Environmental Product Declaration

In accordance with ISO 14025:2006, EN 15804:2012+A2:2019/AC:2021 and ISO 21930:201 for:

Average Polyamide Post-Industrial Recycled (PIR) Cable Ties T-Series GP-3

from

HellermannTyton Group Plc

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
EPD registration number:	EPD-IES-0026257
Version date:	2026-01-30
Validity date:	2031-01-30

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
Website:	www.environdec.com
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Product Category Rules (PCR)
CEN standard EN 15804 serves as the Core Product Category Rules (PCR)
Product Category Rules (PCR): PCR 2019:14 Construction products, version 2.0.1 [valid until 2030/04/07]. The product group classification for the assessed products is UN CPC Code 36990.
PCR review was conducted by: The Technical Committee of the International EPD System. A full list of members is available on www.environdec.com. Review chairs: Rob Rouwette (chair), Noa Meron (co-chair). The review panel may be contacted via e-mail (support@environdec.com).

Third-party Verification
Independent third-party verification of the declaration and data, according to ISO 14025:2006, via: ☒ **Individual EPD verification with a pre-verified LCA/EPD tool** Third-party verifier: Vito D'Incognito, Take Care International Approved by: International EPD System Pre-verified LCA tool or Pre-verified EPD tool: HellermannTyton Manchester LCA Tool v1.0 Third-party verifier, accountable for the tool verification: Vito D'Incognito, Take Care International 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:
HellermannTyton Group Plc

Address:
Griffin House 135 High Street, Crawley, West Sussex. RH10 1DQ

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Address and contact information of the LCA practitioner:
Griffin House 135 High Street, Crawley, West Sussex. RH10 1DQ. www.hellermanntyton.co.uk
Dr. Salihu Jarmajo Ahmed, HellermannTyton Group Plc.

Description of the organisation:
HellermannTyton is a leading manufacturer and supplier of quality products for fastening, fixing, installing, connecting, insulating, protecting and identifying electrical cables and network connectivity solutions.

Product-related or management system-related certifications:
ISO50001, ISO45001, ISO9001, AS9100, IATF16949

PRODUCT INFORMATION

Products names:

- T30R-PA66HIRHS(REC)-BK inside serrated,
- T50ROS-PA66HIRHS(REC)-BK outside serrated.
- T18R-PA66HIRHS(REC)-BK, inside serrated.

Product identification:

Part number (UNS)	Part name	Part colour	Part dimensions & Visual representation	Part weight
111-03083	T30R-PA66HIRHS(REC)	Black (BK)	150x3.5mm, ø1.5-35.0mm 	0.00063 kg
118-00173	T50MOS-PA66HIRHS(REC)	Black (BK)	245x4.6mm, ø1.6-66.0mm 	0.00150 kg
111-00000	T18R-PA66HIRHS(REC)	Black (BK)	100x2.5mm, ø1.5-22.0mm 	0.000256kg

UN CPC code:
36990

Product description:
Manufactured from post-industrial recycled polyamide 6.6 (PA66), the cable ties offer a sustainable fastening solution with excellent durability and resistance to environmental factors. Designed for bundling and securing cables, pipes, and hoses across a wide variety of applications, these cable ties combine reliable performance with a reduced environmental footprint. The cable ties provide intermediate size options compared to other HellermannTyton ranges, ensuring precise fitting to individual customer needs in electrical installations, machinery, vehicles, and industrial settings. Utilizing high-impact modified, heat-stabilized recycled PA66, these cable ties help support corporate sustainability goals while maintaining key mechanical and thermal performance requirements.

Technical Performance

- Material: Post Industrial Recycled (PIR) Polyamide 6.6, high-impact modified, halogen-free.
- Locking mechanism: Inside (111-03083, 111-00000) and outside (118-00173) serrated strap, plastic pawl, positive locking, low insertion force.
- Tensile strength: minimum of 135N (111-03083), 535N (118-00173) & 80N (111-00000).
- Application range: Multiple sizes, easy installation, permanent (non-releasable).

Name and location of production site:
HellermannTyton Manchester, UK
1 Sharston Green Business Park
Robeson Way
Sharston, Manchester, UK
M22 4TY

CONTENT DECLARATION

The mass (weight) of one unit of a product, as purchased or per declared unit:
1kg of cable ties, with packaging

Content of the product in the form of a list of materials and substances, and their mass:
This EPD encompasses three products from the T-Series cable ties manufactured from PIR. The content declaration reflects the average material composition across all included products, with each product's contribution weighted according to its production volume. This approach ensures the declared values represent the typical material makeup for the entire group.

