

**EPD OWNER:**  
Soprema Srl

**PROGRAMME:**  
The International EPD®  
System,  
[www.environdec.com](http://www.environdec.com)

**PROGRAMME  
OPERATOR:**  
EPD International AB

**EPD REGISTRATION  
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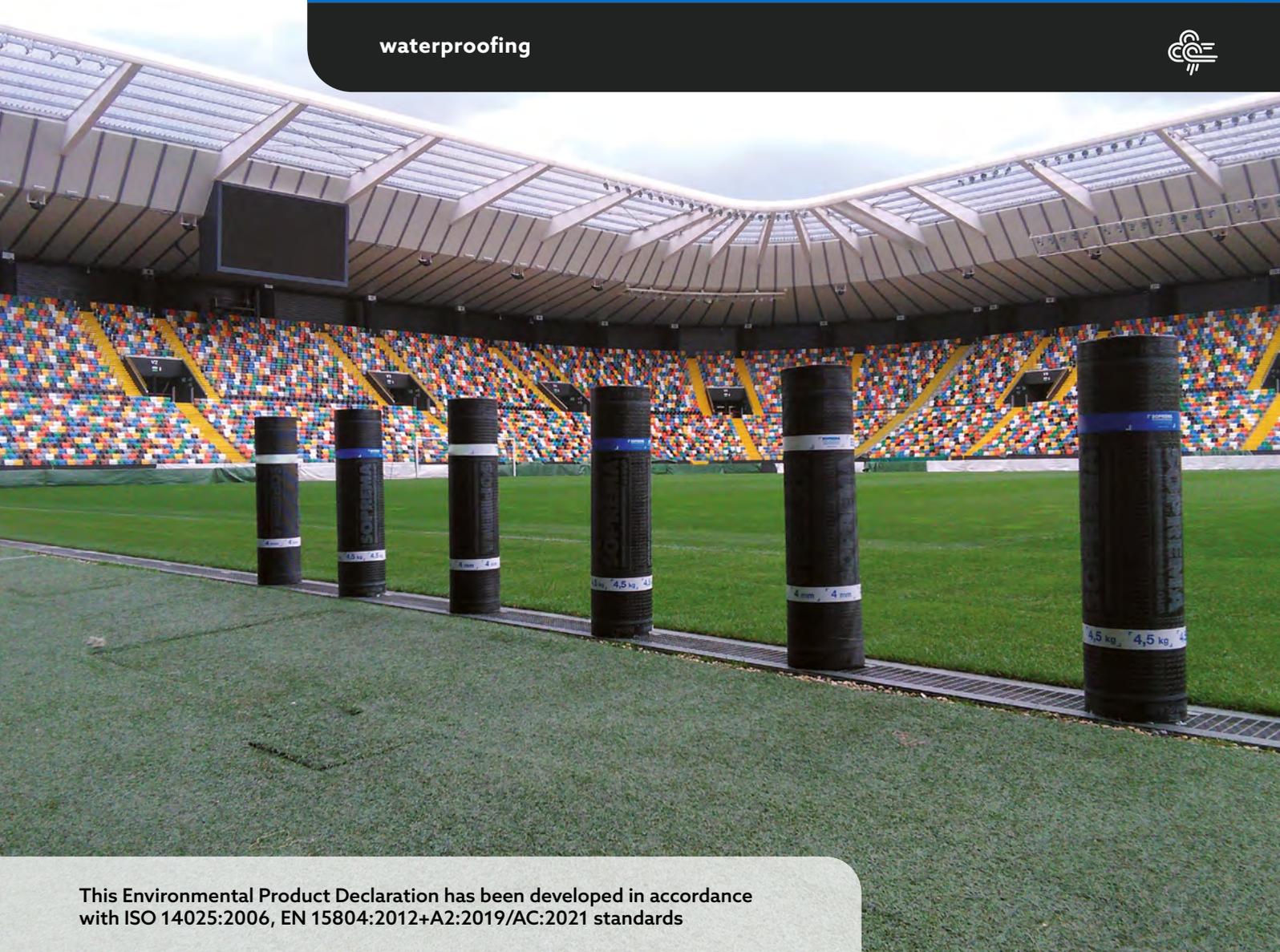
**VALIDITY DATE:**  
2031-01-19

EPD of multiple  
products, based on the  
average results of the  
product group listed  
from page 7 to page 9.

# ELASTOMERIC POLYMER-MODIFIED (SBS) BITUMEN WATERPROOFING MEMBRANES

ENVIRONMENTAL PRODUCT DECLARATION

waterproofing



This Environmental Product Declaration has been developed in accordance with ISO 14025:2006, EN 15804:2012+A2:2019/AC:2021 standards



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](http://www.environdec.com).

# General Information

## PROGRAMME INFORMATION

EPD International AB, Box 210 60, SE-100 31 Stockholm, Sweden, E-mail: [info@environdec.com](mailto:info@environdec.com).

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 version number up to the first two digits) 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.

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

## 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

c-PCR: EN 17388 Flexible sheets for waterproofing - Part 1 and Part 2, October 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: Life Cycle Engineering SpA

Via Livorno, 60, Environment Park, 10144 Torino (TO) - Italy

[www.lcengineering.eu](http://www.lcengineering.eu)

## THIRD-PARTY VERIFICATION

External and independent ('third-party') verification of the declaration and data, according to ISO 14025:2006, via EPD verification through:

Individual EPD verification without a pre-verified LCA/EPD tool

Third-party verifier: CERTIQUALITY S.r.l., Via G. Giardino, 4 - 20123 Milano - Italy. [info@certiquality.it](mailto:info@certiquality.it). [certiquality.it](http://certiquality.it)

Approved by: Accredia, 0027vv

Procedure for follow-up of data during EPD validity involves third-party verifier:

YES

NO





## Information about EPD owner

### THE SOPREMA GROUP

An independent group since its inception in 1908, SOPREMA specializes in the design and implementation of cutting-edge waterproofing systems and thermal and acoustic insulation solutions, in line with the requirements of sustainable construction.

**With the collaboration of over 12,000 people worldwide and a turnover of 5,14 billion Euros in 2024, the SOPREMA Group has a global industrial and commercial presence. With over 130 production sites, more than 130 operational branches, and a presence in 90 countries, the company also boasts 24 Research and Development centers and 62 training centers across 15 countries.**

The SOPREMA product range, the result of close collaboration between the marketing and Research and Development departments, is innovative and in perfect harmony with market needs and current standards. SOPREMA's success is based on a fundamental principle: focusing on ideas.

**SOPREMA's products and services aim to meet the needs of construction professionals, whether it be waterproofing with synthetic or bituminous membranes, thermal and acoustic insulation, liquid products, or civil engineering works – SOPREMA**

**always has the solution.**

SOPREMA offers high-performance technological products, constantly optimized through Research and Development in an eco-design logic, boasting exceptional characteristics in terms of robustness, reliability, and longevity.

At SOPREMA, sustainability is an essential driver that propels us towards the creation of a sustainable construction model in two main aspects: developing high-energy efficiency products and adopting an approach oriented towards the life cycle analysis of our products. Our goal is to promote a renewed vision of construction, with more responsible and environmentally friendly practices.

