.85E-01	0.00E+00
PERT	MJ	2.20E+00	1.07E-05	3.43E-04	6.40E-05	7.62E-05	7.16E-01
PENRE	MJ	3.47E+01	5.21E-03	1.80E-01	3.12E-02	6.86E-03	-1.20E+01
PENRM	MJ	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
PENRT	MJ	3.47E+01	5.21E-03	1.80E-01	3.12E-02	6.86E-03	-1.20E+01
SM	kg	3.00E-01	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
NRSF	MJ	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
FW	m ³	2.89E-02	1.48E-07	7.52E-06	8.90E-07	-4.46E-05 ⁵	-5.19E-03
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						

Option A was followed to separate the use of primary energy into energy used as raw material and energy used as energy carrier according to Annex 3 (EPD International, 2025). Similarly to biogenic carbon, a “balancing-out report” is incorporated in the A1-A3 results with regard to primary energy resources used as raw materials, in accordance with PCR 2019 (PCR, 2019:14). This means that any

⁴ 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 CO₂ is set to zero.

⁵ The net freshwater consumption is negative because the cardboard landfill process releases freshwater into the environment, primarily through modelled leachate-related water flows and the moisture contained in the incoming waste stream, that exceed the direct freshwater withdrawals of the process.

primary energy used as raw materials in packaging materials (such as PE film or cardboard boxes) is offset by an equivalent amount within A1-A3 since the module A5, where the packaging end of life would occur, is not included within the system boundaries.

Waste indicators

Results per 1 kg of steel wire cable tray products							
Indicator	Unit	A1-A3	C1	C2	C3	C4	D
Hazardous waste disposed	kg	1.89E-05	3.36E-08	1.11E-06	2.02E-07	4.28E-08	0.00E+00
Non-hazardous waste disposed	kg	6.86E-03	1.75E-07	1.50E-05	1.05E-06	1.09E-01	0.00E+00
Radioactive waste disposed	kg	6.75E-06	2.29E-10	7.37E-09	1.37E-09	1.11E-09	0.00E+00

Output flow indicators

Results per 1 kg of steel wire cable tray products							
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	9.65E-02	0.00E+00	0.00E+00	8.91E-01	0.00E+00	0.00E+00
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 LCA results (other environmental performance results) of the product

For EPD of multiple products, variations above 10% are allowed. The table below shows the impact indicators value furthest away from the declared results for which the variation is above 10% (considering modules from A to C). All mandatory impact indicators show a variation > 10%.

Impact indicator (modules A-C)	Unit	Results per 1 kg of steel wire cable tray products	Max result per 1 kg of steel wire cable tray products (100% stainless steel)	% variation
GWP-total	kg CO ₂ eq.	2.88E+00	5.37E+00	+87%
GWP-fossil	kg CO ₂ eq.	2.87E+00	5.35E+00	+86%
GWP-biogenic	kg CO ₂ eq.	2.30E-03	7.91E-03	+244%
GWP-luluc	kg CO ₂ eq.	1.28E-03	1.17E-02	+815%
ODP	kg CFC 11 eq.	4.88E-09	3.68E-08	+656%
AP	mol H ⁺ eq.	8.64E-03	2.73E-02	+215%
EP-freshwater	kg P eq.	9.04E-06	3.62E-04	+3,902%
EP-marine	kg N eq.	1.70E-03	4.90E-03	+188%
EP-terrestrial	mol N eq.	1.77E-02	5.31E-02	+200%
POCP	kg NMVO C eq.	5.88E-03	1.68E-02	+187%
ADP-minerals & metals*	kg Sb eq.	1.90E-05	1.22E-04	+545%
ADP-fossil*	MJ	3.27E+01	5.99E+01	+83%
WDP*	m ³	-2.51E+01	-6.55E+00	+74%
GWP-GHG	kg CO ₂ eq.	2.88E+00	5.37E+00	+87%

RESULTS FOR ADDITIONAL SCENARIOS (100% LANDFILL)

Mandatory impact category indicators according to EN 15804

Results per 1 kg of steel wire cable trays products						
Indicator	Unit	C1	C2	C3	C4	D
GWP-total	kg CO ₂ eq.	3.75E-04	1.30E-02	0.00E+00	2.11E-02	0.00E+00
GWP-fossil	kg CO ₂ eq.	3.75E-04	1.30E-02	0.00E+00	4.11E-03	0.00E+00
GWP-biogenic	kg CO ₂ eq.	1.88E-08	8.50E-07	0.00E+00	1.70E-02 ⁶	0.00E+00
GWP-luluc	kg CO ₂ eq.	1.54E-08	6.61E-07	0.00E+00	1.75E-07	0.00E+00
ODP	kg CFC 11 eq.	5.70E-12	1.53E-10	0.00E+00	5.00E-11	0.00E+00
AP	mol H ⁺ eq.	3.46E-06	3.66E-05	0.00E+00	3.01E-05	0.00E+00
EP-freshwater	kg P eq.	3.53E-10	9.03E-08	0.00E+00	9.83E-09	0.00E+00
EP-marine	kg N eq.	1.63E-06	1.27E-05	0.00E+00	1.47E-05	0.00E+00
EP-terrestrial	mol N eq.	1.79E-05	1.40E-04	0.00E+00	1.50E-04	0.00E+00
POCP	kg NMVOC eq.	5.34E-06	5.21E-05	0.00E+00	4.62E-05	0.00E+00
ADP-minerals&metals*	kg Sb eq.	1.31E-11	1.06E-09	0.00E+00	1.49E-10	0.00E+00
ADP-fossil*	MJ	4.90E-03	1.69E-01	0.00E+00	4.39E-02	0.00E+00
WDP*	m ³	3.66E-06	2.25E-04	0.00E+00	-1.18E-04	0.00E+00
GWP-GHG ⁷	kg CO ₂ eq.	3.75E-04	1.30E-02	0.00E+00	4.98E-03	0.00E+00
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 on these results are high or as there is limited experienced with the indicator.