Product content	%, Content	Post-consumer recycled material, mass-% of product	Biogenic material, mass-% of product	Biogenic material, kg C/product or declared unit
PIR Polyamide 6.6*	84.0%	0%	0%	0
Polyamide 6.6 Masterbatch	16.0%	0%	0%	0
TOTAL	100%	0%	0%	0

** Disclaimer: The detailed formulation of the post-industrial recycled (PIR) PA66 grade used in the manufacture of these products constitutes proprietary information of the raw material supplier and is therefore not disclosed. According to SCS Global certification, the material contains 84% pre-consumer recycled polymer. In the absence of full formulation data, the remaining 16% has been modelled in accordance with the composition information provided in the supplier's Safety Data Sheets, which indicate the presence of a polymer-encapsulated impact modifier. This modelling approach is consistent with EN 15804 requirements and provides a technically sound and equitable representation of the environmental impacts associated with the material composition.*

Packaging materials	Mass, kg	Mass-% (versus the product)	Biogenic material, kg C/ declared unit
Cardboard	0.097	9.7%	0.0474
LDPE	0.241	24.1%	0
Wooden pallet	0.014	1.4%	0.0068
TOTAL	0.352	35.2%	0.0542

The low biogenic carbon content in the average result arises because the cable ties themselves contain no biogenic carbon; only a small proportion of about 5% comes from the packaging materials (cardboard and wooden pallets). This minimal biogenic carbon content has been included in the EPD calculations, resulting in low reported values for biogenic carbon overall.

The PIR cable ties do not contain any substances that can be included in “Candidate List of Substances of Very High Concern for Authorization” and raw materials used are not part of the EU REACH regulation.

LCA INFORMATION

Declared unit:
1kg of cable ties, with packaging

Reference service life:
Not applicable

Time representativeness:
The collection of foreground data refers to the year 2023. Site specific data was used for the 1-year average process data, for reference year 2023. For background data the time frame was no more than four years old with a reference year of 2020-2023.

Geographical scope:
US, Europe and UK (Modules A1-A3), Europe (Modules A5, C1-C4, D)

Database(s) and LCA software used:
The LCA model, data aggregation, and calculation of environmental impacts were performed using the Sphera LCA for Experts (LCA FE) software, version 10.7. The background data was sourced from the Sphera Managed LCA Content (MLC) 2025.1 database.

Description of system boundaries:
Cradle to gate with optional modules (A1–A3 + A5 + C + D). The additional module included within this EPD is A5. Module A4 (transport to site) and B1–B7 (use stage) are excluded from this EPD. A4 is omitted due to variable, project-specific transport scenarios, while B modules are excluded as the product has no use-phase impacts. This aligns with EN 15804 and sectoral EPD guidance.

Reference package used: As specified in EN 15804:2012+A2:2019 and the PCR 2019:14 v2.0.1, the environmental impacts are declared and reported using the baseline characterisation factors from the EC-JRC using EN 15804 reference package based on EF 3.1. The adopted PA66 PIR datasets for the applicable EF 3.1 impact categories use GLO average data, ensuring consistent and comparable results across regions.

Module A1 to A3:
The product stage includes provision of all materials, products and energy, as well as waste processing up to the end-of waste state or disposal of final residues during the product stage
These modules consider the manufacturing of raw materials (module A1).

The raw materials undergo transport to the production site in Manchester, UK via a diesel driven truck, and a heavy fuel oil powered cargo ship (module A2). From there they are processed to produce the cable tie.

The provision and use of electrical energy sources, water consumption, production waste are considered, along with the impact of packaging (module A3).

The process for the manufacture of cable ties starts by feeding polymer granules into the hopper of an injection moulding machine. The granules are then heated and melted in the machine's barrel, to turn them into a viscous liquid ready for injection. Once the polymer reaches the correct temperature, it's injected under high pressure into the precisely designed mould that forms the cable tie. After the molten polymer fills the mould cavity, it is allowed to cool and solidify. Once the plastic is solidified, the mould opens, and the cable tie is ejected, the ties are then inspected for quality control and packed on site ready for sale.

Hellermanntyton has committed to sourcing 100% renewable electricity, backed by Guarantees of Origin (GO) certificates, for the full validity period of this EPD. Accordingly, the electricity used at the Manchester, United Kingdom manufacturing facility is supplied from wind energy and powers the entire site, with an emission factor of 0.0329 $kgCO_2eq/kWh$.

