ENVIRONMENTAL PRODUCT DECLARATION

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

BPP (Plastomeric Polymer Bitumen) MEMBRANES
Aluvapor Tender 2 kg;
Aluvapor Tender 3 mm

from
Saint Gobain Italia S.p.A.

Version date: 2026/05/20
Validity date: 2031/05/19
Validity: 5 years

The International EPD® System,
www.environdec.com
Programme operator: EPD International AB
Registration number: EPD-IES-0032288:001
Type of EPD: EPD of multiple products, based on the weighted average results of the product group listed on page 3

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
E-mail:	support@environdec.com

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
PCR review was conducted by: The Technical Committee of the International EPD System. See www.environdec.com for a list of members. Review chair: Rob Rouwette (chair), Noa Meron (co-chair). The review panel may be contacted via the Secretariat www.environdec.com/contact.
c-PCR, if applicable: 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.

Third-party Verification
Independent third-party verification of the declaration and data, according to ISO 14025:2006, via: **EPD process certification* without a pre-verified LCA/EPD tool** Third-party verifier: *Certiquality S.r.l. Via G. Giardino, 4 - 20123 Milano* Accredited by: Accredia, 0027VV **EPD process certification involves an accredited certification body certifying and periodically auditing the EPD process and conducting external and independent verification of EPDs that are regularly published. More information can be found in the General Programme Instructions on www.envrondec.com.*
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

HEADQUARTER: Saint Gobain Italia S.p.A.- Via Giovanni Bensi 8, 20152 Milano, Italy
PRODUCTION SITE: Saint Gobain Italia S.p.A.- Isover plant: Via G. Pastore 15, 66013 Chieti Scalo, Italy

Contact: tel. (+39) 02 611151/ mail: sg.ppc@legalmail.it / web: https://www.saint-gobain.it/ www.isover.it

Address and contact information of the LCA practitioner commissioned by the EPD owner: ICA - Società di Ingegneria Chimica per l'Ambiente S.r.l. –Via Stezzano 87 – c/o Kilometro Rosso Innovation District, 24126 Bergamo, Italy

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”

PRODUCT INFORMATION

Saint Gobain Italia's BPP (Plastomer Polymer Bitumen) Bitumen-polymer membranes provide reliable waterproofing by combining engineered bituminous compounds and high-performance reinforcements, delivering balanced flexibility, mechanical strength and long-term durability, along with a wide selection of surface finishes to suit different application requirements.

Product identification: The EPD corresponds to a virtual average product, calculated based on production volumes. The associated variability is set out in the additional information section.

Product	Compound
Aluvapor Tender 2 kg	BPP
Aluvapor Tender 3mm	BPP

Note: for all the technical information, refer to the technical data sheet of the products.
UN CPC code: 3480

CONTENT DECLARATION

The weighted average composition of the products, as a representative range for all the type and thicknesses, is provided in the table below, along with average packaging composition.

Data	Composition	Mass% (versus 1kg of product)	Average Product	Range min-max (kg/m²)	Post-consumer recycled material, mass-% of product	Biogenic material, kg C/m²
Raw Materials	Bitumen	47%	1,2	1,0-2,0	--	--
	Filler	38%	1,0	0,8-1,7	--	
	Polymers	6%	0,2	0,1-0,3	4,8%	
	Reinforcement	5%	0,1	0,1	--	
	Additives	0%	0,0	--	--	
	Glass	4%	0,1	0,1	--	
Total mass (weight) of one unit of product [kg/m²]			**2,6**		**4,8%**	--
Packaging Materials	Wooden pallet	1,5%	0,04	0,03-0,06	--	1,81E-02
	polyethylene	0,06%	0,002	0,001-0,002		
	Cardboard	--	--	--		

1 kg biogenic carbon in the product/packaging is equivalent to the uptake of 44/12 kg of CO_2.

No substance listed as a candidate for Authorization (Candidate List SVHC) or subject to Authorization (Annex XIV - REACH) is contained in the product.

Origin of pre-consumer recycled materials in the product: The bitumen mixture used in the EPD product has a recycled content corresponding to the amount of shredded coating produced internally and subsequently shredded and recovered during the production process. This content is not reported in the previous table as it is pre-consumer material, in particular 5,6%.
Origin of post-consumer recycled materials in the product: The bitumen mixture used in the EPD product has a recycled content corresponding to the amount of polymer and glass recovered.

