Environmental Product Declaration

EPD of multiple products, based on a worst case product
In accordance with ISO 14025:2006 and EN 15804:2012+A2:2019/AC:2021 for:

EVALASTIC® EPDM Roofing and waterproofing membranes

from

alwitra GmbH

Programme:	The International EPD® System, www.environdec.com
Programme operator:	EPD International AB
EPD registration number:	S-P-11688
Publication date:	2024-03-01
Valid until:	2029-02-28

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

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:	info@environdec.com

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 (EN 15804+A2) (1.3.1)
PCR review was conducted by: El Comité Técnico del Sistema Internacional EPD© President: Claudia A. Peña. Contact via info@environdec.com
Life Cycle Assessment (LCA)
LCA accountability: Matthias Brinkert BC BRINKERT CONSULTING **Brinkert Consulting** Schulstr. 17 54317 Osburg Germany www.brinkert-consulting.com
Third-party verification
Independent third-party verification of the declaration and data, according to ISO 14025:2006, via: ☒ EPD verification by individual verifier Third-party verifier: Dr. Andreas Ciroth Kaiserdamm 13 14057 Berlin Germany Approved by: The International EPD® System
Procedure for follow-up of data during EPD validity involves third party verifier: ☐ Yes ☒ No

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

EPDs within the same product category but 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.

EPDs of construction products may not be comparable if they do not comply with EN 15804+A2.

Company information

Owner of the EPD:

alwitra GmbH

Contact:

Christian Deckert
Head of Product Management DDB
C.Deckert@alwitra.de

Description of the organisation:

alwitra is a specialist for high-quality flat roof systems and ensures most reliable and permanent flat roof waterproofing. alwitra offers all components of the water-draining layer within a system - technically perfectly integrated, with a track record of 60 years of practical application worldwide. In addition to roofing and waterproofing membranes, the company offers:

- Solar Solutions
- Roof edge profiles
- Daylight systems
- Flat roof drainage
- Flat Roof Accessories

Since the company was founded in 1964 in Trier, alwitra has set standards for the entire industry with numerous innovations. The following locations belong to the company:

- Headquarter incl. Development, production, distribution & shipping: Trier, Am Forst 1
- Warehousing and shipping: Hermeskeil, Am Fohlengarten 12-13
- Manufacturing: Hermeskeil, Am Fohlengarten 10

Product-related or management system-related certifications:

Following certifications are available on request:
Management certifications:

- Quality Management System ISO 9001
- Environmental Management System ISO 14001
- Occupational health and safety management systems ISO 45001
- Energy Management System ISO 50001

Product certifications:

- No ecotoxicological effect according to Umu and Ames test (test report BAM)
- RAL Gütezeichen „Flachdachsysteme und -services“ granted for EVALASTIC®
  The General and Special Quality and Inspection Regulations apply to the services provided by contractors, the procedures and processing guidelines used and the certified roofing materials used.
- Named in the official WBB list of the BuGG (Bundesverband GebäudeGrün e.V.) as a root-resistant waterproofing membrane with tests according to the FLL method and DIN EN 13948
- SRI Rating tested for the use of EVALASTIC® in Cool Roofs (test report “Determination of the SR and SRI values of roof waterproofing membranes for alwitra GmbH” by Fraunhofer ISE)
  Cool roofs are designed to reflect sunlight while absorbing less heat. This means that cool

roofs have a higher ability to reflect the sun's rays, and thus save more energy than traditional roofing options.

Name and location of production site(s):

alwitra GmbH
Am Fohlengarten 10-13
DE-54411 Hermeskeil
Germany

Product information

Product name:

The EVALASTIC® product line includes the following varieties:

EVALASTIC® V, homogenous sealing layer with polyester fleece backing
- effective thickness sealing layer: 1.2/1.3/1.5 mm;
- total thickness including backing: 2.1/2.2/2.4 mm

EVALASTIC® VG, homogenous sealing layer with polyester/glass fleece backing
- effective thickness sealing layer: 1.2/1.5 mm;
- total thickness including backing: 2.1/2.4 mm

EVALASTIC® VGSK, homogenous sealing layer with polyester/glass fleece backing and self-adhesive coating
- effective thickness sealing layer: 1.2/1.5 mm;
- total thickness including backing: 2.1/2.4 mm

Product identification:

EVALASTIC® EPDM Roofing and waterproofing membranes are in compliance with:
- CPR-Certificate no. 1213 – CPR – 7664 (EN 13956)
- CPR-Certificate no. 1213 – CPR – 7666 (EN 13967)