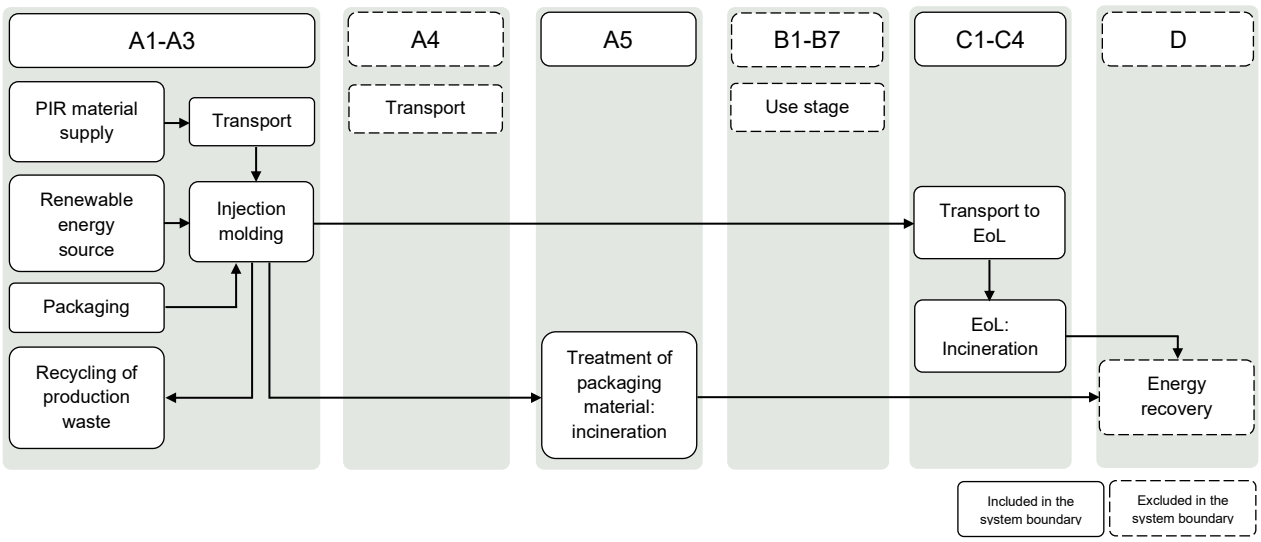
Module A5:
Treatment and disposal of packaging material. Benefits for potential avoided burdens due to energy substitution of electricity and thermal energy generation are declared in module D.

Module C1-C4:

- Deconstruction and Demolition (C1): C1 is not applicable to this type of product, as it is not a product which requires any dismantling and so is declared within the results as zero.
- Transport (C2): 130km via a EURO 5 Truck (EU scenario) as per section 4.8.4 in PCR 2019:14 v2.0.1
- Waste Processing (C3): Incineration with energy recovery. Benefits for potential avoided burdens due to energy substitution of electricity and thermal energy generation are declared in module D.

Module D:
Benefits and loads from modules A5 and C3.

System diagram:



Cut-off criteria and exclusions:
In the assessment, all available data from production process are considered, i.e., all raw materials used, utilised thermal energy, and electric power consumption using best available LCI datasets. Thus, material and energy flows contributing less than 1% of mass or energy are considered. The sum of the excluded material flows does not exceed 5% of mass, energy, or environmental relevance.

- The packaging of the pre-products/raw materials from the suppliers and its disposal at the production site is not considered in the scope of this study.
- Production of capital equipment, facilities and infrastructure required for manufacture are outside the scope of this assessment.

Data quality and sources
Data quality is compliant with ISO 14025:2006. All primary data were collected for the year 2023. All background data comes from the Sphera MLC 2025.1 database.

Data quality statement
The data quality assessment (DQA) was conducted in accordance with EN 15941:2024 and follows the requirements of Annex E in EN 15804. All data sets contributing to at least 80% of the results for each core environmental impact indicator have been individually assessed for:

- Time-related representativeness: Data reflect the most recent and relevant production period.
- Geographical representativeness: Data are specific to the region of production.
- Technological representativeness: Data correspond to the actual technology and processes used.
- Completeness and consistency: All relevant flows and processes are included, and data are consistent across the system boundary.

