

# Environmental Product Declaration



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

## [LVT RVT and ESPC Flooring Products]

from

[FUJIAN SIJIA NEW MATERIAL TECHNOLOGY CO.,  
LTD.]



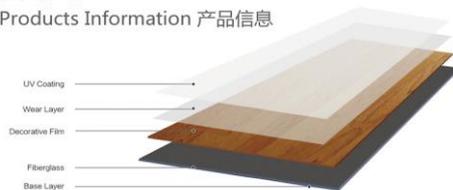
Programme:	The International EPD® System, <a href="http://www.environdec.com">www.environdec.com</a>
Programme operator:	EPD International AB
EPD registration number:	EPD-IES-0016872
Publication date:	2025-03-18
Valid until:	2030-03-18

*An EPD should provide current information and may be updated if conditions change. The stated validity is therefore subject to the continued registration and publication at [www.environdec.com](http://www.environdec.com)*

**Statement:** EPD of multiple products, based on worst case results. The list of the flooring products covered is Luxury Vinyl Tile (LVT), Rigid Vinyl Tile (RVT) and Embossing in regular Stone Plastic Composite (ESPC)

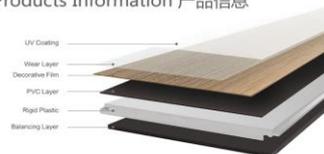
### LVT

Products Information 产品信息



### RVT

Products Information 产品信息



### ESPC

Products Information 产品信息





## General information

### Programme information

<b>Programme:</b>	The International EPD <sup>®</sup> System
<b>Address:</b>	EPD International AB Box 210 60 SE-100 31 Stockholm Sweden
<b>Website:</b>	<a href="http://www.environdec.com">www.environdec.com</a>
<b>E-mail:</b>	<a href="mailto:info@environdec.com">info@environdec.com</a>

<b>Accountabilities for PCR, LCA and independent, third-party verification</b>
<b>Product Category Rules (PCR)</b>
CEN standard EN 15804 serves as the Core Product Category Rules (PCR)
Product Category Rules (PCR): Product Category Rules (PCR): <i>PCR 2019:14 PCR Construction products v1.3.4 issue data 2024-04-30 valid until 2025-06-20</i>
<i>c-PCR-004 Resilient, textile and laminate floor coverings (EN 16810:2017), version (2019-12-20).</i>
PCR review was conducted by: The Technical Committee of the International EPD System. See <a href="http://www.environdec.com">www.environdec.com</a> for a list of members. Review chair: Claudia A. Peña, University of Concepción, Chile. The review panel may be contacted via the Secretariat <a href="http://www.environdec.com/contact">www.environdec.com/contact</a> .
<b>Life Cycle Assessment (LCA)</b>
LCA accountability: <Lilian Li, SGS-CSTC Standards Technical Services Co., Ltd.>
<b>Third-party verification</b>
Independent third-party verification of the declaration and data, according to ISO 14025:2006, via:
<input checked="" type="checkbox"/> EPD verification by accredited certification body
Third-party verification: IGSC Inc. is an approved certification body accountable for the third-party verification. The certification body is accredited by: National Accreditation Center (NAC)
Procedure for follow-up of data during EPD validity involves third party verifier:
<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No

The EPD owner has the sole ownership, liability, and responsibility for the EPD.

EPDs within the same product category but registered in different EPD programmes, or not compliant with EN 15804, may not be comparable. For two EPDs to be comparable, they must be based on the same PCR (including the same version number) or be based on fully-aligned PCRs or versions of PCRs; cover products with identical functions, technical performances and use (e.g. identical declared/functional units); have equivalent system boundaries and descriptions of data; apply equivalent data quality requirements, methods of data collection, and allocation methods; apply identical cut-off rules and impact assessment methods (including the same version of characterisation

factors); have equivalent content declarations; and be valid at the time of comparison. For further information about comparability, see EN 15804 and ISO 14025

### Company information

Owner of the EPD:

FUJIAN SIJIA NEW MATERIAL TECHNOLOGY CO., LTD

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Description of the organisation:

Fujian Sijia New Material Technology Co., Ltd. is a wholly-owned subsidiary of Sijia Group, which is a company engaged in new material technology research and development, high-performance fiber manufacturing, composite material manufacturing and other businesses, established on January 19, 2021. The business scope of the enterprise is: new material technology research and development, high-performance fiber and composite material manufacturing, high-performance fiber and composite material sales, synthetic material manufacturing (excluding hazardous chemicals), synthetic materials sales, floor manufacturing, floor sales, building waterproofing membrane product manufacturing, building waterproofing membrane product sales, new building materials manufacturing (excluding dangerous goods), technical services, technology development, technical consultation, technology exchange, technology transfer, technology promotion, industrial textile products sales, Amusement equipment and entertainment products manufacturing (excluding game and amusement equipment), outdoor products sales, new material technology promotion services, housing leasing, import and export of goods, technology import and export, etc.

Product-related or management system-related certifications:

Management system-related certifications: ISO9001, ISO14001

Name and location of production site(s):

Sixth Wei Road, Fuqing City, Fujian Province, China

### Product information

Product name:

LVT, RVT, ESPC flooring tiles

Product identification:

Table 1: Product specification

Specification	LVT	ESPC	RVT
<b>Total Thickness</b>	(-0.10, +0.13 mm)	(-0.10, +0.10 mm)	±0.10 mm
<b>Wear Layer Thickness</b>	±0.03 mm	±0.03 mm	±0.03 mm
<b>Weight per Unit Area</b>	(-10%, +10%)	(-10%, +10%)	(-10%, +10%)
<b>Peeling Strength</b>	≥50 N/50mm	≥50 N/50mm	≥50 N/50mm
<b>Dimensional Stability after Heating</b>	≤0.12%	≤0.10%	≤0.10%
<b>Curling after Heating</b>	≤1.2 mm	≤1.0 mm	≤1.0 mm



<b>Straightness</b>	≤0.15 mm	≤0.15 mm	≤0.15 mm
<b>Squareness</b>	≤0.15 mm	≤0.15 mm	≤0.15 mm

Product description:

1. LVT (Luxury Vinyl Tile)LVT flooring is produced through processes such as measurement, mixing, internal mixing, open mill mixing, and calendaring to create intermediate layers and bottom layers. It is engineered to provide enhanced durability, flexibility, and aesthetic options that mimic natural materials like wood or stone.

2. RVT (Rigid Vinyl Tile)RVT is another variant of vinyl tile, produced through metering, heat mixing, cold mixing, feeding, and plastic extrusion. It focuses on providing high resilience to foot traffic and impact.

3. ESPC (Embossing in regular Stone Plastic Composite)ESPC is produced similarly to SPC but includes additional embossing in regular improve the surface with realism and three-dimensional sense. This makes it a more premium version of SPC.

UN CPC code:

363 Semi-manufactures of plastics

Geographical scope:

China for A1-A3, Europe for A4, A5 and C1-C4 and D

**LCA information**

Declared unit:

In this study, a declared unit is defined as one square meter of tensile composite membrane. And the defined mass of the product per the declared unit is described in Table 2 below.

Table 2: Declared unit for the flooring products

Name		Value	Unit
Declared unit		1	m <sup>2</sup>
Mass conversion factor of declared unit	LVT	3.607	kg/m <sup>2</sup>
	RVT	7.982	kg/m <sup>2</sup>
	ESPC	10.861	kg/m <sup>2</sup>

Reference service life:

Not applicable

Time representativeness:

Data collection period: 2024-01-01 ~ 2024-12-30

Steps were taken to ensure that the LCI data were reliable and representative. The data type used is clearly stated in the Inventory analysis, measured or calculated from primary sources or whether data are from the LCI databases. In this study, the data quality requirements were as follows:

Specific data of the considered system (such as material or energy flows that enter the production system). These data were calculated and submitted by Sijia

Generic data related to the life cycle impacts the material or energy flows that enter the production system. These data were sourced from the Ecoinvent databases.

Database(s) and LCA software used:

Database: Ecoinvent 3.9.1, Ecoinvent 3 – allocation, cut-off by classification – unit

LCA Software: Simapro 9.5

Description of system boundaries:

The system boundary of the study is from cradle to gate (A1-A3) with A4, A5, C1-C4. Module D is also considered in this report.