Product description:

The EVALASTIC® waterproofing membranes consist of ethylene-propylene-diene terpolymer (EPDM) and polypropylene (PP) including specific performance additives. This combination of materials results in following attributes:
- long-term performance
- easy & fast installation
- single layer and homogeneous material
- flawless flat roof waterproofing for decades
- bitumen compatible roofing and waterproofing membrane
- practical experience of more than 35 years
- free of bitumen, plasticizers, and PVC

EVALASTIC® has proven its suitability for building and construction purposes over decades, providing high resistance to chemicals, low temperature flexibility and weathering resistance. Due to the elastic

characteristics of the EPDM material, the membranes resist extreme variations of temperature without any damage: the service temperature ranges from -40 °C up to +100 °C.

Depending on the product variant, EVALASTIC® membranes are equipped with:

- polyester fleece backing
- glass fleece layer
- self-adhesive coating including release film

For placing the product on the market in the EU/EFTA (except Switzerland), Regulation (EU) No 305/2011 (CPR) shall apply. The product requires a Declaration of Performance in accordance with :

- DIN EN 13956:2013-03, Flexible sheets for waterproofing - Plastic and rubber sheets for roof waterproofing - Definitions and characteristics
- DIN EN 13967: 2017-08, Flexible sheets for waterproofing - Plastic and rubber damp proof sheets including plastic and rubber basement tanking sheet - Definitions and characteristics, as well as CE marking.

Application

The EVALASTIC® EPDM waterproofing membrane is a homogeneously weldable EPDM waterproofing membrane. The integrated system, with its different product varieties and its wide range of accessories, offers solutions to any flat roof project.

- Flat roof waterproofing for new build and refurbishment
- Waterproofing for varied roof geometries
- The waterproofing membrane for warm roofs, cold roofs, inverted roofs, green roofs
- Product varieties for all installation methods and flat roof configurations
- Can be used on many insulation materials, bituminous membranes, unbacked rigid polystyrene foam boards

Installation

Due to their thermoplastic properties EVALASTIC® V, VG and VGSK roofing and waterproofing membranes are easy to handle and to process. The overlap welding is carried out with hot air (warm gas). On the roof, no specific health protection measures for staff are required.

Homogeneous seam welding is advantageous for a permanent waterproof functionality of the parts/membranes to be connected. When applying, the pertinent standards as well as the installation instructions and manufacturer information must be adhered to.

The following installation methods are possible depending on the type of membrane:

Product	Position Securing	Seam welding
EVALASTIC® V	Loose laying with ballast / Mechanical fastening / Bonding	Hot air
EVALASTIC® VG	Loose laying with ballast / Mechanical fastening / Bonding	Hot air
EVALASTIC® VGSK	Bonding	Hot air

alwitra offers a comprehensive range of accessories for quicker and easier installation and durable results:

- VSKA self-adhesive membrane for connections in detail
- EVASTEEL: roof drains and roof vents
- EVATEC: mounting system for PV systems
- Flat roof vent
- Flat roof drainage
- Roof edge trim profiles
- Wall capping profiles
- Wall flashing profiles
- Maintenance walkway tiles

For further information please visit our website: https://alwitra.de/en/

UN CPC code:

36220: Unvulcanized compounded rubber, in primary forms or in plates, sheets or strip; unvulcanized rubber in forms other than primary forms or plates, sheets or strip (except "camel-back" strips for retreading rubber tyres); articles of unvulcanized rubber; thread, cord, plates, sheets, strip, rods and profile shapes, of vulcanized rubber other than hard rubber.

Geographical scope:

- A1-2: Worldwide supply chain is considered.
- A3: Production in Germany
- The products are sold worldwide. Transport, installation, use and end of life were modelled with data sets representing Europe.

LCA information

Functional unit / declared unit:

One square meter [1 m²] of EVALASTIC® EPDM Roofing and waterproofing membrane including packaging.

Reference service life:

35 years

If exposed to standard load, professionally installed and applied in accordance with the intended use in compliance with the generally accepted engineering standards, the declared products can reach a service life of 35 years and more.

If professionally applied under an ecological protection/wearing layer (*e.g.* green roof) this service life can be still extended.