The assessment confirms that the majority of the environmental impacts are based on high-quality, specific data. The DQA summary is available in the project report. Any data gaps or use of proxy data are transparently documented and their influence on the results is considered minimal. No fair, poor or very poor data was found during the assessment of relevant data using EN 15804:2012+A2:2019, Annex E, Table E.2.

Allocation Procedures

Background Data:
Information about allocation procedure of single datasets is documented in:
https://lcadatabase.sphera.com/

Foreground Data:
No allocation was used as there was only one product produced within this production system. In accordance with the PCR Construction products section 4.5.1 to avoid allocation taking place, the production plant was divided into subunits specific to any of the PIR material T-series cable ties being produced, and LCI data was collected for each subunit. This data has been calculated and scaled based on the annual production mass of the PIR material T-series cable ties (total tonnes) for the year 2023. No co-products were produced alongside any of the cable tie, and so all production burdens are assigned to the main cable tie product.

Waste Materials:
Most of the production waste is sent to a recycling facility. The cut-off method based on the Polluter Pay Principle has been applied, and, under a conservative allocation approach, all recycling burdens are assigned to the cable tie. The waste stream itself is not assessed or accounted for within this EPD analysis. For the End of Life of the packaging and product, when incineration with energy recovery is the chosen waste disposal method, benefits for potential avoided burdens due to energy substitution of electricity and thermal energy generation are declared in module D.

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

	Product stage			Construction process stage		Use stage							End of life stage				Resource recovery stage
	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	X	ND	ND	ND	ND	ND	ND	ND	X	X	X	X	X
Geography	US, EU	US, EU	GB	-	EU	-	-	-	-	-	-	-	EU	EU	EU	EU	EU
Specific data used In GWP-GHG	18.15%					-	-	-	-	-	-	-	-	-	-	-	-
Variation – products In GWP-GHG	±9.2%					-	-	-	-	-	-	-	-	-	-	-	-
Variation – sites	0%					-	-	-	-	-	-	-	-	-	-	-	-

X = Declared, ND = Not Declared

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

Product components	Source Type	Source	Reference Year	Data Category	Share of primary data, of GWP-GHG results for A1-A3
Manufacturing of product	Collected data	LCA FE 2025.1	2023	Primary data	18.10%
Transport to manufacturing site	Collected data	LCA FE 2025.1	2023	Primary data	0.05%
Production of plastic granules	Database	LCA FE 2025.1	2024	Representative secondary data	0%
Total share of primary data, of GWP-GHG results for A1-A3					18.15%

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.

Deviations assessment against the ±10% threshold

This EPD covers multiple PIR material T-series cable tie sizes. All variants' impacts fall within ±10% of the declared average, in line with GPI 5.0.1 and ISO 21930. Results range from +8.1% to -9.2% of the average for each indicator, confirming the EPD is representative and fully compliant with current standards.

ENVIRONMENTAL PERFORMANCE

LCA results of the products - main environmental performance results

Mandatory impact category indicators according to EN 15804

Results per declared unit								
Indicator	**Unit**	**A1-A3**	**A5**	**C1**	**C2**	**C3**	**C4**	**D**
GWP-fossil	kg CO_2 eq.	2.32E+00	2.14E-01	0.00E+00	1.12E-02	2.28E+00	0.00E+00	-2.71E-01
GWP-biogenic	kg CO_2 eq.	-1.86E-01	1.94E-01	0.00E+00	2.12E-05	2.83E-04	0.00E+00	-1.40E-03
GWP-luluc	kg CO_2 eq.	1.84E-03	1.38E-05	0.00E+00	1.19E-04	3.25E-05	0.00E+00	-3.74E-04
GWP-total	kg CO_2 eq.	2.14E+00	4.08E-01	0.00E+00	1.14E-02	2.28E+00	0.00E+00	-2.73E-01
ODP	kg CFC 11 eq.	6.84E-12	3.62E-14	0.00E+00	1.92E-15	2.88E-13	0.00E+00	-2.55E-12
AP	mol H^+ eq.	3.79E-03	7.22E-05	0.00E+00	7.28E-05	4.04E-03	0.00E+00	-3.20E-04
EP-freshwater	kg P eq.	5.20E-06	1.37E-06	0.00E+00	3.12E-08	5.83E-08	0.00E+00	-2.48E-07
EP-marine	kg N eq.	1.28E-03	2.55E-05	0.00E+00	3.61E-05	2.08E-03	0.00E+00	-9.26E-05
EP-terrestrial	mol N eq.	1.35E-02	2.92E-04	0.00E+00	3.91E-04	2.30E-02	0.00E+00	-1.03E-03
POCP	kg NMVOC eq.	4.40E-03	8.22E-05	0.00E+00	6.88E-05	5.30E-03	0.00E+00	-2.51E-04
ADP-minerals&metals*	kg Sb eq.	5.60E-07	5.36E-10	0.00E+00	7.69E-10	3.95E-09	0.00E+00	-2.69E-08
ADP-fossil*	MJ	4.09E+01	1.32E-01	0.00E+00	1.48E-01	1.14E+00	0.00E+00	-4.80E+00
WDP*	m^3	3.21E-01	2.98E-02	0.00E+00	5.28E-05	2.33E-01	0.00E+00	-2.83E-02
Acronyms	GWP-fossil = Global Warming Potential fossil fuels; GWP-biogenic = Global Warming Potential biogenic; GWP-luluc = Global Warming Potential land use and land use change; ODP = Depletion potential of the stratospheric ozone layer; AP = Acidification potential, Accumulated Exceedance; EP-freshwater = Eutrophication potential, fraction of nutrients reaching freshwater end compartment; EP-marine = Eutrophication potential, fraction of nutrients reaching marine end compartment; EP-terrestrial = Eutrophication potential, Accumulated Exceedance; POCP = Formation potential of tropospheric ozone; ADP-minerals&metals = Abiotic depletion potential for non-fossil resources; ADP-fossil = Abiotic depletion for fossil resources potential; WDP = Water (user) deprivation potential, deprivation-weighted water consumption.							