A1-A3: Product stage (raw material acquisition, transport to manufacturing site and manufacturing)

A4: Production distribution stage

A5: Installation

C1-C4: End-of-life stage (deconstruction, transport, waste processing and disposal)

D: Reuse, recovery and/or recycling potentials

**A1 Raw materials extraction**

The products are all manufactured in Xiamen, Fujian Province, China. The Life Cycle Inventory (LCI) of raw materials for Sijia’s products includes detailed data on the material composition of LVT, ESPC, RVT. These materials include significant quantities of PVC (polyvinyl chloride), calcium carbonate, DOTP (a plasticizer), stabilizers, and various additives. The LCI captures data from raw material extraction to the production of these compounds, forming the basis for environmental impact assessment in subsequent stages of the life cycle. The major components are sourced directly from suppliers, ensuring that the LCI is as accurate as possible, and background data for upstream processes are modeled using established databases like Ecoinvent.

**A2 Raw materials transport**

The transportation mainly takes place on the upstream of raw material and packaging material supply. Since there lacks of the detailed transportation type, the transport dataset “Transport, freight, lorry 16-32 metric ton, EURO5 {RoW}” transport, freight, lorry 16-32 metric ton, EURO5 | Cut-off, U” is applied.

**A3 Product manufacturing**

Manufacturing of different flooring types varies. LVT involves mixing and calendaring PVC and other materials for base and intermediate layers, then cutting, hot - pressing with decorative and wear layers, followed by multiple post - processing steps before packaging. ESPC is like SPC (stone plastic composite) but with embossing for a 3D surface. RVT extrudes flexible PVC, cuts, hot - presses decorative and wear - resistant layers, and goes through similar post - processing. Manufacturers supply life cycle inventory data on energy, etc., and recycle solid waste (undercuts) internally. In this LCA, the grid mix data on electricity of for the site in Xiamen is based on grid mixes of the State Grid Corporation of China for Eastern China Region (Electricity, medium voltage {CN-ECGC}) market for electricity, medium voltage | Cut-off, U). The calculation is made based on total electricity losses between net electricity available at the busbar and the use of electricity calculated based on China Energy Portal 2020. The climate impact of the energy source behind electricity in the manufacturing process in A3 is 0.89 kg/ CO2 eq./kWh (using GWP-GHG indicator).

Table 3: Electricity profile for flooring product assembly

Province involved	Process	Production mix	Technology year	GHG-GWP (kgCO2/kWh)
Fujian	Flooring production	Electricity, medium voltage {CN-ECGC} market for electricity, medium voltage   Cut-off, U	2022	0.89

**C1-C4 modules**

For the end-of-life (EoL) scenario of the LVT, ESPC, RVT floor tiles, the stages are described as follows:

C1 - De-installation: The products are manually removed from buildings, requiring no additional energy or resources. Therefore, no input or output is accounted for in this phase.

C2 - Transportation: Following de-installation, the waste is assumed to be transported 100 km by road to a waste treatment facility. This reflects standard transportation distances in Europe for construction waste.

C3 - Waste Processing: In this stage, the waste materials are processed by shredding into flakes to prepare for further treatment or recycling. This step enables easier handling, separation, and processing of recyclable materials. The energy consumption and emissions from the shredding process are modeled using data from the Ecoinvent database, representing typical shredding operations for similar materials.

C4 - Disposal: Since the flooring products mainly contains calcium in the mass composition followed by polyvinyl chloride, the disposal scenario, as recommend by the SiJia, the manufacturer, is landfill (C3 and C4).