The in-use conditions will be significantly enhanced when installed with alwitra system parts as the system parts used in the waterproofing such as rainwater outlets, vents, coated metal sheets or rooflights are flashed against the declared membranes in a homogeneous, waterproof connection. The

waterproofing of adjacent constructional elements is complemented by additional components of the product system, *e.g.* roof edge trim and wall connection profiles.

If the waterproofing consists of the declared products, it will not be necessary to remove it in case of restoration/refurbishment. In fact, the old waterproofing usually can serve as a substrate for the new refurbishment layer.

Time representativeness:

For the data model the current receipt was used. Site specific data are based on one year average for process data (reference year 2022). The background data comes from ecoinvent in a current version with reference to EN 15804.

Database(s) and LCA software used:

- Software: openLCA v2.0
- Data base: ecoinvent v3.8 cut-off EN 15804

Where necessary, data was collected and modelled from suppliers.

Description of system boundaries:

Cradle to gate with options, modules C1–C4, module D and with optional modules (A1–A3 + C + D and additional modules).

Module A1-3

The module includes the machining processes from cradle to factory gate. This includes:

- provision of product and packaging specific materials
- transportation of materials to factory
- energy consumption of production processes, its emissions and waste generation

Module A4

Transportation of the packaged goods to distributors.

Module A5

Installation of the product on the construction sites with 5% overlap including energy consumption as well as disposal of product packaging.

Module C1

During the dismantling of the product from the building, there is no effort that has to be taken into account as part of the life cycle assessment.

Module C2

Transport to waste treatment at the end of product life.

Module C3

Depending on the location of the building and the type of installation, the product will contain different levels of pollutants at the end of its life. The product used is not intended for disposal in a WtE facility. For this reason, the disposal is assigned to module C4.

Module C4

At the end of its life, the product must be disposed of in an incinerator due to contamination during its use. The amount of energy recovered is a by-product of the disposal process.

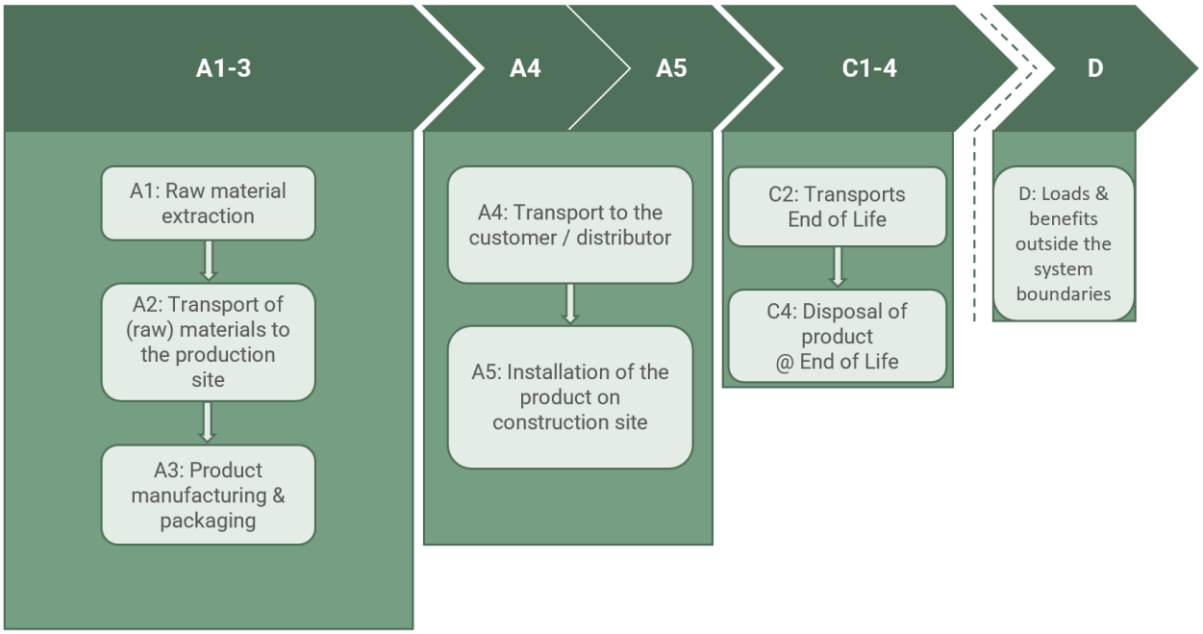
Module D

Benefits and loads beyond the system boundaries resulting from waste treatment of

- module A3 (production waste),
- module A5 (packaging waste),
- module C4 (end of product life)

System diagram:

The diagram shows the input and output material & energy flows per module.