** Disclaimer: The estimated impact results are only relative statements, which 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 PIR material T-series cable ties environmental indicator results for all products included fall within a range of +8.1% to -9.2% of the average value for each environmental indicator, which is well within the accepted ±10% variation. This consistency shows that the average EPD results are truly representative of the entire group and fully comply with the latest standards.

Additional mandatory and voluntary impact category indicators

Results per declared unit								
Indicator	**Unit**	**A1-A3**	**A5**	**C1**	**C2**	**C3**	**C4**	**D**
GWP-GHG[1]	kg CO_2 eq.	2.33E+00	2.61E-01	0.00E+00	1.13E-02	2.28E+00	0.00E+00	-2.73E-01
Additional voluntary indicators e.g. the voluntary indicators from EN 15804 or the global indicators according to ISO 21930:2017								

Resource use indicators

Results per declared unit								
Indicator	**Unit**	**A1-A3**	**A5**	**C1**	**C2**	**C3**	**C4**	**D**
PERE	MJ	2.49E+01	1.98E+00	0.00E+00	1.12E-02	1.52E-01	0.00E+00	-1.56E+00
PERM	MJ	1.95E+00	-1.95E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
PERT	MJ	2.68E+01	2.39E-02	0.00E+00	1.12E-02	1.52E-01	0.00E+00	-1.56E+00
PENRE	MJ	3.23E+00	5.86E+00	0.00E+00	1.48E-01	3.31E+01	0.00E+00	-4.80E+00
PENRM	MJ	3.77E+01	-5.72E+00	0.00E+00	0.00E+00	-3.20E+01	0.00E+00	0.00E+00
PENRT	MJ	4.09E+01	1.32E-01	0.00E+00	1.48E-01	1.14E+00	0.00E+00	-4.80E+00
SM	kg	9.57E-01	0.00E+00	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
NRSF	MJ	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
FW	m^3	9.93E-03	7.01E-04	0.00E+00	5.52E-06	5.50E-03	0.00E+00	-1.22E-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							

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

Waste indicators

Results per declared unit								
Indicator	**Unit**	**A1-A3**	**A5**	**C1**	**C2**	**C3**	**C4**	**D**
Hazardous waste disposed	kg	2.49E-07	4.13E-11	0.00E+00	5.94E-12	3.22E-10	0.00E+00	-3.03E-09
Non-hazardous waste disposed	kg	5.97E-02	9.85E-02	0.00E+00	2.07E-05	1.16E-02	0.00E+00	-2.39E-03
Radioactive waste disposed	kg	9.06E-04	3.76E-06	0.00E+00	2.79E-07	2.62E-05	0.00E+00	-3.61E-04