### Module D

The environmental benefits or loads resulting from recyclable materials and energy recovery of the waste products and waste packaging leaving a product system are declared in module D. According to EN15804, the benefits and loads for module D can be calculated according to the following formula:

$$e_{module,D} = e_{module,D1} + e_{module,D2} + e_{module,D3} + e_{module,D4}$$

Where  $e_{module,D1}$  indicates the being the loads and benefits related to the export of secondary materials,  $e_{module,D2}$  being the loads and benefits related to the export of secondary fuels;  $e_{module,D3}$  being the loads and benefits related to the export of energy as a result of waste incineration (for  $R1 < 60\%$  and  $R1 > 60\%$ )  $e_{module,D4}$  being the loads and benefits related to the export of energy as a result of landfilling. For these flooring products,  $e_{module,D2}$  and  $e_{module,D4}$  are zeros. For  $e_{module,D1}$ , the parameters for its calculation are given in the following Table

Table 4: Module D modeling for recycling of the packaging materials

Product category	Materials	Mass(kg)	$Q_{R,out}/Q_{sub}^*$	$M_{MR,in}$	$M_{MR,out}$
LVT	Paper packaging	0.093	0.85	0	0.079
	Plastic packaging	0.003	0.9	0	0.003
RVT	Paper packaging	0.290	0.85	0	0.246
	Plastic packaging	0.007	0.9	0	0.007
ESPC	Paper packaging	0.142	0.85	0	0.121
	Plastic packaging	0.009	0.9	0	0.008

For The parameter of  $E_{MR \text{ after } EOW,out}$  we follow a conservative approach of substituting a more primitive materials. Thus, no  $E_{MR \text{ after } EOW,out}$  is needed under this approach.

Table 5: Selection of substituted materials

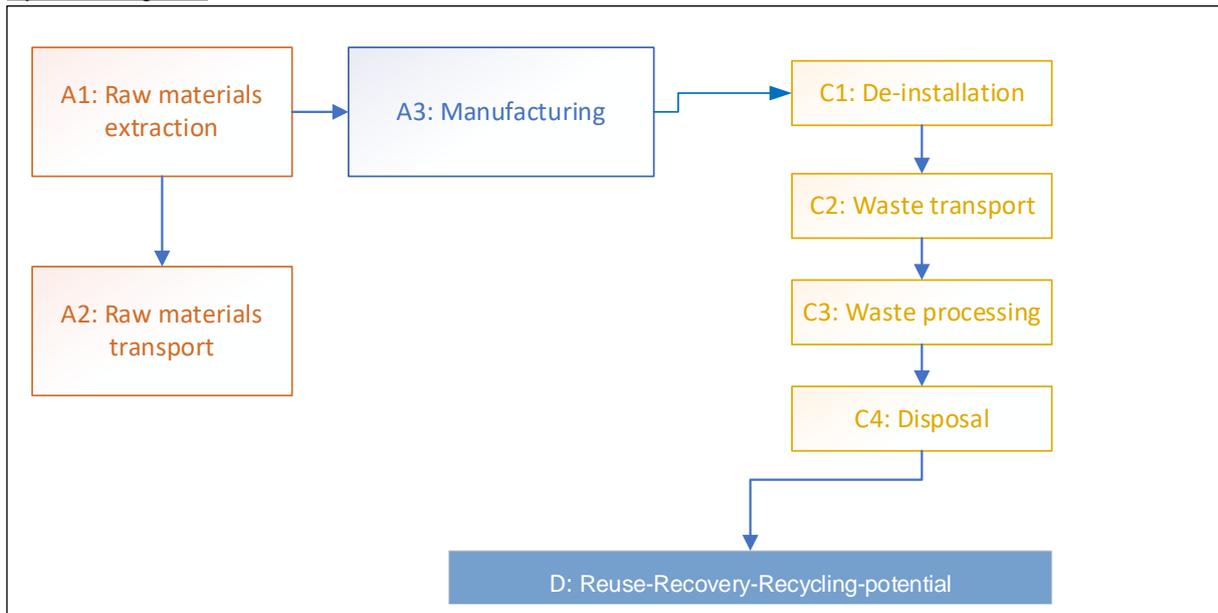
Materials	Substituted materials
Plastic	Polyethylene terephthalate, granulate, bottle grade {RER}   Cut-off, U
Paper	Pulpwood, hardwood, measured as solid wood under bark {Europe without Switzerland} market for pulpwood, hardwood, measured as solid wood under bark   Cut-off, U

Table 6: Recovered energy for module D

Product category	Materials	$M_{inc,out}$	LHV (MJ/kg waste)	Exported electricity(MJ/kg waste)	Exported thermal energy(MJ/kg waste)