#### HEADQUARTER

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# ELASTOMERIC POLYMER-MODIFIED (SBS) BITUMEN WATERPROOFING MEMBRANES

**BPE ELASTOMERIC POLYMER-MODIFIED BITUMEN MEMBRANES** are composed of a waterproofing compound made from distilled bitumen enhanced with thermoplastic elastomers (SBS). These membranes are internally reinforced with high-weight composite non-woven polyester made from continuous filaments, stabilized with glass fibers or glass mesh. Their key features include outstanding adhesion, flexibility, and elasticity—especially at low temperatures—making them highly suitable for a wide

range of waterproofing applications, even in extreme climatic conditions. The roofing membranes are CE-marked products in accordance with EN 13707.

Bituminous membranes are generally applied in full adhesion using a torch. Only in specific situations, where the use of a torch is not possible, is the first layer installed by mechanical fastening or with self-adhesive membranes.



## Products included in the EPD

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

### NOVAGUM-P 4mm NOVAGUM-P 5mm



Waterproofing membrane made of Bitumen Polymer Elastomer (BPE), with internal reinforcement in non-woven fabric of continuous filament polyester stabilized with glass fibers. Upper surface finished with non-stick amorphous sand or heat-fusible polyolefin film and the lower surface with heat-fusible polyolefin film.

#### APPLICATIONS

- + Flat roofs (as an underlayer in exposed systems, under heavy ballast in multi-layer systems), vapor barrier, underground structures, elastic joints, wall barriers.

### NOVAGUM-HP MINERAL 4mm (THICKNESS AT THE SELVEDGE)



Waterproofing membrane made of Bitumen Polymer Elastomer (BPE), with internal reinforcement in non-woven fabric of continuous filament polyester stabilized with mesh. Upper surface self-protected with ceramic-coated slate flakes in various colors and lower surface finished with heat-fusible polyolefin film.

#### APPLICATIONS

- + Exposed flat roof, underlayer for discontinuous roofs.

### NOVAGUM-P MINERAL 4mm (THICKNESS AT THE SELVEDGE)



Waterproofing membrane made of Bitumen Polymer Elastomer (BPE), with internal reinforcement in non-woven fabric of continuous filament polyester stabilized with glass fibers. Upper surface self-protected with ceramic-coated slate flakes in various colors and the lower surface with heat-fusible polyolefin film.

#### APPLICATIONS

- + Exposed flat roof, underlayer for discontinuous roofs.

### NOVAGUM-P HFR MINERAL 4mm (THICKNESS AT THE SELVEDGE)



Waterproofing membrane made of Bitumen Polymer Elastomer (BPE), with triple composite reinforcement preformed with a glass felt interposed between two layers of non-woven polyester fabric made of continuous filaments. Upper surface self-protected with ceramic-coated slate flakes in various colors and lower surface finished with heat-fusible polyolefin film.

#### APPLICATIONS

- + Exposed flat roof, underlayer for discontinuous roofs.

**NOVA RF REFLECTA 4mm**  
(THICKNESS AT THE SELVEDGE)

**NOVA RF MINERAL 4mm**  
(THICKNESS AT THE SELVEDGE)

**NOVA RF GRANULO BIANCO**  
**4mm** (THICKNESS AT THE SELVEDGE)



Waterproofing membrane made of Bitumen Polymer Elastomer (BPE), with triple composite reinforcement preformed with a glass felt interposed between two layers of non-woven polyester fabric made of continuous filaments. The upper surface is self-protected with white Reflecta slate, ceramic-coated slate flakes in various colors or white granules, and the lower surface with heat-fusible polyolefin film or TexFace, a polypropylene non-woven fabric.

**APPLICATIONS**

- + Exposed flat roofs.

**FLEXGUM-P 4mm**  
**FLEXGUM-P 5mm**



Waterproofing membrane made of Bitumen Polymer Elastomer (BPE), with internal reinforcement in non-woven fabric of continuous filament polyester stabilized with glass fibers. Upper surface finished with non-stick amorphous sand or heat-fusible polyolefin film and the lower surface with heat-fusible polyolefin film.

**APPLICATIONS**

- + Flat roofs (as an underlayer in exposed systems, under heavy ballast in multi-layer systems), vapor barrier, underground structures, elastic joints, wall barriers.

**NOVA ISOROOF PLUS S 4mm**  
**NOVA ISOROOF PLUS S 5mm**



Waterproofing membrane made of Bitumen Polymer Elastomer (BPE), with internal reinforcement in non-woven fabric of continuous filament polyester stabilized with glass fibers. Upper surface finished with non-stick amorphous sand, heat-fusible polyolefin film or TexFace, a polypropylene non-woven fabric and the lower surface with heat-fusible polyolefin film.

**APPLICATIONS**

- + Flat roofs (as an underlayer in exposed systems, under heavy ballast in multi-layer systems), vapor barrier, underground structures, wall barriers.

**NOVA-E 4mm**



Waterproofing membrane made of Bitumen Polymer Elastomer (BPE), with internal reinforcement in non-woven fabric of continuous filament polyester stabilized with glass fibers. Upper surface finished with non-stick amorphous sand and the lower surface with heat-fusible polyolefin film or TexFace, a polypropylene non-woven fabric.

**APPLICATIONS**

- + Flat roofs (as an underlayer in exposed systems, under heavy ballast in multi-layer systems).

**EDILGUM 4mm**



Waterproofing membrane made of Bitumen Polymer Elastomer (BPE), with internal reinforcement in non-woven fabric of continuous filament polyester stabilized with glass fibers. Upper surface finished with non-stick amorphous sand and the lower surface with heat-fusible polyolefin film.

**APPLICATIONS**

- + Flat roofs (as an underlayer in exposed systems, under heavy ballast in multi-layer systems), underground structures, wall barriers.

**NOVAR-CH SBS 4mm**



Root-resistant waterproofing membrane made of Bitumen Polymer Elastomer (BPE), with internal reinforcement in non-woven fabric of continuous filament polyester stabilized with glass fibers. Upper and lower surfaces finished with heat-fusible polyolefin film.

**APPLICATIONS**

- + Flat roofs (as an underlayer in systems under heavy ballast with soil, gravel, mobile pavements, etc.), underground structures, wall barriers.

**Note:** for all the technical information, refer to the technical data sheet of the products.



# Content Declaration

The 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. Based on our knowledge, no substance listed

as a candidate for Authorization (Candidate List SVHC) or subject to Authorization (Annex XIV - REACH) is contained in the product at a concentration greater than 0.1% weight/weight.