LCA INFORMATION

Description of system boundaries:

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

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

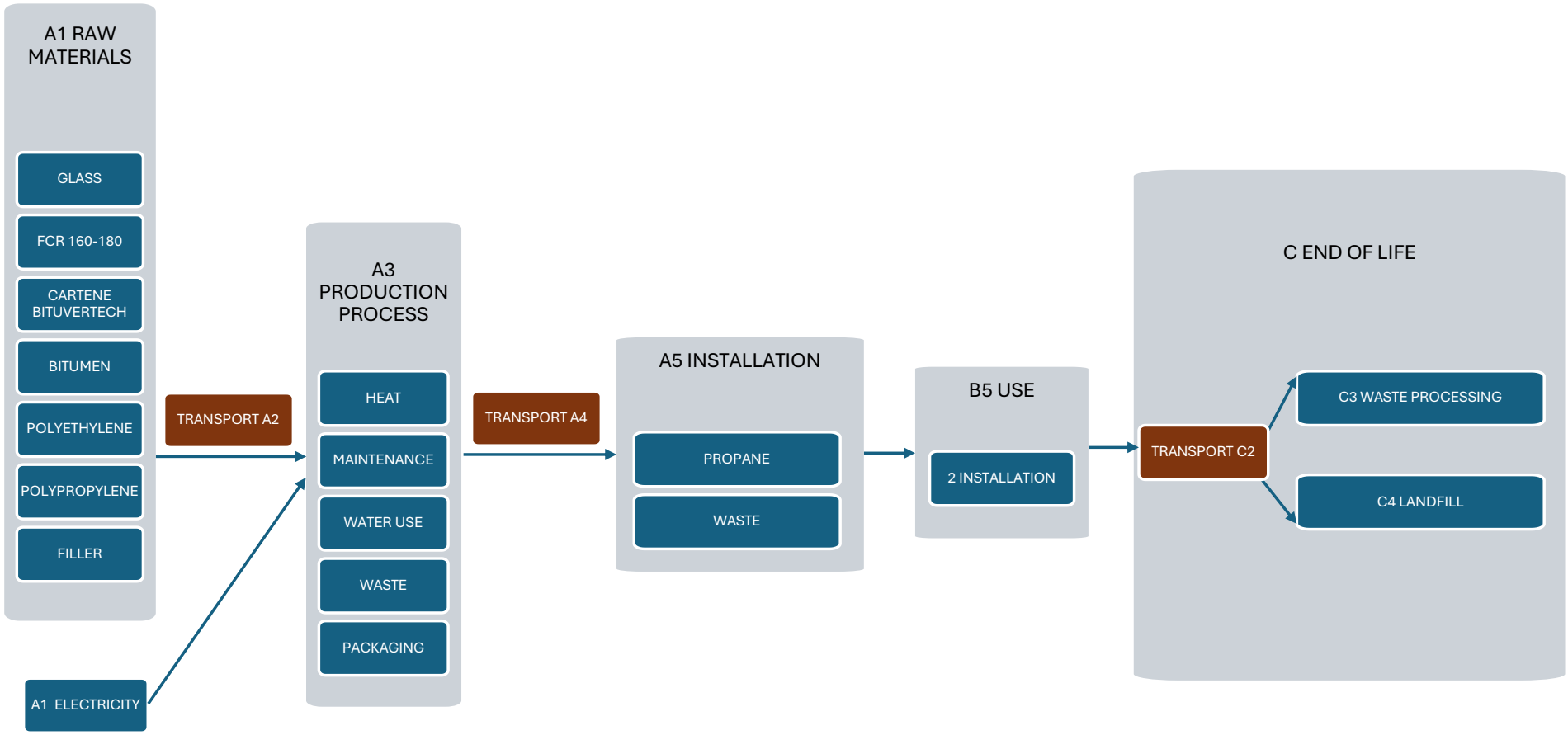
	Product stage			Construction process stage		Use stage							End of life stage				Resource recovery stage
	Raw material supply	Transport	Manufacturing	Transport	Construction installation	Use	Maintenance	Repair	Replacement	Refurbishment	Operational energy use	Operational water use	De-construction demolition	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	16%					-	-	-	-	-	-	-	-	-	-	-	-
Variation – products	-14% /+35%					-	-	-	-	-	-	-	-	-	-	-	-
Variation – sites	Not applicable					-	-	-	-	-	-	-	-	-	-	-	-

ND: module not declared; IT: Italy; GLO: Global.

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.

Process Description: 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 calendering 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.


A1 RAW MATERIALS
GLASS
FCR 160-180
CARTENE BITUVERTECH
BITUMEN
POLYETHYLENE
POLYPROPYLENE
FILLER
A1 ELECTRICITY
TRANSPORT A2
A3 PRODUCTION PROCESS
HEAT
MAINTENANCE
WATER USE
WASTE
PACKAGING
TRANSPORT A4
A5 INSTALLATION
PROPANE
WASTE
B5 USE
2 INSTALLATION
C END OF LIFE
TRANSPORT C2
C3 WASTE PROCESSING
C4 LANDFILL

Functional unit: 1 m^2 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.

Conversion factor to mass if mass is not used as functional/declared unit (not applicable for services). The weight per 1 m^2 of installed membrane is 2,6 kg/m^2 and the conversion factor to 1 kg is thus 0.38 m^2/kg.