Output flow indicators

Results per declared unit								
Indicator	**Unit**	**A1-A3**	**A5**	**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	0.00E+00
Material for recycling	kg	1.39E-01	0.00E+00	0.00E+00	0.00E+00	0.00E+00	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	0.00E+00
Exported energy, electricity	MJ	0.00E+00	5.66E-01	0.00E+00	0.00E+00	4.43E+00	0.00E+00	0.00E+00
Exported energy, thermal	MJ	0.00E+00	1.01E+00	0.00E+00	0.00E+00	7.89E+00	0.00E+00	0.00E+00

ABBREVIATIONS

Abbreviation	Definition
General Abbreviations	
EN	European Norm (Standard)
EPD	Environmental Product Declaration
EF	Environmental Footprint
GPI	General Programme Instructions
ISO	International Organization for Standardization
LCA	Life Cycle Assessment
PCR	Product Category Rules
c-PCR	Complementary Product Category Rules
CEN	European Committee for Standardization
CLC	Co-location centre
CPC	Central product classification
GHS	Globally harmonized system of classification and labelling of chemicals
GRI	Global Reporting Initiative
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)
Waste Indicators	
HW	Hazardous Waste (disposed) (kg)
NHW	Non-Hazardous Waste (disposed) (kg)
RW	Radioactive Waste (disposed) (kg)
Output Flow Indicators	
CFR	Components for Reuse (kg)
MR	Material for Recycling (kg)

MER	Materials for Energy Recovery (kg)
EEE	Exported Energy, Electricity (MJ)
EET	Exported Energy, Thermal (MJ)
Lifecycle Stages / Modules	
A1	Raw material supply
A2	Transport
A3	Manufacturing
A4	Transport to site
A5	Construction/Installation
B1	Use
B2	Maintenance
B3	Repair
B4	Replacement
B5	Refurbishment
B6	Operational energy use
B7	Operational water use
C1	Deconstruction/Demolition
C2	Transport to waste processing
C3	Waste processing
C4	Disposal
D	Reuse-Recovery-Recycling potential
Other Relevant Terms	
SVHC	Substances of Very High Concern
EC No.	European Community Number
CAS No.	Chemical Abstracts Service Number
MJ	Megajoule
kg	Kilogram
m^3	Cubic Meter
NMVOC	Non-Methane Volatile Organic Compounds
Sb eq.	Antimony Equivalents
P eq.	Phosphorus Equivalents
N eq.	Nitrogen Equivalents
CFC-11 eq.	Chlorofluorocarbon-11 Equivalents
CO_2 eq.	Carbon Dioxide Equivalents
kg C	Kilograms of Carbon
kg CO_2 eq.	Kilograms of Carbon Dioxide Equivalent
ND	Not Declared
IATF	International Automotive Task Force
AS	Aerospace Standard
UN CPC	UN Central Product Classification
PA66	Polyamide 6.6 (Nylon 6.6)
PA66HIRHS(REC)	Polyamide 6.6 recycled, high impact modified, heat stabilised
EoL	End of Life
PIR	Post Industrial Recycled

REFERENCES

CEN, 2015. EN 62275:2015, Cable management systems – Cable ties for electrical installations.

General Programme Instructions of the International EPD® System. Version 5.0.1

CEN, 2013. EN 15804:2012+A1:2013, Sustainability of construction works – Environmental product declarations – Core rules for the product category of construction products

CEN, 2019. EN 15804:2012+A2:2019, Sustainability of construction works – Environmental product declarations – Core rules for the product category of construction products

CEN, 2024. EN 15941:2024. Sustainability of construction works – Data quality for environmental assessment of products and construction work – Selection and use of data.

EPD International, 2025. PCR 2019:14 Construction products and construction services, version 2.0.1 (2025-06-20).

EPD International, 2019: General Programme Instructions for the International EPD System. Version 5.0 dated 2024-06-19. www.environdec.com

ISO, 2006. ISO 14025:2006, Environmental labels and declarations – Type III environmental declarations – Principles and procedures

ISO, 2006. ISO 14040:2006/Amd 1:2020, Environmental management – Life cycle assessment – Principles and framework

ISO, 2020. ISO 14044:2006/Amd 1:2020, Environmental management – Life cycle assessment – Requirements and guidelines

ISO 21930:2017, Sustainability in buildings and civil engineering works – Core rules for environmental product declarations of construction products and services.

Sphera LCA for Experts, LCA FE, software-system and databases, Managed LCA content MLC (fka GaBi database), University of Stuttgart and Sphera Solutions GmbH, 2025, CUP Version: 2025.1, MLC data set documentation under https://lcadatabase.sphera.com/ (April 2025)

VERSION HISTORY

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