**Declared Unit:** 1 m<sup>2</sup> of installed membrane.

PRODUCT CONTENT	MASS (kg)	POST-CONSUMER RECYCLED MATERIAL, MASS-% OF PRODUCT	PRE-CONSUMER RECYCLED MATERIAL, MASS-% OF PRODUCT	BIOGENIC MATERIAL, MASS-% OF PRODUCT	BIOGENIC MATERIAL, kgC/m <sup>2</sup>
BITUMEN	2.40	2.6%	-	-	-
MINERALS	2.17	-	-	-	-
POLYMERS & ADDITIVES	0.53	1.1%	0.7%	-	-
REINFORCING MATERIAL	0.15	1.3%	-	-	-
COATING	0.23	-	-	-	-
<b>TOTAL</b>	<b>5.48</b>	<b>5.0%</b>	<b>0.7%</b>	<b>-</b>	<b>-</b>

PACKAGING MATERIALS	MASS (kg)	MASS - % (VERSUS THE PRODUCT)	BIOGENIC MATERIAL, kgC/m <sup>2</sup>
WOODEN PALLET	0.06	88.8%	0.03
PAPER ROLL LABEL	< 0.01	< 0,1%	< 0.01
POLYPROPYLENE TAPE	< 0.01	0.9%	< 0.01
LDPE CAP	0.01	8.4%	< 0.01
PAPER PALLET LABEL	< 0.01	< 0.1%	< 0.01
INK FOR LABELS	< 0.01	< 0.1%	< 0.01
OSB WOOD PANEL	< 0.01	1.5%	< 0.01
POLYPROPYLENE STRAP	< 0.01	0.2%	< 0.01
RFID TAG (PAPER LABEL WITH MICROCHIP)	< 0.01	< 0.1%	< 0.01

# LCA Information SYSTEM BOUNDARIES

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

ND: module not declared IT: Italy GLO: Global

PRODUCT STAGE	CONSTRUCTION PROCESS STAGE		USE STAGE										END OF LIFE STAGE				BENEFITS AND LOADS BEYOND THE SYSTEM BOUNDARIES
	A1	A2	A3	A4	A5	B1	B2	B3	B4	B5	B6	B7	C1	C2	C3	C4	
Raw material supply	X	X	X	X	X	ND	ND	ND	X	ND	ND	ND	X	X	X	X	X
Transport																	
Manufacturing																	
Transport from the gate to the site																	
Assembly																	
Use																	
Maintenance																	
Repair																	
Replacement																	
Refurbishment																	
Operational energy use																	
Operational water use																	
De-construction demolition																	
Transport																	
Waste processing																	
Disposal																	
Reuse-Recovery-Recycling potential																	

## GEOGRAPHY

GLO	GLO	IT	GLO	GLO				GLO				GLO	GLO	GLO	GLO	GLO
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## SPECIFIC DATA USED

56%																
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## VARIATIONS PRODUCTS

-4%/+39%																
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## VARIATIONS SITES

0%																
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# LCA Information

## METHODOLOGY

### + TYPE OF EPD

Cradle-to-gate with options, modules C1-C4, module D and optional modules (A4, A5 and B4). This scheme is compliant with the standard EN 15804: 2012+A2:2019/AC:2021 as presented in the table above.

### + UN CPC CODE

5453 - Roofing and water proofing services.

### + DECLARED UNIT

1 m<sup>2</sup> of installed membrane. The weight per 1 m<sup>2</sup> of installed membrane is 5.48 kg/m<sup>2</sup> and the conversion factor to 1 kg is 0.183 m<sup>2</sup>/kg.

### + REFERENCE SERVICE LIFE OF THE BUILDING

105 years

### + THEORETICAL PRODUCT LIFESPAN

The theoretical lifespan of the membranes is expected to be at least 35 years. Membrane service life value is provided by EN17388 c-PCR for flexible sheets for waterproofing and used exclusively for calculations. They may not be representative of the real service lifetimes. Service lifetime is also influenced by type of membrane, thickness, design and use conditions and regular maintenance according to the manufacturer's indications.

### + LCA SOFTWARE

SimaPro 10.2.0.3

### + ENVIRONMENTAL IMPACT ASSESSMENT METHOD

EN 15804 reference package based on EF 3.1

### + MAIN DATABASES FOR GENERIC DATA

Ecoinvent v 3.11, Plastics Europe, Carbon Minds

### + GEOGRAPHICAL SCOPE FOR WHICH GEOGRAPHICAL LOCATION OF END-OF-LIFE THE PRODUCT'S PERFORMANCE HAS BEEN CALCULATED

Global

### + REPRESENTATIVE YEAR FOR THE INVENTORY FOR THE MANUFACTURING

2024

### + ENERGY SOURCES BEHIND THE ELECTRICITY GRID IN MODULE A3

Italian residual mix (GWP-GHG) 0.68 kgCO<sub>2</sub> eq/kWh.

### + CUT OFF

All available primary data were incorporated into the model. Where primary data were not available, suitable secondary data were used to ensure the inclusion of all relevant flows, in accordance with the cut-off criteria defined by EN 15804.

This approach guarantees that at least 99% of total mass and energy inflows per unit process, and 95% per life cycle stage (A1-A3, A4-A5, C1-C4, aggregated modules B1-B5 and B6-B7, and Module D), are covered. No data were excluded to conceal information, and proxy data were applied where necessary to achieve 100% completeness of the life cycle inventory.

### + ALLOCATION

Allocation occurs anytime a system is producing more than a single output. In this case it is necessary to choose a technique to properly split the environmental burdens among the output flows; PCR 2019:14, version 2.0.1 provides guidelines about how to deal with this issue, that have been implemented in this project as well. Soprema produces several product types that are not object of the study. Therefore, it is important to establish an allocation method based on physical variables to split input and output flows to the multi-products: allocation by square meters of produced membranes in the reference year has been chosen.

### + AVERAGING

Within the BPE (SBS) membrane product family, Soprema has identified specific subgroups based on defined technical characteristics:

- Mineral-finished membranes (including all types of slate finishes), with flame retardants and glass veil reinforcement.
- Mineral-finished membranes (including all types of slate finishes), without flame retardants and glass veil reinforcement.
- Smooth membranes (including sand, talc, nonwoven PP, PE film, PP film), without flame retardants and glass veil reinforcement.

For each subgroup, the environmental impacts were calculated as a weighted average of the products included based on the quantities produced in 2024.

The overall average environmental profile reported in this EPD is then derived as a weighted average of these three subgroups, using the respective sales volumes as weighting factors.

### + OMITTED LIFE CYCLE STAGES

Modules B1, B2, B3, B5, B6 and B7 are all excluded.

# LCA Information

## DATA QUALITY ASSESSMENT

The 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. Based on our knowledge, no substance listed

as a candidate for Authorization (Candidate List SVHC) or subject to Authorization (Annex XIV - REACH) is contained in the product at a concentration greater than 0.1% weight/weight.

GEOGRAPHICAL REPRESENTATIVENESS SCORE	TECHNOLOGICAL REPRESENTATIVENESS SCORE	TEMPORAL REPRESENTATIVENESS SCORE
3.6	4.3	4.2

PROCESS	SOURCE TYPE	SOURCE	REFERENCE YEAR	DATA CATEGORY	SHARE OF PRIMARY DATA, OF GWP-GHG RESULTS FOR A1-A3
SBS AVERAGE RECIPE	COLLECTED DATA	VARIOUS EPDS	2023-2024	PRIMARY DATA	32%
UPSTREAM TRANSPORTS	COLLECTED DATA	ECOINVENT V. 3.11	2024	PRIMARY DATA	14%
PROCESS ENERGIES PRODUCTION AND DIRECT EMISSIONS	COLLECTED DATA	EPD OWNER AND ECOINVENT 3.11	2024	PRIMARY DATA	10%
<b>SHARE OF PRIMARY DATA, OF GWP-GHG RESULTS FOR A1-A3</b>					<b>56%</b>

## MODELLING OF INFRASTRUCTURES

The construction of power plant for electricity and heat datasets used in manufacturing process in module A3 has been included in the LCA model as relevant infrastructures.

