

# Environmental Product Declaration



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

## Bituver MONOPLUS 4 mm P

from

**SAINT-GOBAIN Italia S.p.A.**



Programme:	The International EPD® System, <a href="http://www.environdec.com">www.environdec.com</a>
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*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)*



## General information

### Programme information

<b>Programme:</b>	The International EPD® 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>

### Accountabilities for PCR, LCA and independent, third-party verification

#### 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 1.3.4. Publisher on 2024.04.30 valid until: 2025-06-20 and C-PCR 032 to PCR 2019:14 (version 2024-10-14). This c-PCR covers "reinforced bitumen, plastic and rubber flexible sheet intended for roof waterproofing according to EN 13707 and EN 13956" as stated in EN 17388:2024.*

PCR review was conducted by: *The Technical Committee of the International EPD System. See [www.environdec.com](http://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](http://www.environdec.com/contact).*

#### Life Cycle Assessment (LCA)

LCA accountability: *ICA - Società di Ingegneria Chimica per l'Ambiente S.r.l. – Bergamo, Italy*

#### Third-party verification

Independent third-party verification of the declaration and data, according to ISO 14025:2006 via:

EPD verification by EPD Process Certification\*

Internal auditor: Irma Cavallotti - ICA – Società di ingegneria Chimica per l'Ambiente S.r.l.

Third-party verification: Certiquality srl is an approved certification body accountable for third-party verification

Third-party verifier is accredited by: Accredia, n. 00027VV

\*For EPD Process Certification, an accredited certification body certifies and reviews the management process and verifies EPDs published on a regular basis. For details about third-party verification procedure of the EPDs, see GPI.

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 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:

SAINT-GOBAIN ITALIA S.P.A

Via Giovanni Bensi 8, 20152 Milano, (Italy)

Tel. (+39) 02 611151/ mail: sg.ppc@legalmail.it / web: <https://www.saint-gobain.it/>

### Contact:

sg-italia@saint-gobain.com (SAINT-GOBAIN ITALIA S.P.A)

### Description of the organisation:

Saint-Gobain designs, manufactures, and distributes materials for the safety and comfort of each of us and the future of everyone. These materials are found everywhere in our living spaces and daily life: in buildings, transportation, infrastructure, and many industrial applications. The Isover Bituver brand identifies the line of bituminous membranes for waterproofing, produced in Italy at the Chieti plant.

### Product-related or management system-related certifications:

ISO 9001 "Quality management systems"

ISO 14001 "Environmental management systems"

ISO 45001 "Occupational health and safety management systems"

### Name and location of production site(s):

Saint-Gobain Italia - Isover plant: Via G. Pastore, 15, Chieti Scalo 66013 (CH) Italy

## Product information

Product name: Bituver MONOPLUS 4 mm P

### Product identification:

Bituver Monoplus waterproofing membranes are made with metallocene resin based elastoplastic compound. The reinforcement consists of a high-weight non-woven polyester fabric with continuous threads reinforced with fiberglass.

Bituver Monoplus 4 mm P can be used for: substrates, finishing layers, single layers, underground structures, retaining walls and foundations.

### Product description:

Bituminous waterproofing membranes are widely used to protect buildings against water in its various forms (e.g., rain, humidity, snow and hail). In addition, their waterproofing qualities preserve and sustain a building's capital value. Indeed, the membrane provides a good protection from rainwater penetration in order to ensure a proper thermal insulation over time.

Waterproofing System (data per m <sup>2</sup> )	Layer	Thickness (mm)	Mass (kg/m <sup>2</sup> )	RSL*
Bituver MONOPLUS 4 mm P	Single	4	4,30	30

\*RSL: Reference Service Life

UN CPC code: 3480 "Synthetic rubber and factice derived from oils, and mixtures thereof with natural rubber and similar natural gums, in primary forms or in plates, sheets or strip"

Type of products: bitumen-polymer waterproofing membrane

## LCA information

**Functional unit:** 1 m<sup>2</sup> installed roof waterproofing system with flexible sheets for roofing per year of use, with a membrane reference service life of 30 years (60 years considering 1 renovation). Environmental figures are thus presented divided by 60.