LVT	Paper packaging	0.007	15.92	0.011	0.024
	Plastic packaging	0.001	42.47	0.007	0.013
RVT	Paper packaging	0.023	15.92	0.036	0.075
	Plastic packaging	0.003	42.47	0.016	0.032
ESPC	Paper packaging	0.011	15.92	0.018	0.037
	Plastic packaging	0.004	42.47	0.020	0.040

#### System diagram:



#### More information:

##### Cut-off criteria

The following steps/stages were not included in the system boundary due to the reason that the elements below are considered irrelevant or not within the boundary to the LCA study of the product system:

- 1) Storage phases of flooring products
- 2) Secondary and intermediate packaging.
- 3) Personnel-related processes, such as transportation of employees to and from work are excluded.
- 4) The production and end-of-life processes of infrastructure or capital goods used in the product system are excluded since it has no evidence that it is of relevance in terms of environmental impact.

##### Allocation

For recycling and disposal process at the end-of-life stage, the Polluters Pay Principle (PPP) has been adopted. PPP indicates that the environmental impacts to dispose the products are allocated to the polluter, i.e., the product manufacturer. The benefits of recycling and recovery is out of boundary of the product system and will not be allocated to flooring product. For data sets in this study, allocation is done via total dimension in m<sup>2</sup> of the flooring on a yearly average. The principle for choosing the size is based on the linear relationship of the product output to the environmental impacts. In this study, there is no other by products produced from the production line, hence there is quite little occasion that required allocation for multi-output processes.

### Key assumptions

The main assumptions and limitations of this LCA study are as follows:

- In the Life Cycle Assessment (LCA) for LVT, ESPC, RVT, the additives and stabilizers used in the manufacturing process are represented using proxy data due to confidentiality restrictions. These substances play a crucial role in enhancing product performance, but specific details regarding their composition and sourcing are not disclosed. Their mass contribution to the overall material composition ranges between 0.9% and 4.1% of the total product weight (Table 7). Despite this, their impact is included in the analysis, albeit with generalized data, as they constitute a relatively small fraction of the total materials.

Table 7 Proxy dataset selection

Substances	Proxy data	Dosage in LVT(kg/m <sup>2</sup> )	Dosage in RVT(kg/m <sup>2</sup> )	Dosage in ESPC(kg/m <sup>2</sup> )
<b>Stabilizer</b>	Chemical, organic {GLO} chemical production, organic   Cut-off, U	0.021	0.133	0.192
<b>Additive</b>	Chemical, inorganic {GLO} chemical production, inorganic   Cut-off, U	0.011	0.167	0.260

- Waste transport from the A3 stage is assumed to be to be 100km. A sensitivity analysis will be implemented to examine this scenario.
- Installation of De-installation of the floor are assumed to be done through manual labour
- The product is assumed to be firstly shredded into flakes (C3) and finally disposed through a combination of recycling and inert materials landfill.
- Product losses due to abnormal damage such as natural disaster or fire accident. These losses would mostly be accidental.

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	x	x	ND	ND	ND	ND	ND	ND	ND	x	x	x	x	x
Geography	CN	CN	CN	EUR	EUR								EUR	EUR	EUR	EUR	EUR
Specific data used	16.2%~33.2%					-	-	-	-	-	-	-	-	-	-	-	-
Variation – products	57.2%					-	-	-	-	-	-	-	-	-	-	-	-
Variation – sites	0%					-	-	-	-	-	-	-	-	-	-	-	-

## Content information

According to the PCR, for EPD with multiple products, three options can be chosen. This EPD follows the approach for “worst case” scenario Per the requirement of the PCR 2019:14 version 1.3.4, the content declaration is based on the declare unit.