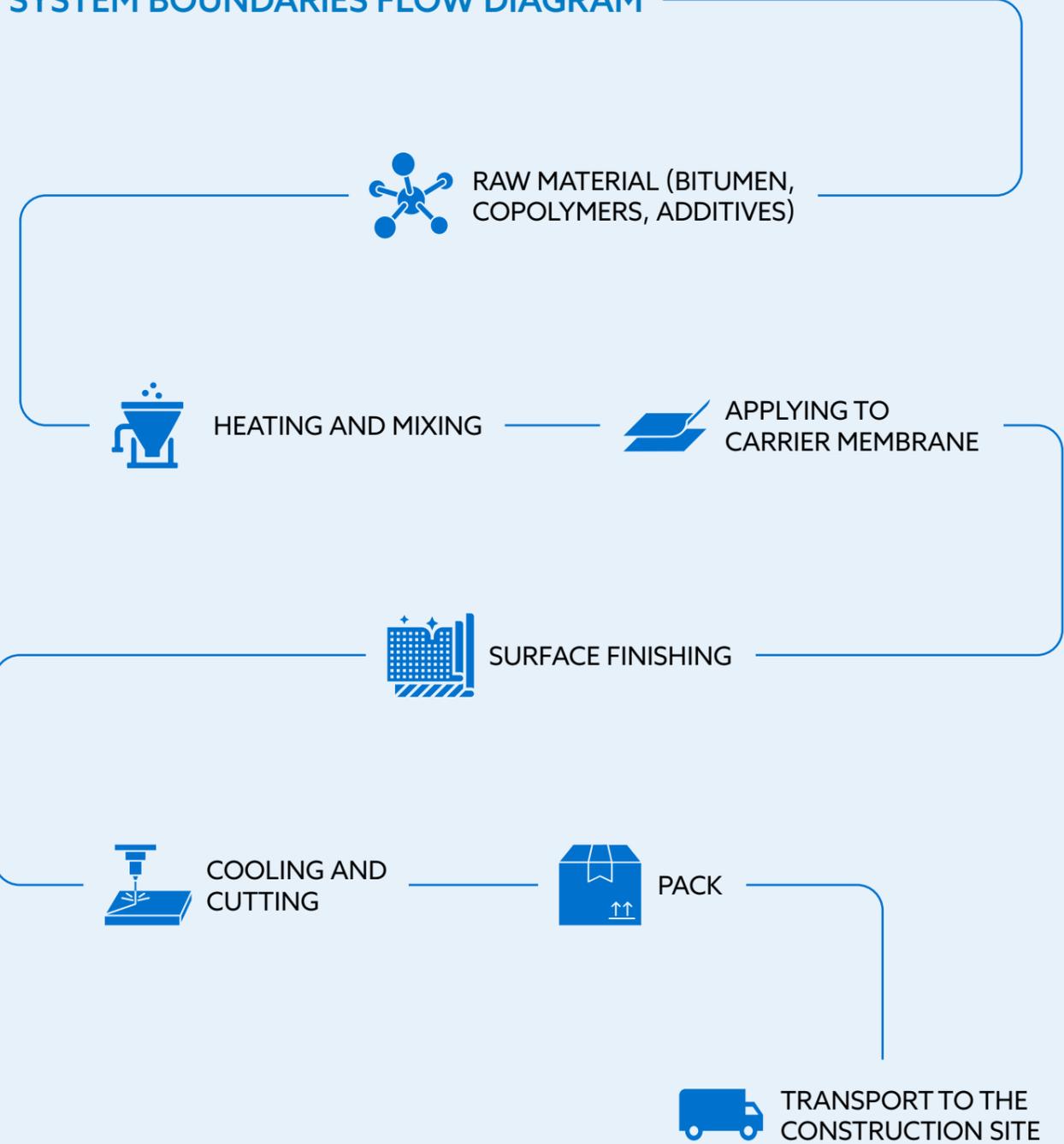
# LCA Information

## PRODUCTION PROCESS

Raw materials (bitumen, copolymers and additives) are heated to a specific temperature and mixed. The bitumen is delivered as hot from the refinery to the manufacturing site, where it's heated further. When the mixture is ready, it's

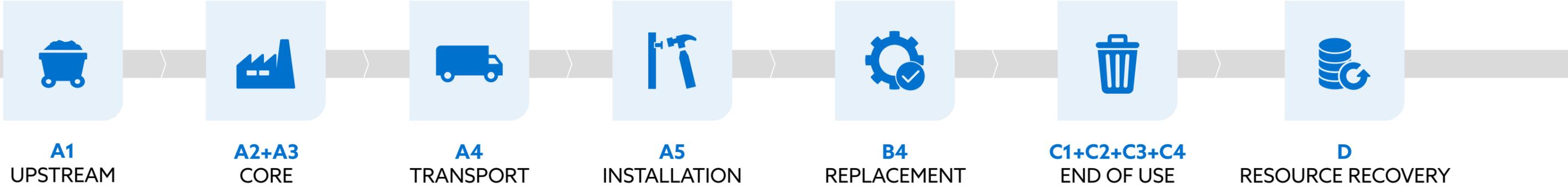
applied to the carrier membrane and faced with plastic film, mineral slates or sand. Then it's cooled down and cut to the desired length. Finally, the product is packed and placed on pallets and transported to the construction site.

### SYSTEM BOUNDARIES FLOW DIAGRAM



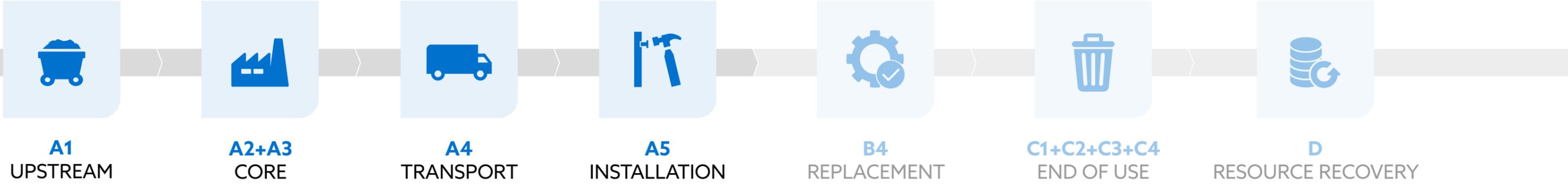
# LCA Information

## CALCULATION RULES



# LCA Information

## CALCULATION RULES



### PRODUCT STAGE

#### A1 - A3

- Raw materials supply, including processing of secondary material input and their packaging.
- Transport of raw material and secondary material to the plant (A2).
- Electricity and natural gas consumption during the manufacturing process.
- Water usage (A3).
- Emissions to air (A3).
- Treatment of manufacturing process waste, including transportation of waste materials (A3).
- Consumption of auxiliary materials and fuels (A3).
- Production of the packaging used for the distribution of the final product (A3).



### CONSTRUCTION PROCESS STAGE

#### A4

This module includes the transportation of membranes from the production site to the application site. It takes into account weighted average distances based on the type of transport used and the final destination of the product: 89% of sales occur within Italy, 8% within the EU-27, and 3% globally. The average distance travelled by land and by sea is 342 and 2 km, respectively.