**Reference service life:** 30 years (60 years considering 1 renovation).

**Time representativeness:** 2023

**Database(s) and LCA software used:** Ecoinvent 3.10, SimaPro v. 9.6

**Geographical scope:** Italy, Europe

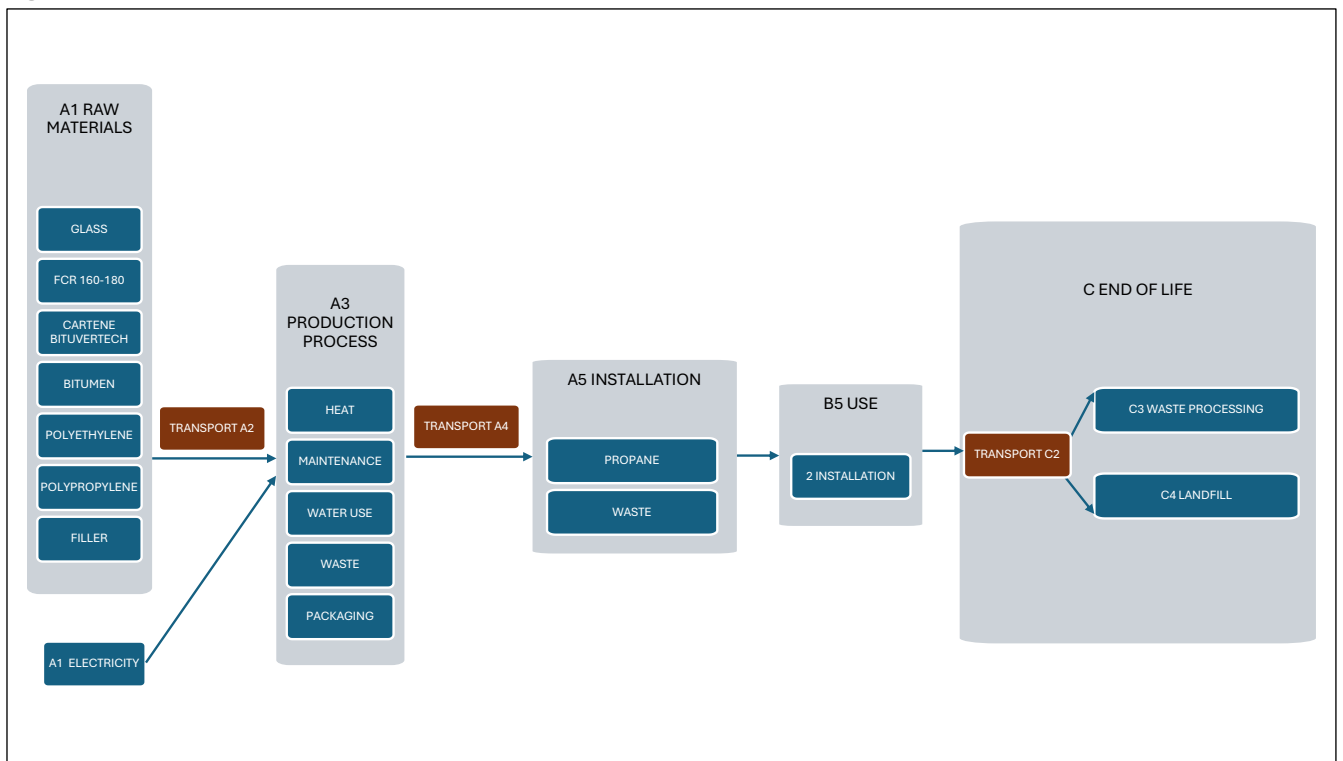
### Description of system boundaries:

Cradle-to-grave. The list of life-cycle stages is indicated in the table below, according to EN 15804

### System diagram:

Bituminous waterproofing membranes are produced by a continuous process as outlined in the figure below. Raw materials (bitumen and polymers) are mixed separately at a specific range of temperature and successively reinforced with polyester fleece or glass mat by impregnation. After calendaring and cooling, the membrane can be finished for practicality and aesthetic reasons by means of different alternative materials. Membranes are installed on many different type of building roofs as waterproofing.

Figure below is a simplified process with system boundaries where all instances of the figure are included in the assessment. Infrastructure, construction, production equipment, and tools directly consumed in the production process, travelling by personnel and research and development activities are excluded, in accordance with the PCR.



**Technical support:** ICA - Società di Ingegneria Chimica per l'Ambiente S.r.l. – Bergamo, Italy  
Environmental LCA study "Valutazione del ciclo di vita (LCA) Produzione della membrana impermeabilizzante Bituver Monoplus 4 mm P" rev 02 del 04/04/2025.