Reference service life: 30 years (60 years considering 1 renovation).
Time representativeness: 2025
Geographical scope: Italy, Europe
Database(s) and LCA software used: Ecoinvent 3.11, SimaPro v. 10.2

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 $CO_{2\,eq}$./kWh (using the GWP-GHG indicator) has been reported. In detail the electricity is modelled by using the residual mix 2024 and its emission factor is 0,58 kg $CO_{2\,eq}$./kWh.
Module A5 and B5:	These stages include the cutting waste production, transport and waste processing and disposal. The membrane is fully torched, thus the installation was modelled in line with the requirement of UNI EN 17388-1:2024 (Additional Material Consumption 12%). 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 first installation. 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.

Process	Source type	Source	Reference year	Data category	Share of primary data, of GWP-GHG results for A1-A3
Generation of energy used in manufacturing of product	Collected data, Database	EPD owner, Ecoinvent v3.11, AIB	2025	Primary data	12%
Manufacturing of product	Collected data	EPD owner	2025	Primary data	1%
Transport of raw materials to manufacturing site	Database	Ecoinvent v3.11	2025	Primary data	3%
Production of raw materials	Database	Ecoinvent v3.11	2025	Secondary data	84%
Production of packaging	Database	Ecoinvent v3.11	2025	Secondary data	<1%
Total share of primary data, of GWP-GHG results for A1-A3					**16%**

ENVIRONMENTAL PERFORMANCE

LCA results of the product - main environmental performance results

Mandatory impact category indicators according to EN 15804

Module	Unit	A1-A3	A4	A5	B5	C2	C3	C4	D
GWP- total	kg CO_2 eq.	4,02E-02	1,83E-03	1,76E-02	5,96E-02	1,98E-03	2,87E-02	4,57E-03	-9,49E-03
GWP-fossil	kg CO_2 eq.	3,99E-02	1,83E-03	1,76E-02	5,75E-02	1,97E-03	2,87E-02	4,57E-03	-3,71E-04
GWP-biogenic	kg CO_2 eq.	1,58E-04	1,15E-06	5,41E-06	1,63E-04	9,09E-07	2,60E-06	1,87E-06	-9,12E-03
GWP- luluc	kg CO_2 eq.	1,33E-04	6,73E-07	2,49E-06	1,35E-04	6,18E-07	6,00E-07	2,53E-07	-1,64E-07
ODP	kg CFC 11 eq.	2,61E-08	4,02E-11	2,00E-10	2,63E-08	4,36E-11	2,34E-11	1,32E-11	-4,94E-12
AP	mol H^+ eq.	1,96E-04	7,57E-06	2,36E-05	2,20E-04	7,65E-06	1,10E-05	5,66E-06	-2,95E-06
EP-freshwater	kg P eq.	8,88E-06	1,30E-07	6,63E-07	9,55E-06	1,33E-07	2,25E-07	5,70E-08	-4,83E-07
EP- marine	kg N eq.	3,63E-05	2,85E-06	1,25E-05	4,89E-05	2,86E-06	3,27E-06	6,65E-05	-1,44E-06
EP-terrestrial	mol N eq.	4,00E-04	3,10E-05	9,20E-05	4,92E-04	3,11E-05	3,09E-05	1,27E-05	-1,28E-05
POCP	kg NMVOC eq.	1,84E-04	1,16E-05	4,17E-05	2,26E-04	1,14E-05	8,48E-06	5,64E-06	-3,46E-06
ADP-minerals&metals*	kg Sb eq.	2,74E-07	5,14E-09	6,70E-09	2,80E-07	6,76E-09	2,69E-09	7,86E-10	-9,51E-10
ADP-fossil*	MJ	1,51E+00	2,69E-02	1,68E-01	1,68E+00	2,80E-02	-4,34E-01	9,54E-03	-3,48E-03
WDP*	m^3	3,21E-02	1,23E-04	2,59E-04	3,24E-02	9,92E-05	2,39E-05	-3,84E-03	-4,29E-04

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 shall be used with care as the uncertainties on these results are high or as there is limited experienced with the indicator.
- 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).

Additional mandatory and voluntary impact category indicators

Module	Unit	A1-A3	A4	A5	B5	C2	C3	C4	D
GWP-GHG[1]	kg CO_2 eq.	4,01E-02	1,83E-03	1,76E-02	5,77E-02	1,98E-03	2,87E-02	4,57E-03	-3,71E-04

Additional voluntary indicators e.g. the voluntary indicators from EN 15804 or the global indicators according to ISO 21930:2017

[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.