#### A5

Installation on buildings includes all necessary accessories, overlapping, and direct energy use (such as welding equipment and propane). The scenarios considered are: fully torch-applied, loose-laid, polyurethane-bonded, and mechanically fastened.

The overlapping factor is set at 1.13, calculated as a weighted average across all scenarios, in line with EN 17388 c-PCR requirements.

Additionally, stage A5 also accounts for end-of-life treatment of product packaging.



# LCA Information

## CALCULATION RULES



### USE STAGE

#### B4

Following European common practice, two replacements are allowed within a 105-year Reference Service Lifetime, meaning one re-roofing every 35 years. To account for these substitutions, the modules from A1 to A5 and from C1 to C4 are repeated twice within stage B4.

### END OF LIFE STAGE

#### C1+C2+C3+C4

Energy consumption for demolition and deconstruction is set at 1.1 kWh per ton, as specified in PCR 2019:14 v2.01 (stage C1).

For transportation to waste treatment (stage C2), a 16–32 t truck is considered, with 50% Euro 4 and 50% Euro 5 standards, consuming 34 liters of fuel per 100 km. Distances and load factors are:

- **Landfill:** 50 km (empty outward, full return)
- **Incineration:** 100 km (empty outward, full return)
- **Recycling:** 300 km

For waste treatment (stage C3), 15% of material is recycled, 45% is incinerated with energy recovery, and the remaining 40% goes to landfill (stage C4).

### BENEFITS AND LOADS BEYOND THE SYSTEM BOUNDARIES

#### D

The avoided impact is calculated based on the net amount of material sent for recycling, applying a quality factor of 0.9.

For incineration with energy recovery, the benefits are assessed by considering the electricity and heat generated during waste treatment in stage C3, which substitute energy from the electrical grid and heat from a domestic natural gas boiler.

# Environmental performance

## ENVIRONMENTAL IMPACTS

Results are declared per 1m<sup>2</sup> of average product

IMPACT CATEGORY	UNIT	CONSTRUCTION PROCESS STAGE			USE STAGE	END OF LIFE STAGE				RESOURCE RECOVERY STAGE
		A1-A3	A4	A5	B4	C1	C2	C3	C4	D
GWP. t	kg CO <sub>2</sub> eq	4.12E+00	2.88E-01	1.57E+00	2.43E+01	1.76E-03	9.20E-02	5.84E+00	2.56E-01	-1.39E+00
GWP. f	kg CO <sub>2</sub> eq	4.09E+00	2.88E-01	1.56E+00	2.43E+01	1.76E-03	9.20E-02	5.84E+00	2.56E-01	-1.38E+00
GWP. b	kg CO <sub>2</sub> eq	2.47E-02	9.08E-06	6.93E-03	6.35E-02	8.00E-08	2.91E-06	8.23E-05	3.19E-05	-1.15E-04
GWP. luluc	kg CO <sub>2</sub> eq	2.44E-03	4.57E-06	1.82E-03	8.79E-03	7.25E-08	1.46E-06	1.20E-04	1.05E-05	-1.10E-03
GWP. GHG	kg CO <sub>2</sub> eq	4.09E+00	2.88E-01	1.56E+00	2.43E+01	1.76E-03	9.20E-02	5.84E+00	2.56E-01	-1.39E+00
ODP	kg CFC11eq	1.20E-06	6.54E-09	1.81E-07	2.78E-06	2.68E-11	2.10E-09	4.04E-09	7.09E-10	2.28E-07
AP	mol H <sup>+</sup> eq	3.31E-02	7.70E-04	8.22E-03	8.94E-02	1.63E-05	2.87E-04	2.02E-03	3.06E-04	-4.27E-04
EPf	kg P eq	8.81E-05	1.78E-07	3.58E-05	2.53E-04	1.66E-09	5.70E-08	2.30E-06	1.82E-07	-5.14E-05
EPm	kg N eq	2.38E-02	2.90E-04	4.30E-03	5.85E-02	7.67E-06	1.16E-04	5.31E-04	1.91E-04	-2.08E-04
EPt	mol N eq	9.79E-02	3.17E-03	2.44E-02	2.66E-01	8.41E-05	1.27E-03	5.59E-03	6.80E-04	-2.22E-03
POCP	kg NMVOCeq	4.14E-02	1.25E-03	9.77E-03	1.09E-01	2.51E-05	4.60E-04	1.47E-03	3.06E-04	-1.64E-03
ADPe*	kg Sbeq	2.74E-05	7.50E-09	3.88E-06	6.26E-05	6.17E-11	2.41E-09	6.62E-08	5.27E-09	8.10E-06
ADPf*	MJ	1.57E+02	3.83E+00	3.69E+01	4.02E+02	2.30E-02	1.23E+00	1.24E+00	5.05E-01	-3.19E+01
WDP*	m <sup>3</sup>	7.78E-01	1.25E-03	5.20E-01	2.29E+00	1.72E-05	4.02E-04	6.07E-02	-2.18E-01	2.66E-01

\* 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.

- GWP - total** Global Warming Potential Total
- GWP - fossil** Global Warming Potential Fossil fuels
- GWP - biogenic** Global Warming Potential Biogenic
- GWP - luluc** Global Warming Potential Land use and land use change
- GWP - GHG** Global Warming Potential Irreversible
- ODP** Ozone Depletion Potential
- AP** Acidification Potential

- EP - freshwater** Eutrophication Potential Aquatic freshwater
- EP - marine** Eutrophication Potential Aquatic marine
- EP - terrestrials** Eutrophication Potential Terrestrial
- POCP** Photochemical Ozone Creation Potential
- ADP - minerals&metals** Abiotic Depletion Potential - Non fossil resources (elements)
- ADP - fossil** Abiotic Depletion Potential - Fossil resources
- WDP** Water Deprivation Potential

# Environmental performance

## RESOURCES USE

Results are declared per 1m<sup>2</sup> of average product

IMPACT CATEGORY	UNIT	CONSTRUCTION PROCESS STAGE			USE STAGE	END OF LIFE STAGE				RESOURCE RECOVERY STAGE
		A1-A3	A4	A5	B4	C1	C2	C3	C4	D
PERE	MJ	7.51E+00	9.41E-03	2.27E+00	1.97E+01	4.94E-05	3.02E-03	5.09E-02	6.10E-03	-4.40E+00
PERM	MJ	8.66E-01	0.00E+00	-5.48E-01	6.35E-01	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
PERT	MJ	8.37E+00	9.41E-03	1.72E+00	2.03E+01	4.94E-05	3.02E-03	5.09E-02	6.10E-03	-4.40E+00
PENRE	MJ	3.84E+01	3.83E+00	3.71E+01	3.07E+02	2.30E-02	1.23E+00	7.22E+01	5.05E-01	-3.19E+01
PENRM	MJ	1.19E+02	0.00E+00	-2.14E-01	9.53E+01	0.00E+00	0.00E+00	-7.10E+01	0.00E+00	0.00E+00
PENRT	MJ	1.57E+02	3.83E+00	3.69E+01	4.02E+02	2.30E-02	1.23E+00	1.24E+00	5.05E-01	-3.19E+01
SM	kg	3.35E-01	0.00E+00	4.35E-02	7.56E-01	0.00E+00	0.00E+00	0.00E+00	0.00E+00	4.44E-01
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	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	0.00E+00
FW	m <sup>3</sup>	1.22E-02	7.41E-05	1.23E-02	4.34E-02	6.92E-07	2.37E-05	2.20E-03	-5.07E-03	-2.44E-03

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).