## Assumption

### Electricity

The purchased electricity used in the manufacturing process of module A3 accounts for less than 30% of the GWP-GHG results of modules A1-A3, nevertheless the energy source behind the purchased electricity and its climate impact as kg CO<sub>2</sub> eq./kWh (using the GWP-GHG indicator) has been reported. In detail the electricity is modelled by using the residual mix 2023 and its emission factor is 0,67 kg CO<sub>2</sub> eq./kWh.

### Module A5 and B5

These stages include the cutting waste production, transport and waste processing and disposal.

It has been assumed that 0.150 kg/m<sup>2</sup> of propane gas and 12% more membrane are considered in the first installation phase. Refurbishment stage includes all activities for roof maintenance. In line with the requirements of UNI EN 17388-1:2024, 1 renewal is considered: a new top layer is completely flame bonded onto the existing waterproofing system. Even in this case the installation efficiency is equal to 12%. The transport of waste produced on site considers a European average (EURO 5 truck, 16 t with diesel engine (300 km to recycling; 100 km t to the incineration site; 50 km to landfill disposal)).

### Module C2 + C3 + C4

The reference scenario considered for the roof membrane end of life waste management is:

- 45 % to landfill.
- 45 % to incineration with energy recovery.
- 10 % to recycling

Distance covered by a European average EURO 5 lorry 16 t with diesel engine (Module C2):

- 300 km to recycling;
- 100 km to incineration site
- 50 km to disposal

Waste processing (Module C3) considers the electricity consumption of waste sorting facilities and total burdens of incineration. Recycling process, other than sorting, are not considered. Landfilling burdens are entirely considered in C4 module

### Module D

The module D comprises:

- The total environmental impact of incineration with energy recovery is included in the system boundaries (phase C3), while the benefits are considered in Module D intended as recovery of electricity only, considering a recovery efficiency of 27% and considering the production of electricity from waste-to-energy as avoided impacts.
- the avoided impacts related to the recycling of bitumen and polymers. Bitumen and polymers are considered recycled together, as separate recovery of polymers is not possible. Therefore, the output is a flow of inert secondary material.

### Data Quality:

In accordance with the UNI EN 15804 standard, three qualitative criteria were adopted to evaluate the quality of the data input to the model in terms of temporal, geographical and technological representativeness. The quality levels refer to table E.2 of Annex E. The overall quality level of the data used for the inventory is of good quality.

### Allocation:

A physical allocation of the inputs/outputs to the model was performed. In particular, the allocation factors were determined on the basis of the square meters produced. Where possible, the allocation has been avoided by identifying the specific consumption relating to the product. Primary data relating to the reference year were collected for energy and utilities consumption, as well as for emissions and waste.

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	X	ND	ND	X*	X	X	X	X
Geography	GLO	GLO	IT	IT	IT					IT			IT	IT	IT	IT	IT
Specific data used	20%					-	-	-	-	-	-	-	-	-	-	-	-
Variation – products	Not applicable					-	-	-	-	-	-	-	-	-	-	-	-
Variation – sites	Not applicable					-	-	-	-	-	-	-	-	-	-	-	-

The share of primary data is calculated based on GWP-GHG results. It is a simplified indicator for data quality that do not capture all relevant aspects of data quality. The indicator is not comparable across product categories.

## Content information

Product components	Weight [kg]	Post-consumer material, weight-%	Biogenic material, weight-% and kg C/ m <sup>2</sup>
Bitumen	50-70%	0%	0
Polymers	5-25%	75%	0
Reinforcement	3-8%	0%	0
Filler	15-25%	0%	0
PP foils	0-5%	0%	0
Glass	0-5%	100%	0
<b>TOTAL</b>	<b>100%</b>	<b>8%</b>	<b>0</b>
Packaging materials	Weight, kg/m <sup>2</sup>	Weight-% (versus the product)	Weight biogenic carbon, kg C/ m <sup>2</sup>
Wooden pallet	0,065	1,5%	0,031
PE film	0,001	0,03%	0
PET	0,0004	0,01%	0
Cardboard	0,0002	0,004%	0,0001
<b>TOTAL</b>	<b>0,067</b>	<b>1,6%</b>	<b>0,031</b>

Product studied do not contain substances listed in the “Candidate List of Substances of Very High Concern” (SVHC).