Module	Unit	A1-A3	A4	A5	B5	C2	C3	C4	D
Particulate matter	Disease incidence	1,98E-09	1,88E-10	3,38E-10	2,32E-09	1,40E-10	1,52E-10	6,93E-11	-3,41E-11
Ionising radiation	kBq U235 eq.	3,25E-03	3,05E-05	1,30E-04	3,38E-03	4,06E-05	2,87E-05	1,29E-05	-9,50E-06
Ecotoxicity, freshwater	CTUe	7,98E-01	3,14E-03	1,09E-02	8,09E-01	4,06E-03	5,33E-03	8,99E-04	-3,28E-03
\Human toxicity, cancer	CTUh	2,85E-11	3,00E-13	1,79E-12	3,03E-11	3,16E-13	1,31E-12	1,18E-13	-5,18E-13
Human toxicity, non-cancer	CTUh	5,14E-10	1,72E-11	2,61E-11	5,40E-10	1,63E-11	2,51E-11	7,43E-12	-1,68E-11
Land use	dimensionless	1,15E-01	2,70E-02	9,01E-03	1,24E-01	1,42E-02	6,20E-03	2,23E-02	-8,35E-03

Resource use indicators

Module	Unit	A1-A3	A4	A5	B5	C2	C3	C4	D
PERE	MJ	5,63E-02	4,06E-04	1,77E-03	5,81E-02	4,94E-04	4,10E-04	1,54E-04	-1,35E-04
PERM	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
PERT	**MJ**	**5,63E-02**	**4,06E-04**	**1,77E-03**	**5,81E-02**	**4,94E-04**	**4,10E-04**	**1,54E-04**	**-1,35E-04**
PENRE	MJ	4,96E-01	2,69E-02	1,71E-01	6,67E-01	2,80E-02	9,05E-03	9,54E-03	-3,48E-03
PENRM	MJ	1,02E+00	0,00E+00	-2,84E-03	1,02E+00	0,00E+00	-4,43E-01	0,00E+00	0,00E+00
PENRT	**MJ**	**1,51E+00**	**2,69E-02**	**1,68E-01**	**1,68E+00**	**2,80E-02**	**-4,34E-01**	**9,54E-03**	**-3,48E-03**
SM	kg	2,73E-03	0,00E+00	0,00E+00	2,73E-03	0,00E+00	0,00E+00	0,00E+00	8,61E-03
FW	m^3	2,62E-03	3,76E-06	1,02E-05	2,63E-03	3,39E-06	5,43E-06	-8,92E-05	-1,31E-05

***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; FW = Use of net fresh water.*

Waste indicators

Module	Unit	A1-A3	A4	A5	B5	C2	C3	C4	D
Hazardous waste disposed	kg	1,77E-05	1,79E-07	8,89E-07	1,85E-05	1,90E-07	1,63E-07	6,62E-08	-4,51E-08
Non Hazardous waste disposed	kg	7,83E-03	2,30E-03	5,59E-03	1,34E-02	1,13E-03	5,13E-02	3,88E-02	-1,80E-04
Radioactive waste disposed	kg	8,03E-07	7,51E-09	3,17E-08	8,35E-07	1,01E-08	7,40E-09	3,23E-09	-2,39E-09

Output flow indicators

Module	Unit	A1-A3	A4	A5	B5	C2	C3	C4	D
Component for reuse (CRU)	kg	9,71E-04	0,00E+00	0,00E+00	9,71E-04	0,00E+00	0,00E+00	0,00E+00	0,00E+00
Materials for recycling (MFR)	kg	2,33E-04	0,00E+00	5,17E-04	7,50E-04	0,00E+00	8,61E-03	0,00E+00	0,00E+00
Materials for energy recovery (MER)	kg	3,36E-04	0,00E+00	2,33E-03	2,66E-03	0,00E+00	3,88E-02	0,00E+00	0,00E+00
Exported electrical energy (EEE)	MJ	0,00E+00	0,00E+00	6,28E-04	6,28E-04	0,00E+00	9,78E-02	0,00E+00	0,00E+00
Exported thermal energy (EET)	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

RESULTS VARIATION

The table presents the variation in results between each product of the group, compared to the average product, considering the modules A-C. The variations in the results are mainly due to the different composition of the membranes and the different thickness.

Impact categories	unit	Total Module A-C RESULTS/m^2	min	max
GWP- total	kg CO_2 eq.	1,54E-01	-14%	35%
Ozone depletion	kg CFC 11 eq.	5,28E-08	-1%	2%
Acidification	mol H^+ eq.	4,72E-04	-12%	31%
Eutrophication, freshwater	kg P eq.	1,96E-05	-7%	21%
Eutrophication, marine	kg N eq.	1,73E-04	-15%	38%
Eutrophication, terrestrial	mol N eq.	1,09E-03	-11%	30%
Photochemical ozone formation	kg NMVOC eq.	4,88E-04	-10%	28%
ADPE (Resource use, minerals and metals)	kg Sb eq.	5,76E-07	-14%	36%
ADPF (Resource use, Fossil	MJ	3,00E+00	-16%	39%
Water use	m^3	6,12E-02	-17%	41%
GWP-GHG	kg CO_2 eq.	1,51E-01	-14%	35%
Particulate matter	Disease incidence	5,19E-09	-10%	27%
Ionising radiation	kBq U235 eq.	6,87E-03	-8%	23%
Ecotoxicity, freshwater	CTUe	1,63E+00	-21%	48%
Human toxicity, cancer	CTUh	6,26E-11	-12%	30%
Human toxicity, non-cancer	CTUh	1,15E-09	-13%	34%
Land use	dimensionless	3,18E-01	-13%	32%