- PERE** Primary Renewable energy (carrier)
- PERM** Primary Renewable energy (feedstock)
- PERT** Primary Renewable energy (total)
- PENRE** Primary Non-renewable energy (carrier)
- PENRM** Primary Non-renewable energy (feedstock)

- PENRT** Primary Non-renewable energy (total)
- SM** Use of secondary materials
- RSF** Use of renewable secondary fuels
- NRSF** Use of non-renewable secondary fuels
- FW** Use of Net Fresh Water

# Environmental performance

## WASTE

Results are declared per 1m<sup>2</sup> of average product

ELASTOMERIC POLYMER-MODIFIED BITUMEN MEMBRANES		PRODUCT STAGE	CONSTRUCTION PROCESS STAGE			USE STAGE	END OF LIFE STAGE				RESOURCE RECOVERY STAGE
IMPACT CATEGORY	UNIT	A1-A3	A4	A5	B4	C1	C2	C3	C4	D	
HWD	kg	1.81E-02	6.89E-05	3.83E-02	3.90E-01	1.31E-06	2.19E-05	1.38E-01	1.93E-04	-1.65E-02	
NHWD	kg	3.16E+00	5.48E-03	1.26E+00	3.49E+01	2.26E-05	1.76E-03	3.71E+00	9.29E+00	-2.52E-01	
RWD	kg	2.03E-05	2.31E-07	1.57E-05	7.49E-05	1.07E-09	7.41E-08	9.41E-07	1.50E-07	-5.27E-05	

## OUTPUT FLOWS

ELASTOMERIC POLYMER-MODIFIED BITUMEN MEMBRANES		PRODUCT STAGE	CONSTRUCTION PROCESS STAGE			USE STAGE	END OF LIFE STAGE				RESOURCE RECOVERY STAGE
IMPACT CATEGORY	UNIT	A1-A3	A4	A5	B4	C1	C2	C3	C4	D	
CRU	kg	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	
MFR	kg	1.84E-02	0.00E+00	2.74E-02	1.74E+00	0.00E+00	0.00E+00	8.22E-01	0.00E+00	0.00E+00	
MER	kg	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	
EEE	MJ	1.78E-02	0.00E+00	7.31E-02	2.13E+01	0.00E+00	0.00E+00	1.05E+01	0.00E+00	0.00E+00	
EET	MJ	3.62E-02	0.00E+00	1.48E-01	4.32E+01	0.00E+00	0.00E+00	2.14E+01	0.00E+00	0.00E+00	

Method B reported in Annex 3 of the PCR is adopted for calculation of energy use indicator.

- HWD** Hazardous Waste Disposed
- NHWD** Non-Hazardous Waste Disposed
- RWD** Radioactive Waste Disposed
- CRU** Components For Re-Use

- MFR** Material For Recycling
- MER** Materials For Energy Recovery
- EEE** Exported electricity energy
- EET** Exported thermal energy

# Environmental performance

## ALTERNATIVE END-OF-LIFE SCENARIOS

Alternative End-of-Life scenarios assessed: 100% recycling, 100% Incineration with energy recovery and 100% Landfill

100% RECYCLING					
IMPACT CATEGORY	UNIT	C2	C3	C4	D
GWP. t	kg CO <sub>2</sub> eq	2.51E-01	8.06E-02	0.00E+00	1.19E+01
GWP. f	kg CO <sub>2</sub> eq	2.51E-01	8.03E-02	0.00E+00	1.19E+01
GWP. b	kg CO <sub>2</sub> eq	7.93E-06	4.88E-05	0.00E+00	2.17E-02
GWP. l <ul style="list-style-type: none">luc</ul>	kg CO <sub>2</sub> eq	3.98E-06	2.12E-04	0.00E+00	2.03E-02
GWP. GHG	kg CO <sub>2</sub> eq	2.51E-01	8.05E-02	0.00E+00	1.19E+01
ODP	kg CFC-11 eq	5.72E-09	1.12E-09	0.00E+00	3.20E-06
AP	mol H <sup>+</sup> eq	7.82E-04	4.24E-04	0.00E+00	5.65E-02
EPf	kg P eq	1.56E-07	1.11E-06	0.00E+00	5.05E-04
EPm	kg N eq	3.17E-04	1.65E-04	0.00E+00	8.50E-03
EPt	mol N eq	3.47E-03	1.79E-03	0.00E+00	9.39E-02
POCP	kg NMVOC eq	1.26E-03	5.65E-04	0.00E+00	3.19E-02
ADPe	kg Sb eq	6.57E-09	6.38E-09	0.00E+00	8.54E-05
ADPf	MJ	3.35E+00	1.10E+00	0.00E+00	1.71E+02
WDP*	m <sup>3</sup> depriv.	1.10E-03	-1.31E-01	0.00E+00	5.15E+00
PERE	MJ	8.23E-03	3.13E-02	0.00E+00	8.64E+00
PERM	MJ	0.00E+00	0.00E+00	0.00E+00	0.00E+00
PERT	MJ	8.23E-03	3.13E-02	0.00E+00	8.64E+00
PENRE	MJ	3.35E+00	1.19E+02	0.00E+00	1.71E+02
PENRM	MJ	0.00E+00	-1.18E+02	0.00E+00	0.00E+00
PENRT	MJ	3.35E+00	1.10E+00	0.00E+00	1.71E+02
SM	kg	0.00E+00	0.00E+00	0.00E+00	4.64E+00
RSF	MJ	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
FW	m <sup>3</sup>	6.48E-05	-3.00E-03	0.00E+00	1.25E-01
HWD	kg	5.98E-05	1.26E-03	0.00E+00	-1.45E-05
NHWD	kg	4.80E-03	2.22E+00	0.00E+00	-1.16E-01
RWD	kg	2.02E-07	5.32E-07	0.00E+00	1.25E-03
CRU	kg	0.00E+00	0.00E+00	0.00E+00	0.00E+00
MFR	kg	0.00E+00	5.48E+00	0.00E+00	0.00E+00

MER	kg	0.00E+00	0.00E+00	0.00E+00	0.00E+00
EEE	MJ	0.00E+00	0.00E+00	0.00E+00	0.00E+00
EET	MJ	0.00E+00	0.00E+00	0.00E+00	0.00E+00

MER	kg	0.00E+00	0.00E+00	0.00E+00	0.00E+00
EEE	MJ	0.00E+00	2.34E+01	0.00E+00	0.00E+00
EET	MJ	0.00E+00	4.76E+01	0.00E+00	0.00E+00