## Results of the environmental performance indicators

The characterization factors of the EN 15804 standard have been used to estimate the potential environmental impacts (Method EN 15804 +A2 (adapted) v 1.01 / EF 3.1 normalization and weighting set). With respects to the results corresponding to the rest of the parameters under study, the CED Method (Cumulative Energy Demand LHV v 1.01) has been used. Estimated impact results are only relative statements that do not indicate impact category endpoints, exceedances of assessed thresholds, safety margins or risks.

Results obtained in both the product stage (module A1-A3) and installation stage (modules A4-A5) should not be used without considering those results obtained in modules C. Regarding C4 module, locally and additional calculation will be necessary based on the local applicable waste treatment scenario. All infrastructure and capital goods are excluded for the core processes.

### Mandatory impact category indicators according to EN 15804

Indicator name and abbreviation (EN)	Unit (EN)	Results per functional unit**							
		Total A1-A3	A4	A5	B5	C2	C3	C4	D
<b>Core environmental impact indicators (MANDATORY)</b>									
Global warming potential - total (GWP-total)	kg CO <sub>2</sub> eq.	<b>6,08E-02</b>	3,36E-03	2,33E-02	1,10E-01	3,34E-03	1,53E-01	7,63E-03	-1,86E-04
Global warming potential - fossil fuels (GWP-fossil)	kg CO <sub>2</sub> eq.	<b>6,03E-02</b>	3,36E-03	2,33E-02	1,10E-01	3,34E-03	1,53E-01	7,63E-03	-1,86E-04
Global warming potential - biogenic (GWP-biogenic)	kg CO <sub>2</sub> eq.	<b>7,31E-04</b>	1,75E-06	1,41E-05	2,65E-04	1,96E-06	9,15E-06	3,38E-06	-1,01E-07
Global warming potential - land use and land use change (GWP-luluc)	kg CO <sub>2</sub> eq.	<b>2,87E-05</b>	1,16E-06	2,67E-06	4,96E-05	1,06E-06	2,55E-06	4,02E-07	-1,63E-07
Depletion potential of the stratospheric ozone layer (ODP)	kg CFC-11 eq.	<b>3,36E-08</b>	6,80E-11	2,50E-10	3,61E-08	6,71E-11	1,15E-10	2,11E-11	-2,52E-12
Acidification potential, accumulated exceedance (AP)	mol H+ eq.	<b>2,72E-04</b>	1,34E-05	3,24E-05	3,61E-04	1,26E-05	5,55E-05	9,49E-06	-1,25E-06
Eutrophication potential - freshwater (EP-freshwater)	kg P eq.	<b>8,89E-06</b>	2,30E-07	9,71E-07	1,84E-05	2,20E-07	8,43E-07	9,34E-08	-2,52E-08
Eutrophication potential - marine (EP-marine)	kg N eq.	<b>5,02E-05</b>	5,02E-06	1,70E-05	8,01E-05	4,72E-06	1,63E-05	1,11E-04	-4,34E-07
Eutrophication potential - terrestrial (EP-terrestrial)	mol N eq.	<b>5,30E-04</b>	5,47E-05	1,11E-04	7,74E-04	5,15E-05	1,52E-04	2,12E-05	-4,78E-06
Photochemical ozone creation potential (POCP)	kg NMVOC eq.	<b>2,65E-04</b>	2,12E-05	4,90E-05	1,91E-03	1,93E-05	4,11E-05	9,47E-06	-1,51E-06
Abiotic depletion potential - non-fossil resources (ADPE)*	kg Sb eq.	<b>6,30E-07</b>	9,13E-09	3,12E-08	1,01E-06	1,07E-08	1,34E-08	1,48E-09	-7,33E-10
Abiotic depletion potential - fossil resources (ADPF)*	MJ, net calorific value	<b>2,91E+00</b>	4,90E-02	1,95E-01	2,62E+00	4,69E-02	4,06E-02	1,61E-02	-2,48E-03
Water (user) deprivation potential (WDP)*	m <sup>3</sup> world eq. deprived	<b>7,86E-02</b>	2,33E-04	3,01E-04	5,17E-02	1,78E-04	2,17E-03	-6,39E-03	-6,46E-04

\*\* FU: 1 m<sup>2</sup> installed roof waterproofing system with flexible sheets for roofing per year of use, with a membrane reference service life of 30 years (60 years considering one renovation). Environmental results are thus presented divided by 60.