ENVIRONMENTAL PERFORMANCE

Alternative end-of-life scenarios

100% Recycling

Module	A1-A3	A4	A5	B5	C2	C3	C4	D
GWP- total	4,02E-02	1,83E-03	1,76E-02	5,96E-02	6,08E-03	1,20E-03	0,00E+00	-1,13E-04
GWP-fossil	3,99E-02	1,83E-03	1,76E-02	5,75E-02	6,07E-03	1,19E-03	0,00E+00	-1,12E-04
GWP-biogenic	1,58E-04	1,15E-06	5,41E-06	1,63E-04	2,80E-06	5,36E-06	0,00E+00	-1,50E-07
GWP- luluc	1,33E-04	6,73E-07	2,49E-06	1,35E-04	1,90E-06	5,74E-07	0,00E+00	-1,12E-07
Ozone depletion	2,61E-08	4,02E-11	2,00E-10	2,63E-08	1,34E-10	2,75E-11	0,00E+00	-1,47E-12
Acidification	1,96E-04	7,57E-06	2,36E-05	2,20E-04	2,35E-05	9,33E-06	0,00E+00	-7,58E-07
Eutrophication, freshwater	8,88E-06	1,30E-07	6,63E-07	9,55E-06	4,09E-07	7,21E-07	0,00E+00	-1,76E-08
Eutrophication, marine	3,63E-05	2,85E-06	1,25E-05	4,89E-05	8,79E-06	3,20E-06	0,00E+00	-2,62E-07
Eutrophication, terrestrial	4,00E-04	3,10E-05	9,20E-05	4,92E-04	9,58E-05	3,46E-05	0,00E+00	-2,89E-06
Photochemical ozone formation	1,84E-04	1,16E-05	4,17E-05	2,26E-04	3,50E-05	1,14E-05	0,00E+00	-9,15E-07
ADPE (Resource use, minerals and metals)	2,74E-07	5,14E-09	6,70E-09	2,80E-07	2,08E-08	3,47E-09	0,00E+00	-4,49E-10
ADPF (Resource use, Fossil)	1,51E+00	2,69E-02	1,68E-01	1,68E+00	8,60E-02	-1,87E+00	0,00E+00	-1,50E-03
Water use	3,21E-02	1,23E-04	2,59E-04	3,24E-02	3,05E-04	-4,35E-03	0,00E+00	-3,88E-04
GWP-GHG	4,01E-02	1,83E-03	1,76E-02	5,77E-02	6,08E-03	1,19E-03	0,00E+00	-1,13E-04
Particulate matter	1,98E-09	1,88E-10	3,38E-10	2,32E-09	4,29E-10	8,28E-10	0,00E+00	-1,38E-11
Ionising radiation	3,25E-03	3,05E-05	1,30E-04	3,38E-03	1,25E-04	8,70E-05	0,00E+00	-3,07E-06
Ecotoxicity, freshwater	7,98E-01	3,14E-03	1,09E-02	8,09E-01	1,25E-02	6,21E-03	0,00E+00	-2,63E-04
Human toxicity, cancer	2,85E-11	3,00E-13	1,79E-12	3,03E-11	9,73E-13	3,08E-13	0,00E+00	-4,10E-14
Human toxicity, non-cancer	5,14E-10	1,72E-11	2,61E-11	5,40E-10	5,02E-11	1,47E-11	0,00E+00	-8,53E-13
Land use	1,15E-01	2,70E-02	9,01E-03	1,24E-01	4,38E-02	2,60E-02	0,00E+00	-7,34E-03
(PERE)	5,63E-02	4,06E-04	1,77E-03	5,81E-02	1,52E-03	9,07E-04	0,00E+00	-4,56E-05
(PERM)	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00
(PENRE)	4,96E-01	2,69E-02	1,71E-01	6,67E-01	8,60E-02	2,07E-02	0,00E+00	-1,50E-03
(PENRM)	1,02E+00	0,00E+00	-2,84E-03	1,02E+00	0,00E+00	-1,89E+00	0,00E+00	0,00E+00
Secondary material	2,73E-03	0,00E+00	0,00E+00	2,73E-03	0,00E+00	0,00E+00	0,00E+00	8,61E-02
Use of net fresh water	2,62E-03	3,76E-06	1,02E-05	2,63E-03	1,04E-05	-9,22E-05	0,00E+00	-9,15E-06
Hazardous waste disposed	1,77E-05	1,79E-07	8,89E-07	1,85E-05	5,83E-07	1,31E-07	0,00E+00	-1,32E-08
Non Hazardous waste disposed	7,83E-03	2,30E-03	5,59E-03	1,34E-02	3,48E-03	1,21E-01	0,00E+00	-4,98E-05
Radioctive waste disposed	8,03E-07	7,51E-09	3,17E-08	8,35E-07	3,11E-08	2,21E-08	0,00E+00	-7,53E-10
Component for reuse (CRU)	9,71E-04	0,00E+00	0,00E+00	9,71E-04	0,00E+00	0,00E+00	0,00E+00	0,00E+00
Materials for recycling (MFR)	2,33E-04	0,00E+00	5,17E-04	7,50E-04	0,00E+00	8,61E-02	0,00E+00	0,00E+00
Materials for energy recovery	3,36E-04	0,00E+00	2,33E-03	2,66E-03	0,00E+00	0,00E+00	0,00E+00	0,00E+00
Exported electrical energy (EEE)	0,00E+00	0,00E+00	6,28E-04	6,28E-04	0,00E+00	0,00E+00	0,00E+00	0,00E+00
Exported thermal energy (EET)	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00
PERT	5,63E-02	4,06E-04	1,77E-03	5,81E-02	1,52E-03	9,07E-04	0,00E+00	-4,56E-05
PENRT	1,51E+00	2,69E-02	1,68E-01	1,68E+00	8,60E-02	-1,87E+00	0,00E+00	-1,50E-03