Electricity mix

The German electricity mix from ecoinvent in data set version 3.08 from 12/2022 was used. This data set represents in a good quality the electricity mix consumed by alwitra in 2022 as well as previous years.

Information about CO_2 emissions:

- Certificate issue: 0.0 kg CO_2/kWh
- Modelled impact: 0.049 kg CO_2/kWh

Cut-off rules

Wherever possible, all data collected from the recipe and the bill of materials for the packaging material were taken into account. Thus, material flows with a mass fraction of less than one per-cent were also accounted for with exclusion of:

- a few packaging materials (0.1 mass-%)
- water consumption of a closed-loop water cooling system
- energy consumption of the internal transport and storage system

If generic data sets from the ecoinvent database are not available in the current version, they have been modeled in-house. Individual substances for which no data sets are available:

- substituted by substances with similar environmental effects, or
- if not possible, have been cut-off.

Allocation

Allocations in the LCA model follow the cut-off rules. Thus, environmental burdens and credits from upstream product systems are not taken into account. At the same time, disposal loads remain in the balanced product system until the end-of-waste status is reached, while the resulting credits are assigned to module D. Credits declared in module D are outside the balanced product system.

No allocation is required for module A3 as it is not a multi-product output. Plastic waste generated within the production processes is incinerated and landfilled. The data sets are consider the EoW status*. All credits resulting from the different modules of the product life cycle are assigned to module D.

The waste generated in module A5 and module C4 is incinerated and then landfilled. The data sets are consider the EoW status*. All credits resulting from the different modules of the product life cycle are assigned to module D.

** The ecoinvent v3.8 EN 15804 database was used. The data base is conform with the cut-off rules according to the EN 15804. Data sets are documented online.*

Data quality

The data for the foreground system come from the manufacturer's data collection. In addition to primary production data, necessary background data of the raw materials used were specifically modelled or come from the ecoinvent database in version 3.8 for EN 15804 studies. Mixtures, energy inputs and waste generation of additives and other precursors not included in the ecoinvent database and for which suppliers are unable to provide information were estimated conservatively.

The manufacturer's production data were collected from recipes and bill of materials, production data were measured or calculated on basis of average annual values.

Overall, a good data quality can be assumed, the representativeness can be classified as very good.

Comparability

In principle, a comparison or evaluation of EPD data is only possible if all data sets to be compared have been created in accordance with EN 15804 and the building context or the product-specific performance characteristics are taken into account.

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

	Product stage			Construction process stage		Use stage							End of life stage				Resource recovery stage
	Raw material supply	Transport	Manufacturing	Transport	Construction installation	Use	Maintenance	Repair	Replacement	Refurbishment	Operational energy use	Operational water use	De-construction demolition	Transport	Waste processing	Disposal	Reuse-Recovery-Recycling-potential
Module	**A1**	**A2**	**A3**	**A4**	**A5**	**B1**	**B2**	**B3**	**B4**	**B5**	**B6**	**B7**	**C1**	**C2**	**C3**	**C4**	**D**
Modules declared	X	X	X	X	X	ND	ND	ND	ND	ND	ND	ND	X	X	X	X	X
Geography	GLO	GLO	DE	EU	EU	-	-	-	-	-	-	-	EU	EU	EU	EU	EU
Specific data used	> 90 %					-	-	-	-	-	-	-	-	-	-	-	-
Variation – products	0%					-	-	-	-	-	-	-	-	-	-	-	-
Variation – sites	0%					-	-	-	-	-	-	-	-	-	-	-	-

Disclaimer: The results of module A1-3 are not to be used without considering the results of C modules.

Manufacturing

The raw and basic materials are pre-mixed in a mixing machine and subsequently plasticized in an extruder together with the other formulation ingredients.

The plastics composition as an intermediate is fed over a mixing mill into a calander, where it is rolled out into a homogeneous roofing respectively waterproofing membrane, and (depending on the membrane type) an underside backing layer is applied.

The finished membrane is cooled down over special chill rolls and subsequently cut to its final size and fabricated into rolls.

Unbacked production residues are recycled, i.e. directly refed into the production process. All other production waste is either recycled directly by external specialist companies or, if necessary, previously prepared.

The finished packaged goods are temporarily stored and then prepared for transport to the customer.