The results of the impact categories abiotic depletion of minerals and metals may be highly uncertain in LCAs that include capital goods/infrastructure in generic datasets, in case infrastructure/capital goods contribute greatly to the total results. This is because the LCI data of infrastructure/capital goods used to quantify these indicators in currently available generic datasets sometimes lack temporal, technological and geographical representativeness. Caution should be exercised when using the results of these indicators for decision-making purposes.

## Additional mandatory and voluntary impact category indicators

Indicator name and abbreviation (EN)	Unit (EN)	Results per functional unit**							
		Total A1-A3	A4	A5	B5	C2	C3	C4	D
Additional mandatory environmental impact indicators (MANDATORY)									
Global warming potential (GWP-GHG)	kg CO <sub>2</sub> eq.	<b>5,93E-02</b>	3,34E-03	2,32E-02	1,08E-01	3,32E-03	1,53E-01	7,62E-03	-1,84E-04

\*\* FU: 1 m<sup>2</sup> installed roof waterproofing system with flexible sheets for roofing per year of use, with a membrane reference service life of 30 years (60 years considering one renovation). Environmental results are thus presented divided by 60.

## Resource use indicators

Indicator name and abbreviation (EN)	Unit (EN)	Results per functional unit**							
		Total A1-A3	A4	A5	B5	C2	C3	C4	D
Indicators describing resource use (MANDATORY)									
Use of renewable primary energy as energy carrier (PERE)	MJ, net calorific value	<b>4,19E-02</b>	7,54E-04	2,76E-03	7,13E-02	8,74E-04	1,76E-03	2,82E-04	-7,17E-05
Use of renewable primary energy resources used as raw materials (PERM)	MJ, net calorific value	<b>5,85E-05</b>	0,00E+00	0,00E+00	1,17E-04	0,00E+00	0,00E+00	0,00E+00	0,00E+00
Total use of renewable primary energy (PERT)	MJ, net calorific value	<b>4,19E-02</b>	7,54E-04	2,76E-03	7,15E-02	8,74E-04	1,76E-03	2,82E-04	-7,17E-05
Use of non renewable primary energy as energy carrier (PENRE)	MJ, net calorific value	<b>6,32E-01</b>	4,90E-02	5,26E-02	3,40E-01	4,69E-02	4,06E-02	1,61E-02	-2,49E-03
Use of non renewable primary energy resources used as raw materials (PENRM)	MJ, net calorific value	<b>2,28E+00</b>	0,00E+00	1,42E-01	2,28E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00
Total use of non renewable primary energy resource (PENRT)	MJ, net calorific value	<b>2,91E+00</b>	4,90E-02	1,95E-01	2,62E+00	4,69E-02	4,06E-02	1,61E-02	-2,49E-03
Use of secondary material (SM)	kg	<b>4,44E-03</b>	0,00E+00	0,00E+00	8,89E-03	0,00E+00	0,00E+00	0,00E+00	0,00E+00
Use of renewable secondary fuels (RSF)	MJ, net calorific value	<b>0,00E+00</b>	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00
Use of non-renewable secondary fuels (NRSF)	MJ, net calorific value	<b>0,00E+00</b>	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00
Net use of fresh water (FW)	m <sup>3</sup>	<b>3,35E-03</b>	3,75E-05	9,44E-05	5,99E-03	3,79E-05	2,00E-04	2,95E-05	-5,15E-05

\*\* FU: 1 m<sup>2</sup> installed roof waterproofing system with flexible sheets for roofing per year of use, with a membrane reference service life of 30 years (60 years considering one renovation). Environmental results are thus presented divided by 60.