⁶ Cardboard filler and bioplastic (total of 1%) are assumed to be landfilled in all scenarios

⁷ 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 CO₂ is set to zero.

RESULTS FOR ADDITIONAL SCENARIOS (100% RECYCLING)

Mandatory impact category indicators according to EN 15804

Results per 1 kg of steel wire cable trays products						
Indicator	Unit	C1	C2	C3	C4	D
GWP-total	kg CO ₂ eq.	3.75E-04	1.30E-02	2.03E-02	0.00E+00	-1.32E+00
GWP-fossil	kg CO ₂ eq.	3.75E-04	1.30E-02	3.35E-03	0.00E+00	-1.32E+00
GWP-biogenic	kg CO ₂ eq.	1.88E-08	8.50E-07	1.70E-02 ⁸	0.00E+00	5.38E-04
GWP-luluc	kg CO ₂ eq.	1.54E-08	6.61E-07	1.19E-07	0.00E+00	-2.83E-05
ODP	kg CFC 11 eq.	5.70E-12	1.53E-10	4.08E-11	0.00E+00	-3.00E-15
AP	mol H ⁺ eq.	3.46E-06	3.66E-05	2.38E-05	0.00E+00	-2.95E-03
EP-freshwater	kg P eq.	3.53E-10	9.03E-08	2.79E-09	0.00E+00	-2.49E-07
EP-marine	kg N eq.	1.63E-06	1.27E-05	1.21E-05	0.00E+00	-5.19E-04
EP-terrestrial	mol N eq.	1.79E-05	1.40E-04	1.22E-04	0.00E+00	-4.56E-03
POCP	kg NMVOC eq.	5.34E-06	5.21E-05	3.71E-05	0.00E+00	-2.11E-03
ADP-minerals&metals*	kg Sb eq.	1.31E-11	1.06E-09	1.28E-10	0.00E+00	-3.42E-06
ADP-fossil*	MJ	4.90E-03	1.69E-01	3.48E-02	0.00E+00	-1.26E+01
WDP*	m ³	3.66E-06	2.25E-04	-1.29E-04	0.00E+00	-1.65E+01
GWP-GHG ⁹	kg CO ₂ eq.	3.75E-04	1.30E-02	4.23E-03	0.00E+00	-1.32E+00
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 on these results are high or as there is limited experience with the indicator.

⁸ Cardboard filler and bioplastic (total of 1%) are assumed to be landfilled in all scenarios

⁹ 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 CO₂ is set to zero.

ABBREVIATIONS

Abbreviation	Definition
General Abbreviations	
CE	Conformité Européenne
CEN	European Committee for Standardization
CPC	Central Product Classification
DU	Declared Unit
EF	Environmental Footprint
ERM	Environmental Resources Management Ltd.
EPD	Environmental Product Declaration
FEFCO	European Federation of Corrugated Board Manufacturers
FU	Functional Unit
GHG	Greenhouse gas
GPI	General Programme Instructions
GWP	Global Warming Potential
IEC	International Electrotechnical Commission
ILCD	International Life Cycle Data System
ISO	International Organization for Standardization
LCA	Life Cycle Assessment
LCI	Life Cycle Inventory
LCIA	Life Cycle Impact Assessment
ND	Not declared
PCR	Product Category Rules
SVHC	Substances of Very High Concern
Environmental Impact Indicators (EN 15804)	
GHG	Greenhouse Gas
GWP	Global Warming Potential (kg CO ₂ eq)
GWP-fossil	Global Warming Potential from fossil sources (kg CO ₂ eq)
GWP-biogenic	Global Warming Potential from biogenic sources (kg CO ₂ eq)
GWP-luluc	Global Warming Potential from land use and land use change (kg CO ₂ eq)
GWP-total	Total Global Warming Potential (kg CO ₂ eq)
GWP-GHG	Global Warming Potential for greenhouse gases (kg CO ₂ eq)
ODP	Ozone Depletion Potential (kg CFC-11 eq)
AP	Acidification Potential (mol H ⁺ eq)
EP	Eutrophication Potential
EP-freshwater	Freshwater Eutrophication Potential (kg P eq)
EP-marine	Marine Eutrophication Potential (kg N eq)
EP-terrestrial	Terrestrial Eutrophication Potential (mol N eq)
POCP	Photochemical Ozone Creation Potential (kg NMVOC eq)
ADP	Abiotic Depletion Potential
ADP-minerals&metals	Abiotic Depletion Potential for non fossil resources (kg Sb eq)
ADP-fossil	Abiotic Depletion Potential for fossil resources (MJ)
WDP	Water Deprivation Potential (m ³)
Resource Use Indicators	
PERE	Use of renewable primary energy excluding renewable primary energy resources used as raw materials (MJ)

PERM	Use of renewable primary energy resources used as raw materials (MJ)
PERT	Total use of renewable primary energy resources (MJ)
PENRE	Use of non-renewable primary energy excluding non-renewable primary energy resources used as raw materials (MJ)
PENRM	Use of non-renewable primary energy resources used as raw materials (MJ)
PENRT	Total use of non-renewable primary energy resources (MJ)
SM	Use of secondary material (kg)
RSF	Use of renewable secondary fuels (MJ)
NRSF	Use of non-renewable secondary fuels (MJ)
FW	Use of net fresh water (m ³)

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VERSION HISTORY

Original Version of the EPD, 2026-07-13