100% Incineration

Module	A1-A3	A4	A5	B5	C2	C3	C4	D
GWP- total	4,02E-02	1,83E-03	1,76E-02	5,96E-02	2,03E-03	1,41E-01	0,00E+00	-2,08E-02
GWP-fossil	3,99E-02	1,83E-03	1,76E-02	5,75E-02	2,02E-03	1,41E-01	0,00E+00	-5,74E-04
GWP-biogenic	1,58E-04	1,15E-06	5,41E-06	1,63E-04	9,32E-07	1,02E-05	0,00E+00	-2,03E-02
GWP- luluc	1,33E-04	6,73E-07	2,49E-06	1,35E-04	6,34E-07	2,68E-06	0,00E+00	-1,16E-07
Ozone depletion	2,61E-08	4,02E-11	2,00E-10	2,63E-08	4,47E-11	1,02E-10	0,00E+00	-7,73E-12
Acidification	1,96E-04	7,57E-06	2,36E-05	2,20E-04	7,84E-06	4,99E-05	0,00E+00	-4,87E-06
Eutrophication, freshwater	8,88E-06	1,30E-07	6,63E-07	9,55E-06	1,36E-07	7,53E-07	0,00E+00	-1,04E-06
Eutrophication, marine	3,63E-05	2,85E-06	1,25E-05	4,89E-05	2,93E-06	1,46E-05	0,00E+00	-2,62E-06
Eutrophication, terrestrial	4,00E-04	3,10E-05	9,20E-05	4,92E-04	3,19E-05	1,35E-04	0,00E+00	-2,19E-05
Photochemical ozone formation	1,84E-04	1,16E-05	4,17E-05	2,26E-04	1,17E-05	3,62E-05	0,00E+00	-5,66E-06
ADPE (Resource use, minerals and metals)	2,74E-07	5,14E-09	6,70E-09	2,80E-07	6,93E-09	1,16E-08	0,00E+00	-1,12E-09
ADPF (Resource use, Fossil)	1,51E+00	2,69E-02	1,68E-01	1,68E+00	2,87E-02	-1,75E+00	0,00E+00	-4,39E-03
Water use	3,21E-02	1,23E-04	2,59E-04	3,24E-02	1,02E-04	2,26E-03	0,00E+00	-9,22E-05
GWP-GHG	4,01E-02	1,83E-03	1,76E-02	5,77E-02	2,03E-03	1,41E-01	0,00E+00	-5,75E-04
Particulate matter	1,98E-09	1,88E-10	3,38E-10	2,32E-09	1,43E-10	3,42E-10	0,00E+00	-4,51E-11
Ionising radiation	3,25E-03	3,05E-05	1,30E-04	3,38E-03	4,17E-05	9,90E-05	0,00E+00	-1,43E-05
Ecotoxicity, freshwater	7,98E-01	3,14E-03	1,09E-02	8,09E-01	4,16E-03	2,33E-02	0,00E+00	-6,71E-03
Human toxicity, cancer	2,85E-11	3,00E-13	1,79E-12	3,03E-11	3,24E-13	6,33E-12	0,00E+00	-1,06E-12
Human toxicity, non-cancer	5,14E-10	1,72E-11	2,61E-11	5,40E-10	1,67E-11	1,17E-10	0,00E+00	-3,54E-11
Land use	1,15E-01	2,70E-02	9,01E-03	1,24E-01	1,46E-02	1,78E-02	0,00E+00	-2,24E-03
(PERE)	5,63E-02	4,06E-04	1,77E-03	5,81E-02	5,07E-04	1,58E-03	0,00E+00	-1,98E-04
(PERM)	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00
(PENRE)	4,96E-01	2,69E-02	1,71E-01	6,67E-01	2,87E-02	3,45E-02	0,00E+00	-4,39E-03
(PENRM)	1,02E+00	0,00E+00	-2,84E-03	1,02E+00	0,00E+00	-1,79E+00	0,00E+00	0,00E+00
Secondary material	2,73E-03	0,00E+00	0,00E+00	2,73E-03	0,00E+00	0,00E+00	0,00E+00	0,00E+00
Use of net fresh water	2,62E-03	3,76E-06	1,02E-05	2,63E-03	3,48E-06	7,23E-05	0,00E+00	-8,77E-06
Hazardous waste disposed	1,77E-05	1,79E-07	8,89E-07	1,85E-05	1,94E-07	7,41E-07	0,00E+00	-7,09E-08
Non Hazardous waste disposed	7,83E-03	2,30E-03	5,59E-03	1,34E-02	1,16E-03	2,40E-03	0,00E+00	-2,89E-04
Radioctive waste disposed	8,03E-07	7,51E-09	3,17E-08	8,35E-07	1,04E-08	2,57E-08	0,00E+00	-3,64E-09
Component for reuse (CRU)	9,71E-04	0,00E+00	0,00E+00	9,71E-04	0,00E+00	0,00E+00	0,00E+00	0,00E+00
Materials for recycling (MFR)	2,33E-04	0,00E+00	5,17E-04	7,50E-04	0,00E+00	0,00E+00	0,00E+00	0,00E+00
Materials for energy recovery	3,36E-04	0,00E+00	2,33E-03	2,66E-03	0,00E+00	0,00E+00	0,00E+00	0,00E+00
Exported electrical energy (EEE)	0,00E+00	0,00E+00	6,28E-04	6,28E-04	0,00E+00	4,83E-01	0,00E+00	0,00E+00
Exported thermal energy (EET)	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00
PERT	5,63E-02	4,06E-04	1,77E-03	5,81E-02	5,07E-04	1,58E-03	0,00E+00	-1,98E-04
PENRT	1,51E+00	2,69E-02	1,68E-01	1,68E+00	2,87E-02	-1,75E+00	0,00E+00	-4,39E-03