## Waste indicators and output flows indicators

Indicator name and abbreviation (EN)	Unit (EN)	Results per functional unit**							
Environmental information describing waste categories (MANDATORY)		<b>Total A1-A3</b>	<b>A4</b>	<b>A5</b>	<b>B5</b>	<b>C2</b>	<b>C3</b>	<b>C4</b>	<b>D</b>
Hazardous waste disposed (HWD)	kg	1,20E-04	3,22E-07	9,90E-07	2,66E-05	3,14E-07	8,12E-07	1,10E-07	-2,16E-08
Non-hazardous waste disposed (NHWD)	kg	8,95E-03	4,19E-03	4,49E-03	1,46E-02	1,88E-03	5,09E-03	6,46E-02	-8,19E-05
Radioactive waste disposed (RWD)	kg	8,87E-07	1,47E-08	4,26E-08	1,75E-06	1,79E-08	3,22E-08	6,18E-09	-1,29E-09
Environmental information describing output flows (MANDATORY)		<b>Total A1-A3</b>	<b>A4</b>	<b>A5</b>	<b>B5</b>	<b>C2</b>	<b>C3</b>	<b>C4</b>	<b>D</b>
Components for re-use (CRU)	kg	0,00E+00	0,00E+00	1,09E-03	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00
Materials for recycling (MFR)	kg	2,08E-04	0,00E+00	1,06E-03	2,01E-03	0,00E+00	2,66E-02	0,00E+00	0,00E+00
Materials for energy recovery (MER)	kg	3,00E-04	0,00E+00	2,83E-03	6,00E-04	0,00E+00	7,97E-02	0,00E+00	0,00E+00
Exported electrical energy (EEE)	MJ, net calorific value	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00
Exported thermal energy (EET)	MJ, net calorific value	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00

\*\* FU: 1 m<sup>2</sup> installed roof waterproofing system with flexible sheets for roofing per year of use, with a membrane reference service life of 30 years (60 years considering one renovation). Environmental results are thus presented divided by 60.

## Other environmental performance indicators

Indicator name and abbreviation (EN)	Unit (EN)	Results per functional unit**							
		Total A1-A3	A4	A5	B5	C2	C3	C4	D
Additional voluntary environmental impact indicators (OPTIONAL)*									
Particulate matter emissions (PM)	Disease incidence	<b>2,28E-09</b>	3,42E-10	4,64E-10	4,05E-09	2,33E-10	5,04E-10	1,16E-10	-2,27E-11
Ionizing radiation, human health (IRP)	kBq U235 eq.	<b>3,77E-03</b>	5,95E-05	1,74E-04	6,88E-03	7,17E-05	1,24E-04	2,46E-05	-5,25E-06
Eco-toxicity - freshwater (ETP-fw)	CTUe	<b>1,63E+00</b>	1,16E-02	3,49E-02	5,02E-01	1,23E-02	3,41E-02	2,72E-03	-7,92E-04
Human toxicity, cancer effect (HTP-c)	CTUh	<b>1,79E-10</b>	2,09E-11	6,83E-11	4,58E-10	2,01E-11	3,14E-11	3,82E-12	-1,17E-12
Human toxicity, non-cancer effects (HTP-nc)	CTUh	<b>8,34E-10</b>	3,16E-11	4,97E-11	9,64E-10	2,73E-11	1,29E-10	1,27E-11	-1,42E-12
Land use related impacts/Soil quality (SQP)	dimensionless	<b>1,52E-01</b>	4,93E-02	1,71E-02	3,20E-01	2,41E-02	2,21E-02	3,73E-02	-1,22E-02

\* 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.

\*\* FU: 1 m<sup>2</sup> installed roof waterproofing system with flexible sheets for roofing per year of use, with a membrane reference service life of 30 years (60 years considering one renovation). Environmental results are thus presented divided by 60.

\*\*\*The results of the impact categories land use, human toxicity (cancer), human toxicity, noncancer and ecotoxicity (freshwater) may be highly uncertain in LCAs that include capital goods/infrastructure in generic datasets, in case infrastructure/capital goods contribute greatly to the total results. This is because the LCI data of infrastructure/capital goods used to quantify these indicators in currently available generic datasets sometimes lack temporal, technological and geographical representativeness. Caution should be exercised when using the results of these indicators for decision-making purposes.

## Additional environmental information

- PRODUCT REFERENCE SERVICE LIFE (RSL): The reference service life (RSL) refers to the declared technical and functional performance of the product within a building. A standard reference service life of 30 years is assumed (as reported in UNI EN 17388-1:2024) for roof waterproofing. A maximum of 1 renewal is considered, during which the new upper layer is completely laid back on the previous layer by flaming the lower surface of the membrane. A total building service life of 60 years is therefore considered.

## Differences versus previous versions

Not available, first emission.

## References

- General Programme Instructions of the International EPD<sup>®</sup> System. Version 5.0.
- General Programme Instructions of the International EPD<sup>®</sup> System. Version 4.0.
- UNI EN 15804:2021 EN 15804 "Sustainability of construction works-Environmental Product Declarations-Core rules for the product category of construction products" del 23/09/2021
- PCR 2019:14. Construction product. Version 1.3.4
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