**100% INCINERATION WITH ENERGY RECOVERY**

IMPACT CATEGORY	UNIT	C2	C3	C4	D
GWP. t	kg CO <sub>2</sub> eq	8.37E-02	1.30E+01	0.00E+00	-5.60E+00
GWP. f	kg CO <sub>2</sub> eq	8.37E-02	1.30E+01	0.00E+00	-5.59E+00
GWP. b	kg CO <sub>2</sub> eq	2.64E-06	1.67E-04	0.00E+00	-4.79E-03
GWP. luluc	kg CO <sub>2</sub> eq	1.33E-06	1.95E-04	0.00E+00	-6.69E-03
GWP. GHG	kg CO <sub>2</sub> eq	8.37E-02	1.30E+01	0.00E+00	-5.60E+00
ODP	kg CFC-11 eq	1.91E-09	8.61E-09	0.00E+00	-1.72E-07
AP	mol H+ eq	2.61E-04	4.34E-03	0.00E+00	-1.29E-02
EPf	kg Peq	5.19E-08	4.73E-06	0.00E+00	-2.21E-04
EPm	kg Neq	1.06E-04	1.12E-03	0.00E+00	-2.26E-03
EPt	mol Neq	1.16E-03	1.18E-02	0.00E+00	-2.48E-02
POCP	kg NMVOCeq	4.18E-04	3.08E-03	0.00E+00	-1.04E-02
ADPe	kg Sbeq	2.19E-09	1.45E-07	0.00E+00	-1.62E-07
ADPf	MJ	1.12E+00	2.39E+00	0.00E+00	-1.07E+02
WDP*	m <sup>3</sup> depriv.	3.65E-04	1.79E-01	0.00E+00	-4.93E-01
PERE	MJ	2.74E-03	1.03E-01	0.00E+00	-1.15E+01
PERM	MJ	0.00E+00	0.00E+00	0.00E+00	0.00E+00
PERT	MJ	2.74E-03	1.03E-01	0.00E+00	-1.15E+01
PENRE	MJ	1.12E+00	1.21E+02	0.00E+00	-1.07E+02
PENRM	MJ	0.00E+00	-1.18E+02	0.00E+00	0.00E+00
PENRT	MJ	1.12E+00	2.39E+00	0.00E+00	-1.07E+02
SM	kg	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
NRSF	MJ	0.00E+00	0.00E+00	0.00E+00	0.00E+00
FW	m <sup>3</sup>	2.16E-05	5.90E-03	0.00E+00	-3.17E-02
HWD	kg	1.99E-05	3.07E-01	0.00E+00	-3.66E-02
NHWD	kg	1.60E-03	7.51E+00	0.00E+00	-4.15E-01
RWD	kg	6.74E-08	1.91E-06	0.00E+00	-3.81E-04
CRU	kg	0.00E+00	0.00E+00	0.00E+00	0.00E+00
MFR	kg	0.00E+00	0.00E+00	0.00E+00	0.00E+00

**100% LANDFILL**

IMPACT CATEGORY	UNIT	C2	C3	C4	D
GWP. t	kg CO <sub>2</sub> eq	4.18E-02	0.00E+00	6.40E-01	-1.43E-02
GWP. f	kg CO <sub>2</sub> eq	4.18E-02	0.00E+00	6.40E-01	-1.41E-02
GWP. b	kg CO <sub>2</sub> eq	1.32E-06	0.00E+00	7.97E-05	-8.55E-05
GWP. luluc	kg CO <sub>2</sub> eq	6.63E-07	0.00E+00	2.63E-05	-7.80E-05
GWP. GHG	kg CO <sub>2</sub> eq	4.18E-02	0.00E+00	6.40E-01	-1.42E-02
ODP	kg CFC-11 eq	9.54E-10	0.00E+00	1.77E-09	-6.28E-10
AP	mol H+ eq	1.30E-04	0.00E+00	7.66E-04	-6.37E-05
EPf	kg Peq	2.59E-08	0.00E+00	4.54E-07	-9.64E-07
EPm	kg Neq	5.29E-05	0.00E+00	4.78E-04	-1.50E-05
EPt	mol Neq	5.78E-04	0.00E+00	1.70E-03	-1.49E-04
POCP	kg NMVOCeq	2.09E-04	0.00E+00	7.64E-04	-7.69E-05
ADPe	kg Sbeq	1.09E-09	0.00E+00	1.32E-08	-1.65E-09
ADPf	MJ	5.58E-01	0.00E+00	1.26E+00	-4.70E-01
WDP*	m <sup>3</sup> depriv.	1.83E-04	0.00E+00	5.52E-02	-1.18E-02
PERE	MJ	1.37E-03	0.00E+00	1.53E-02	-1.03E-01
PERM	MJ	0.00E+00	0.00E+00	0.00E+00	0.00E+00
PERT	MJ	1.37E-03	0.00E+00	1.53E-02	-1.03E-01
PENRE	MJ	5.58E-01	0.00E+00	1.26E+00	-4.70E-01
PENRM	MJ	0.00E+00	0.00E+00	0.00E+00	0.00E+00
PENRT	MJ	5.58E-01	0.00E+00	1.26E+00	-4.70E-01
SM	kg	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
NRSF	MJ	0.00E+00	0.00E+00	0.00E+00	0.00E+00
FW	m <sup>3</sup>	1.08E-05	0.00E+00	1.31E-03	-2.71E-04
HWD	kg	9.97E-06	0.00E+00	4.82E-04	-1.84E-04
NHWD	kg	8.00E-04	0.00E+00	2.32E+01	-1.19E-01
RWD	kg	3.37E-08	0.00E+00	3.75E-07	-1.30E-06
CRU	kg	0.00E+00	0.00E+00	0.00E+00	0.00E+00
MFR	kg	0.00E+00	0.00E+00	0.00E+00	0.00E+00

MER	kg	0.00E+00	0.00E+00	0.00E+00	0.00E+00
EEE	MJ	0.00E+00	0.00E+00	0.00E+00	0.00E+00
EET	MJ	0.00E+00	0.00E+00	0.00E+00	0.00E+00

## Environmental performance

### RESULTS VARIATION

The table below presents the variation in results between each subgroup compared to the average product, considering the modules A1-A3. The variations in the results are due, in

addition to the different composition of the membranes. For some impact indicators the differences are very marked, this is due to the absence or presence of particular substances.

IMPACT CATEGORY	MIN VARIABILITY - %	MAX VARIABILITY - %
<b>GWP, t</b> Global Warming Potential Total	-4%	39%
<b>GWP, f</b> Global Warming Potential Fossil Fuels	-4%	39%
<b>GWP, b</b> Global Warming Potential Biogenic	-31%	3%
<b>GWP, luluc</b> Global Warming Potential Land use and Ind use change	-13%	129%
<b>AP</b> Acidification Potential	-37%	394%
<b>EP - freshwater</b> Eutrophication Potential Aquatic freshwater	-4%	44%
<b>EP - marine</b> Eutrophication Potential, aquatic marine	-75%	823%
<b>EP - terrestrials</b> Eutrophication Potential, terrestrial	-45%	488%
<b>POCP</b> Photochemical Ozone Creation Potential	-48%	519%
<b>ODP</b> Ozone Depletion Potential	-39%	412%
<b>ADP minerals and metals</b> Abiotic Depletion Potential - Non fossil resources (elements)	-83%	1561%
<b>ADP fossil</b> Abiotic Depletion Potential - Fossil resources	-2%	24%
<b>WDP</b> Water Deprivation Potential	-3%	26%

## Additional Environmental information

### MINIMUM CONTENT OF RECYCLED, RECOVERED OR BY-PRODUCT MATERIAL

The table outlines the minimum content of recycled, recovered, and by-product materials as defined by UNI/PdR 88:2020, integrated with the relevant guidelines for the EPDs.