100% Landfill

Module	A1-A3	A4	A5	B5	C2	C3	C4	D
GWP- total	4,02E-02	1,83E-03	1,76E-02	5,96E-02	1,01E-03	0,00E+00	1,02E-02	0,00E+00
GWP-fossil	3,99E-02	1,83E-03	1,76E-02	5,75E-02	1,01E-03	0,00E+00	1,02E-02	0,00E+00
GWP-biogenic	1,58E-04	1,15E-06	5,41E-06	1,63E-04	4,66E-07	0,00E+00	4,16E-06	0,00E+00
GWP- luluc	1,33E-04	6,73E-07	2,49E-06	1,35E-04	3,17E-07	0,00E+00	5,62E-07	0,00E+00
Ozone depletion	2,61E-08	4,02E-11	2,00E-10	2,63E-08	2,24E-11	0,00E+00	2,93E-11	0,00E+00
Acidification	1,96E-04	7,57E-06	2,36E-05	2,20E-04	3,92E-06	0,00E+00	1,26E-05	0,00E+00
Eutrophication, freshwater	8,88E-06	1,30E-07	6,63E-07	9,55E-06	6,82E-08	0,00E+00	1,27E-07	0,00E+00
Eutrophication, marine	3,63E-05	2,85E-06	1,25E-05	4,89E-05	1,46E-06	0,00E+00	1,48E-04	0,00E+00
Eutrophication, terrestrial	4,00E-04	3,10E-05	9,20E-05	4,92E-04	1,60E-05	0,00E+00	2,82E-05	0,00E+00
Photochemical ozone formation	1,84E-04	1,16E-05	4,17E-05	2,26E-04	5,84E-06	0,00E+00	1,25E-05	0,00E+00
ADPE (Resource use, minerals and metals)	2,74E-07	5,14E-09	6,70E-09	2,80E-07	3,46E-09	0,00E+00	1,75E-09	0,00E+00
ADPF (Resource use, Fossil)	1,51E+00	2,69E-02	1,68E-01	1,68E+00	1,43E-02	0,00E+00	2,12E-02	0,00E+00
Water use	3,21E-02	1,23E-04	2,59E-04	3,24E-02	5,09E-05	0,00E+00	-8,54E-03	0,00E+00
GWP-GHG	4,01E-02	1,83E-03	1,76E-02	5,77E-02	1,01E-03	0,00E+00	1,02E-02	0,00E+00
Particulate matter	1,98E-09	1,88E-10	3,38E-10	2,32E-09	7,16E-11	0,00E+00	1,54E-10	0,00E+00
Ionising radiation	3,25E-03	3,05E-05	1,30E-04	3,38E-03	2,08E-05	0,00E+00	2,87E-05	0,00E+00
Ecotoxicity, freshwater	7,98E-01	3,14E-03	1,09E-02	8,09E-01	2,08E-03	0,00E+00	2,00E-03	0,00E+00
Human toxicity, cancer	2,85E-11	3,00E-13	1,79E-12	3,03E-11	1,62E-13	0,00E+00	2,63E-13	0,00E+00
Human toxicity, non-cancer	5,14E-10	1,72E-11	2,61E-11	5,40E-10	8,37E-12	0,00E+00	1,65E-11	0,00E+00
Land use	1,15E-01	2,70E-02	9,01E-03	1,24E-01	7,30E-03	0,00E+00	4,95E-02	0,00E+00
(PERE)	5,63E-02	4,06E-04	1,77E-03	5,81E-02	2,53E-04	0,00E+00	3,41E-04	0,00E+00
(PERM)	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00
(PENRE)	4,96E-01	2,69E-02	1,71E-01	6,67E-01	1,43E-02	0,00E+00	2,12E-02	0,00E+00
(PENRM)	1,02E+00	0,00E+00	-2,84E-03	1,02E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00
Secondary material	2,73E-03	0,00E+00	0,00E+00	2,73E-03	0,00E+00	0,00E+00	0,00E+00	0,00E+00
Use of net fresh water	2,62E-03	3,76E-06	1,02E-05	2,63E-03	1,74E-06	0,00E+00	-1,98E-04	0,00E+00