Product components	Weight, kg	Variation, kg (min~max)	Post-consumer material, weight	Biogenic material, weight- and kg C/product
UV resin	1.59E-02	1.54e-02~1.59e-02	0	0
PVC	3.22E+00	1.08e+00~3.22e+00	0	0
DOTP	3.32E-01	1.79e-01~3.22e-01	0	0
Calcium carbonate	7.21E+00	2.23e+00~7.21e+00	0	0
Stabilizer	1.92E-01	2.06e-02~1.92e-01	0	0
Additives	2.60E-01	1.13e-02~2.60e-01		
Packaging materials	Weight, kg	Variation, kg (min~max)	Weight- (versus the product)	Weight biogenic carbon, kg C/product
Wood Pallet (kg)	3.32E-01	1.12e-01~3.32e-01	2.95%	1.64E-01
Corrugate Board Box (kg)	2.90E-01	9.26e-02~2.90e-01	2.58%	1.30E-01
Packaging Film (kg)	9.39E-03	3.09e-03~9.39e-02	0.08%	

No dangerous substances from the candidate list of SVHC for Authorisation for these products.

## Results of the environmental performance indicators

The results section presents the environmental impact for the worst-case scenario among the peer products, i.e., the A-C modules results are based on a higher impacts values. Variations for these impacts including minimum and maximum values are presented as well

### Mandatory impact category indicators according to EN 15804 with EF3.1

Indicator	Unit	A1-A3	A4	A5	C1	C2	C3	C4	D
Climate change-total	kg CO2 eq.	1.75E+01	3.19E+00	9.84E-01	0.00E+00	2.11E-01	1.22E-01	6.44E-02	-9.16E-03
Climate change - Fossil	kg CO2 eq.	1.76E+01	3.17E+00	2.13E-02	0.00E+00	2.09E-01	1.06E-01	6.28E-02	-8.69E-03
Climate change - Biogenic	kg CO2 eq.	-1.37E-01	1.27E-02	9.63E-01	0.00E+00	1.52E-03	1.59E-02	1.53E-03	-3.93E-04
Climate change - Land use and LU change	kg CO2 eq.	1.44E-02	2.10E-03	5.53E-06	0.00E+00	1.02E-04	2.84E-04	1.24E-05	-8.28E-05
Ozone depletion	kg CFC11 eq.	7.81E-06	5.52E-08	3.70E-10	0.00E+00	4.55E-09	1.96E-09	2.18E-09	-2.00E-10
Eutrophication, freshwater	mol H <sup>+</sup> eq.	4.21E-03	1.53E-04	8.82E-07	0.00E+00	1.46E-05	1.03E-04	2.93E-06	-3.27E-06
Eutrophication, marine	kg P eq.	1.56E-02	1.57E-02	1.80E-05	0.00E+00	2.34E-04	9.08E-05	1.77E-04	-9.30E-06
Eutrophication, terrestrial	kg N eq.	1.64E-01	1.73E-01	1.79E-04	0.00E+00	2.48E-03	7.82E-04	1.90E-03	-9.27E-05
Photochemical ozone formation	mol N eq.	6.09E-02	4.89E-02	6.59E-05	0.00E+00	1.02E-03	2.54E-04	7.52E-04	-5.35E-05
Acidification	kg NMVOC eq.	8.26E-02	6.15E-02	4.53E-05	0.00E+00	6.82E-04	5.08E-04	4.06E-04	-3.12E-05
Resource use, minerals and metals	kg Sb eq.	1.59E-04	5.86E-06	3.58E-08	0.00E+00	6.71E-07	2.19E-07	6.62E-08	-2.10E-08
Resource use, fossils	MJ	3.02E+02	4.13E+01	1.56E-01	0.00E+00	2.96E+00	2.44E+00	1.60E+00	-1.82E-01
Water use	m <sup>3</sup>	-5.69E-01	1.26E-01	8.91E-04	0.00E+00	1.21E-02	2.57E-02	5.76E-03	-3.04E-03

Acronym

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

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

\*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.

### Additional mandatory and voluntary impact category indicators

Indicator	Unit	A1-A3	A4	A5	C1	C2	C3	C4	D
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GWP-GHG1	kg CO2 eq.	1.76E+01	3.18E+00	2.13E-02	0.00E+00	2.09E-01	1.07E-01	6.28E-02	-8.77E-03
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## Environmental impact variations for the products

The variations for environmental impact categories are supplied. The variation is defined as the ratio between the distance of max and min results over the maximum results.