PRODUCT NAME	RECYCLED MATERIAL			RECOVERED MATERIAL - %	BY-PRODUCT MATERIAL - %	TOTAL CONTENT OF RECYCLED, RECOVERED, BY-PRODUCT MATERIAL - %
	TOTAL - %	PRE-CONSUMER - %	POST-CONSUMER - %			
NOVAGUM-P	4.9%	0.9%	4.0%	0.0%	1.5%	6.4%
NOVAGUM-P MINERAL	4.5%	0.7%	3.8%	0.0%	1.2%	5.7%
NOVAGUM-HP MINERAL	2.7%	0.8%	1.9%	0.0%	1.2%	3.9%
NOVAGUM-P HFR MINERAL	2.6%	0.9%	1.7%	0.0%	1.4%	4.0%
NOVA RF REFLECTA / NOVA RF MINERAL / NOVA RF GRANULO BIANCO	2.6%	0.9%	1.7%	0.0%	1.4%	4.0%
NOVA-E	4.9%	0.9%	4.0%	0.0%	1.5%	6.4%
FLEXGUM-P	5.0%	0.9%	4.1%	0.0%	1.5%	6.5%
NOVA ISOROOF PLUS/S	3.4%	0.0%	3.4%	0.0%	0.0%	3.4%
EDILGUM	3.9%	0.0%	3.9%	0.0%	0.0%	3.9%
NOVAR-CH SBS	4.9%	0.5%	4.4%	0.0%	0.9%	5.8%

## 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
CPC	Central product classification
SBS	Styrene-Butadiene-Styrene
BPE	Bituminous-Polymeric Elastomeric

## OTHER GENERAL TERMS

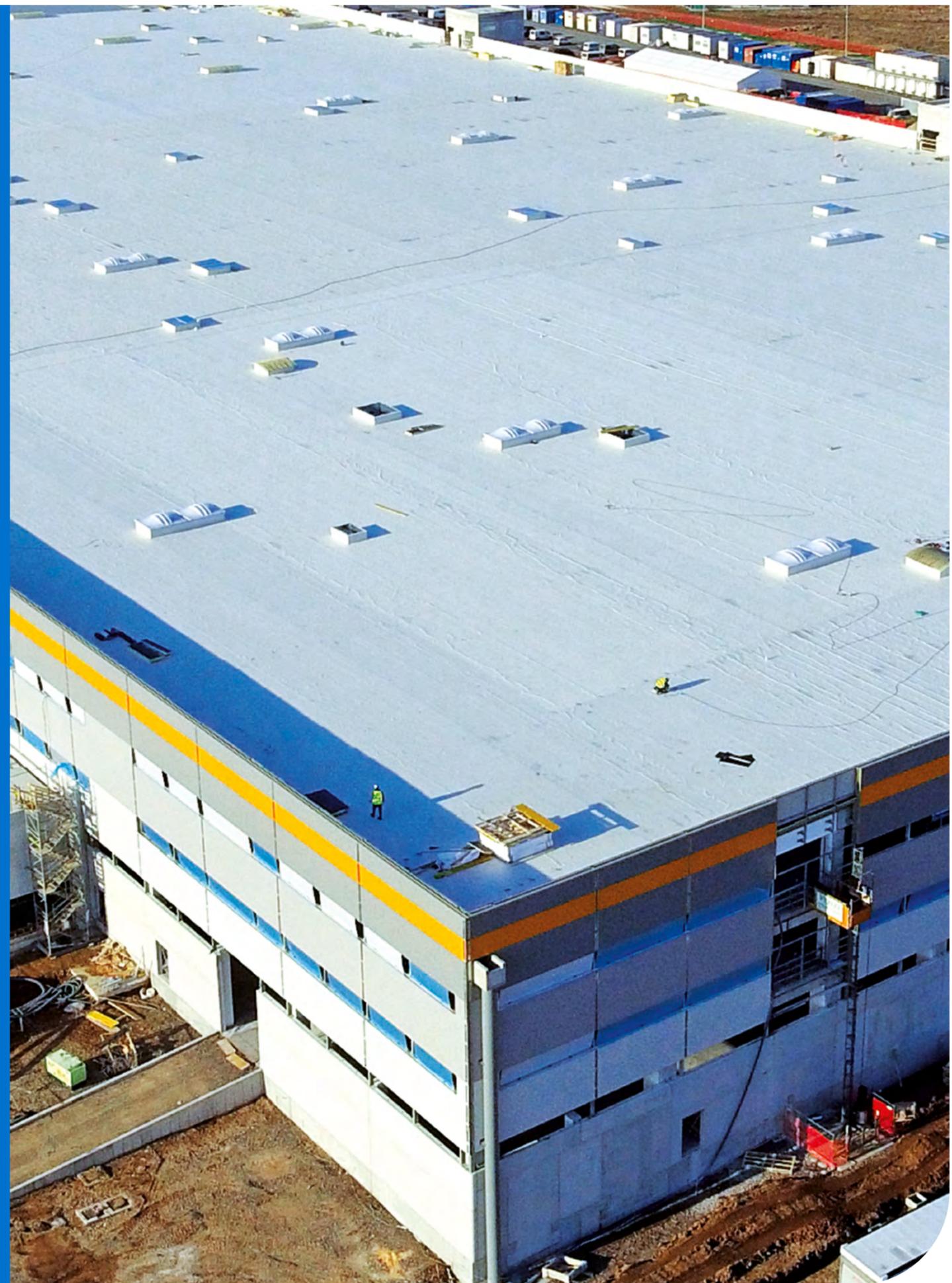
SVHC	Substances of Very High Concern
EC No.	European Community Number
CAS No.	Chemical Abstracts Service Number
MJ	Megajoule
kg	Kilogram
m <sup>3</sup>	Cubic Meter
NM VOC	Non-Methane Volatile Organic Compounds
Sb eq.	Antimony Equivalents
P eq.	Phosphorus Equivalents
N eq.	Nitrogen Equivalents
CFC-11 eq.	Chlorofluorocarbon-11 Equivalents
CO <sub>2</sub> eq.	Carbon Dioxide Equivalents
kg C	Kilograms of Carbon
kg CO <sub>2</sub> eq.	Kilograms of Carbon Dioxide Equivalent

## REFERENCES

General Programme Instructions of the International EPD® System, version 5.01  
Product Category Rules PCR 2019:14 Construction products, version 2.0.1.  
c-PCR EN 17388, Part 1 and Part 2, October 2024  
EN 15804:2012+A2:2019/AC:2021  
ISO 14040:2006/AMD:2020  
ISO 14044:2006/AMD:2020  
ISO 14025:2006  
Life Cycle Assessment applied to waterproofing bitumen membranes, rev.2 - 09/12/2025

## VERSION HISTORY

Original version of the EPD, 2026-01-20





Since 1908, SOPREMA has been improving people's well-being and protecting their environment with innovative and sustainable solutions in the fields of waterproofing and thermal and acoustic insulation.

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