Hazardous waste disposed	1,77E-05	1,79E-07	8,89E-07	1,85E-05	9,72E-08	0,00E+00	1,47E-07	0,00E+00
Non Hazardous waste disposed	7,83E-03	2,30E-03	5,59E-03	1,34E-02	5,80E-04	0,00E+00	8,63E-02	0,00E+00
Radioctive waste disposed	8,03E-07	7,51E-09	3,17E-08	8,35E-07	5,18E-09	0,00E+00	7,18E-09	0,00E+00
Component for reuse (CRU)	9,71E-04	0,00E+00	0,00E+00	9,71E-04	0,00E+00	0,00E+00	0,00E+00	0,00E+00
Materials for recycling (MFR)	2,33E-04	0,00E+00	5,17E-04	7,50E-04	0,00E+00	0,00E+00	0,00E+00	0,00E+00
Materials for energy recovery	3,36E-04	0,00E+00	2,33E-03	2,66E-03	0,00E+00	0,00E+00	0,00E+00	0,00E+00
Exported electrical energy (EEE)	0,00E+00	0,00E+00	6,28E-04	6,28E-04	0,00E+00	0,00E+00	0,00E+00	0,00E+00
Exported thermal energy (EET)	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00
PERT	5,63E-02	4,06E-04	1,77E-03	5,81E-02	2,53E-04	0,00E+00	3,41E-04	0,00E+00
PENRT	1,51E+00	2,69E-02	1,68E-01	1,68E+00	1,43E-02	0,00E+00	2,12E-02	0,00E+00

ADDITIONAL ENVIRONMENTAL INFORMATION

The table reports the recycled content of the products comprised into the present family.

Codice materiale	Post Consumer Recycled	Pre-consumer Recycled
Aluvapor Tender 3mm	5%	4%
Aluvapor Tender 2 kg	5%	7%

Biogenic Carbon kgC/kg = 0

ABBREVIATIONS

Abbreviation	Definition
EN	European Norm (Standard)
EF	Environmental Footprint
GPI	General Programme Instructions
ISO	International Organization for Standardization
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
SVHC	Substances of Very High Concern
ND	Not Declared
BPE	Elastomeric Polymer-Modified
BPP	Plastomeric Polymer Bitumen

REFERENCES

a) General Programme Instructions of International EPD System. Version 5.0.1.
b) PCR 2019:14. Construction Products, v. 2.0.1
c) C-PCR 032 Flexible sheets for waterproofing (to PCR 2019:14) V .1.0.0.
d) UNI EN 15804:2021 EN 15804 "Sustainability of construction works-Environmental Product Declarations-Core rules for the product category of construction products"
e) UNI EN 17388-1:2024 Flexible sheets for waterproofing – Environmental product declarations – Product category rules for reinforced bitumen, plastic and rubber flexible sheets for roof waterproofing – Part 1: cradle to grave and module D
f) Life Cycle Assessment (LCA) - Production of waterproofing membranes Reference year 2025, Saint-Gobain – Isover, Rev 00 (10/04/2026)

VERSION HISTORY

Version 1, 2026-05-20

- Original Version of the EPD

EPD
INTERNATIONAL EPD SYSTEM
www.environdec.com