Impact category	Unit	Min	Max	Variation
GWP-GHG	kg CO2 eq.	7.55E+00	1.76E+01	57.2%
Climate change - Fossil	kg CO2 eq.	7.54E+00	1.76E+01	57.2%
Climate change - Biogenic	kg CO2 eq.	-3.79E-01	-1.37E-01	277.0%
Climate change - Land use and LU change	kg CO2 eq.	6.56E-03	1.44E-02	54.3%
Climate change	kg CO2 eq.	7.41E+00	1.73E+01	57.1%
Ozone depletion	kg CFC11 eq.	5.85E-06	7.81E-06	25.1%
Acidification	mol H <sup>+</sup> eq.	1.71E-03	4.21E-03	59.5%
Eutrophication, freshwater	kg P eq.	6.77E-03	1.56E-02	56.5%
Eutrophication, marine	kg N eq.	7.04E-02	1.64E-01	57.0%
Eutrophication, terrestrial	mol N eq.	2.72E-02	6.09E-02	55.3%
Photochemical ozone formation	kg NMVOC eq.	3.27E-02	8.26E-02	60.5%
Resource use, minerals and metals	kg Sb eq.	6.07E-05	1.59E-04	61.8%
Resource use, fossils	MJ	1.33E+02	3.02E+02	55.8%
Water use	m <sup>3</sup>	-2.77E+00	-5.69E-01	486.2%

## Resource use indicators

Indicator	Unit	A1-A3	A4	A5	C1	C2	C3	C4	D
PENRM	MJ	6.98E+01	0.00E+00						
PENRE	MJ	2.32E+02	4.13E+01	1.56E-01	0.00E+00	2.96E+00	2.44E+00	1.60E+00	-1.82E-01
PENRT	MJ	3.02E+02	4.13E+01	1.56E-01	0.00E+00	2.96E+00	2.44E+00	1.60E+00	-1.82E-01
PERM	MJ	7.72E+00	0.00E+00						
PERE	MJ	1.58E+01	4.36E-01	2.85E-03	0.00E+00	4.61E-02	5.08E-01	3.18E-02	-1.64E+00
PERT	MJ	2.30E+01	4.36E-01	2.85E-03	0.00E+00	4.61E-02	5.08E-01	3.18E-02	-1.64E+00
FW	M3	-6.27E-03	4.41E-03	4.44E-05	0.00E+00	4.22E-04	2.04E-03	1.87E-03	-7.32E-05
SM	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
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
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

## Waste indicators

Indicator	Unit	A1-A3	A4	A5	C1	C2	C3	C4	D
Hazardous waste disposed	kg	0.00E+00							
Non-hazardous waste disposed	kg	0.00E+00	0.00E+00	2.90E-02	0.00E+00	0.00E+00	0.00E+00	1.11E+01	0.00E+00
Radioactive waste disposed	kg	0.00E+00							

<sup>1</sup> 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<sub>2</sub> is set to zero.

## Output flow indicators

Indicator	Unit	A1-A3	A4	A5	C1	C2	C3	C4	D
Materials for energy recovery	kg	0.00E+00							
Material for recycling	kg	0.00E+00	0.00E+00	2.42E-01	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Components for re-use	kg	0.00E+00							
Exported energy, electricity	MJ	0.00E+00	0.00E+00	5.10E-02	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	1.05E-01	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00

## Additional environmental information

None

## Additional social and economic information

None

## Information related to Sector EPD

This EPD is not sectorial

## Differences versus previous versions

This EPD is a new submission

## References

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- [4] ISO 14040: 2006/Amd 1:2020 Environmental management - Life cycle assessment - Principles and framework Amendment 1 (ISO 2020).
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- [6] ISO 21930:2017, Sustainability in buildings and civil engineering works – Core rules for environmental product declarations of construction products and services.
- [7] EPD International. (2021). GENERAL PROGRAMME INSTRUCTIONS FOR THE INTERNATIONAL EPD® SYSTEM Version 4.0.
- [8] EPD International. (2022). PCR 2019:14, Version 1.3.3 Construction Products.
- [9] Plastics - the Facts 2021 [Plasctics - the Facts 2021 \(plasticseurope.org\)](http://Plasctics - the Facts 2021 (plasticseurope.org))