Content information

Components of product	Weight, kg	Post-consumer recycled material, weight-%	Biogenic material, weight-% and kg C/kg
Polymer	1.70	0	0
Polyester fleece	0.40	0	0
Release foil	0.06	0	0
Glass fleece	0.05	0	0
Sum	2.21	0	0
Components of packaging	**Weight, kg**	**Weight-% (versus the product)**	**Weight, biogenic carbon, kg C/kg**
Polyethylene	0.003	0.12 %	0
Carton	0.005	0.22 %	0.120
Softwood	0.122	5.52 %	0.421
Sum	0.13	5.85 %	0.541

Environmental/hazardous properties

No substance listed in the Candidate List of Substances of Very High Concern for Authorization under the REACH Regulations is present in this product, either above the limits for registration with the European Chemicals Agency or in excess of 0.1 weight-% of the product.

Dangerous substances from the candidate list of SVHC for Authorisation	EC No.	CAS No.	Weight-% per functional or declared unit
N/A	-/-	-/-	-/-

Results of the environmental performance indicators

Mandatory impact category indicators according to EN 15804

The following 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.

Results per 1 m² of EVALASTIC® EPDM Roofing and waterproofing membrane									
Indicator	**Unit**	**A1-A3**	**A4**	**A5**	**C1**	**C2**	**C3**	**C4**	**D**
GWP-fossil	kg CO_2 eq.	6,25E+00	4,65E-02	1,77E-01	0,00E+00	2,14E-02	0,00E+00	5,76E+00	-4,55E+00
GWP-biogenic	kg CO_2 eq.	-2,79E-01	8,11E-05	3,10E-01	0,00E+00	3,73E-05	0,00E+00	3,42E-04	-4,75E-03
GWP-luluc	kg CO_2 eq.	8,49E-03	2,24E-05	1,34E-05	0,00E+00	1,03E-05	0,00E+00	9,60E-06	-5,50E-04
GWP-total	kg CO_2 eq.	5,98E+00	4,67E-02	4,87E-01	0,00E+00	2,14E-02	0,00E+00	5,76E+00	-4,56E+00
ODP	kg CFC 11 eq.	4,17E-06	9,88E-10	2,33E-10	0,00E+00	4,54E-10	0,00E+00	4,45E-09	-2,02E-07
AP	mol H^+ eq.	3,12E-02	9,91E-05	7,35E-05	0,00E+00	4,56E-05	0,00E+00	1,47E-03	-3,76E-03
EP-freshwater	kg P eq.	1,63E-03	3,25E-06	5,42E-06	0,00E+00	1,49E-06	0,00E+00	5,03E-06	-1,44E-04
EP-marine	kg N eq.	6,73E-03	2,52E-05	2,78E-05	0,00E+00	1,16E-05	0,00E+00	7,15E-04	-1,28E-03
EP-terrestrial	mol N eq.	6,42E-02	2,54E-04	2,70E-04	0,00E+00	1,17E-04	0,00E+00	7,56E-03	-1,38E-02
POCP	kg NMVOC eq.	2,29E-02	1,51E-04	7,33E-05	0,00E+00	6,93E-05	0,00E+00	2,04E-03	-8,00E-03
ADP-minerals & metals*	kg Sb eq.	1,32E-04	1,40E-07	6,48E-08	0,00E+00	6,45E-08	0,00E+00	1,43E-07	-2,05E-06
ADP-fossil*	MJ	4,63E+01	5,87E-01	1,22E-01	0,00E+00	2,70E-01	0,00E+00	8,67E-02	-6,85E+01
WDP*	m^3	3,72E+00	4,69E-03	8,69E-03	0,00E+00	2,15E-03	0,00E+00	4,55E-02	-2,04E-01
Acronyms	GWP-fossil = Global Warming Potential fossil fuels; GWP-biogenic = Global Warming Potential biogenic; GWP-luluc = Global Warming Potential land use and land use change; ODP = Depletion potential of the stratospheric ozone layer; AP = Acidification potential, Accumulated Exceedance; EP-freshwater = Eutrophication potential, fraction of nutrients reaching freshwater end compartment; EP-marine = Eutrophication potential, fraction of nutrients reaching marine end compartment; EP-terrestrial = Eutrophication potential, Accumulated Exceedance; POCP = Formation potential of tropospheric ozone; ADP-minerals&metals = Abiotic depletion potential for non-fossil resources; ADP-fossil = Abiotic depletion for fossil resources potential; WDP = Water (user) deprivation potential, deprivation-weighted water consumption								

** Disclaimer: The 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.*

Additional mandatory and voluntary impact category indicators

Results per 1 m² of EVALASTIC® EPDM Roofing and waterproofing membrane									
Indicator	**Unit**	**A1-A3**	**A4**	**A5**	**C1**	**C2**	**C3**	**C4**	**D**
GWP-GHG[1]	kg CO_2 eq.	6,26E+00	4,66E-02	1,77E-01	0,00E+00	2,14E-02	0,00E+00	5,76E+00	-4,56E+00
Additional voluntary indicators e.g. the voluntary indicators from EN 15804 or the global indicators according to ISO 21930:2017									

Resource use indicators

Results per 1 m² of EVALASTIC® EPDM Roofing and waterproofing membrane									
Indicator	**Unit**	**A1-A3**	**A4**	**A5**	**C1**	**C2**	**C3**	**C4**	**D**
PERE	MJ	5,48E+00	1,01E-02	2,55E-02	0,00E+00	4,66E-03	0,00E+00	1,04E-02	-6,23E-01
PERM	MJ	6,70E+00	0,00E+00	1,44E-05	0,00E+00	0,00E+00	0,00E+00	3,01E-03	-2,13E-05
PERT	MJ	1,22E+01	1,01E-02	2,55E-02	0,00E+00	4,66E-03	0,00E+00	1,34E-02	-6,23E-01
PENRE	MJ	4,63E+01	6,01E-01	1,78E-01	0,00E+00	2,76E-01	0,00E+00	1,02E-01	-6,98E+01
PENRM	MJ	1,13E+02	0,00E+00	9,14E-04	0,00E+00	0,00E+00	0,00E+00	3,73E-01	-8,36E-02
PENRT	MJ	1,59E+02	6,01E-01	1,79E-01	0,00E+00	2,76E-01	0,00E+00	4,75E-01	-6,98E+01
SM	kg	2,50E-01	7,12E-04	1,56E-03	0,00E+00	3,27E-04	0,00E+00	4,56E-03	-4,00E-02
RSF	MJ	8,04E-02	0,00E+00	3,68E-07	0,00E+00	0,00E+00	0,00E+00	2,36E-04	-6,64E-07
NRSF	MJ	2,60E-01	2,74E-04	4,19E-04	0,00E+00	1,26E-04	0,00E+00	6,32E-04	-1,12E-02
FW	m^3	9,42E-02	1,11E-04	2,03E-04	0,00E+00	5,11E-05	0,00E+00	1,06E-03	-4,79E-03

[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.

Results per 1 m² of EVALASTIC® EPDM Roofing and waterproofing membrane	
Acronyms	PERE = Use of renewable primary energy excluding renewable primary energy resources used as raw materials; PERM = Use of renewable primary energy resources used as raw materials; PERT = Total use of renewable primary energy resources; PENRE = Use of non-renewable primary energy excluding non-renewable primary energy resources used as raw materials; PENRM = Use of non-renewable primary energy resources used as raw materials; PENRT = Total use of non-renewable primary energy re-sources; SM = Use of secondary material; RSF = Use of renewable secondary fuels; NRSF = Use of non-renewable secondary fuels; FW = Use of net fresh water

Waste indicators

Results per 1 m² of EVALASTIC® EPDM Roofing and waterproofing membrane									
Indicator	**Unit**	**A1-A3**	**A4**	**A5**	**C1**	**C2**	**C3**	**C4**	**D**
Hazardous waste disposed	kg	1,26E+01	0,00E+00	1,38E-04	0,00E+00	0,00E+00	0,00E+00	3,49E-02	-3,79E-04
Non-hazardous waste disposed	kg	6,61E-01	0,00E+00	5,08E-03	0,00E+00	0,00E+00	0,00E+00	2,15E+00	-5,48E-05
Radioactive waste disposed	kg	8,55E-03	0,00E+00	2,69E-08	0,00E+00	0,00E+00	0,00E+00	9,78E-06	-5,60E-08

Output flow indicators

Results per 1 m² of EVALASTIC® EPDM Roofing and waterproofing membrane									
Indicator	**Unit**	**A1-A3**	**A4**	**A5**	**C1**	**C2**	**C3**	**C4**	**D**
Components for re-use	kg	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00
Material for recycling	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
Materials for energy recovery	kg	8,67E-02	0,00E+00	1,29E-01	0,00E+00	0,00E+00	0,00E+00	2,33E+00	0,00E+00
Exported energy, electricity	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
Exported energy, thermal	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

References

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