SENTINEL HOLDING
INSTITUT

SHI PRODUCT PASSPORT

Find products. Certify buildings.

SHI Product Passport No.:

12012-10-1109

SOLITEX MENTO (connect) 1000-5000

Product group: Formwork - Underlay Membranes - Underside sheathing membrane

pro clima®

pro clima - MOLL bauökologische Produkte GmbH
Rheintalstraße 35-43
68723 Schwetzingen

Product qualities:

- SHI Product Assessment 2024 ✓
- QNG Qualitätssiegel Nachhaltiges Gebäude ✓
- DGNB NEW CONSTRUCTION 2023 ✓
- DGNB NEW CONSTRUCTION 2018 ✓
- BNB-BN NEUBAU V2015 ✓
- EU taxonomy ✓
- BREEAM DE NEUBAU 2018 ✓
- LEED v4.1 (outside US) ✓

CERTIFIED SUSTAINABLE PRODUCT
SHI PRODUCT PASSPORT
SENTINEL HOLDING INSTITUT
www.sentinel-holding.eu

Köttner

Helmut Köttner
Scientific Director
Freiburg, 30 March 2026

SENTINEL HOLDING
INSTITUT

Product:
SOLITEX MENTO (connect) 1000-5000

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The SHI Database is the first and only database for construction products whose comprehensive processes and data accuracy are regularly verified by the independent auditing company SGS-TÜV Saar

SGS TÜV SAAR

SENTINEL HOLDING
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Product:
SOLITEX MENTO (connect) 1000-5000

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SHI Product Assessment 2024

Since 2008, Sentinel Holding Institut GmbH (SHI) has been establishing a unique standard for products that support healthy indoor air. Experts carry out independent product assessments based on clear and transparent criteria. In addition, the independent testing company SGS regularly audits the processes and data accuracy.

Criteria	Product category	Harmful substance limit	Assessment
SHI Product Assessment	Other products	TVOC ≤ 300 µg/m^3 Formaldehyd ≤ 24 µg/m^3	Indoor Air Quality Certified
Valid untill: 20 March 2027			

Product:
SOLITEX MENTO (connect) 1000-5000

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QNG - Qualitätssiegel Nachhaltiges Gebäude

The Qualitätssiegel Nachhaltiges Gebäude (Quality Seal for Sustainable Buildings), developed by the German Federal Ministry for Housing, Urban Development and Building (BMWSB), defines requirements for the ecological, socio-cultural, and economic quality of buildings. The Sentinel Holding Institut evaluates construction products in accordance with QNG requirements for certification and awards the QNG ready label. Compliance with the QNG standard is a prerequisite for eligibility for the KfW funding programme. For certain product groups, the QNG currently has no specific requirements defined. Although classified as not assessment-relevant, these products remain suitable for QNG-certified projects.

Criteria	Pos. / product group	Considered substances	QNG assessment
3.1.3 Schadstoffvermeidung in Baumaterialien			QNG ready - Not relevant for assessment

Product:
SOLITEX MENTO (connect) 1000-5000

SHI Product Passport no.:
12012-10-1109

DGNB New Construction 2023

The DGNB System (German Sustainable Building Council) assesses the sustainability of various types of buildings. It can be applied to both large-scale private and commercial projects as well as smaller residential buildings. The 2023 version sets high standards for ecological, economic, socio-cultural, and functional aspects throughout the entire life cycle of a building.

Criteria	No. / Relevant building components / construction materials / surfaces	Considered substances / aspects	Quality level
ENV 1.2 Local environmental impact, 03.05.2024 (3rd edition)	not applicable		Not relevant for assessment

Criteria	Assessment
SOC1.2 Indoor air quality (*)	May positively contribute to the overall building score
Verification: SHI-Schadstoffgeprüft	

Criteria	Assessment
SOC1.1 Thermal comfort (*)	May positively contribute to the overall building score
Verification: Winddichtheit	

Criteria	Assessment
TEC1.3 Quality of the building envelope (*)	May positively contribute to the overall building score
Verification: Winddichtheit	

Criteria	No. / Relevant building components / construction materials / surfaces	Considered substances / aspects	Quality level
ENV 1.2 Local environmental impact, 29.05.2025 (4th edition)	not applicable		Not relevant for assessment

Product:
SOLITEX MENTO (connect) 1000-5000

SHI Product Passport no.:
12012-10-1109

DGNB New Construction 2018

The DGNB System (German Sustainable Building Council) assesses the sustainability of various types of buildings. It can be applied to both large-scale private and commercial projects as well as smaller residential buildings.

Criteria	No. / Relevant building components / construction materials / surfaces	Considered substances / aspects	Quality level
ENV 1.2 Local environmental impact	not applicable	not applicable	Not relevant for assessment

Product:
SOLITEX MENTO (connect) 1000-5000

SHI Product Passport no.:
12012-10-1109

BNB-BN Neubau V2015

The Bewertungssystem Nachhaltiges Bauen (Assessment System for Sustainable Building) is a tool for evaluating public office and administrative buildings, educational facilities, laboratory buildings, and outdoor areas in Germany. The BNB was developed by the former Federal Ministry for the Environment, Nature Conservation, Building and Nuclear Safety (BMUB) and is now overseen by the Federal Ministry for Housing, Urban Development and Building (BMWSB).

Criteria	Pos. / product type	Considered substance group	Quality level
1.1.6 Risiken für die lokale Umwelt			Not relevant for assessment

Product:
SOLITEX MENTO (connect) 1000-5000

SHI Product Passport no.:
12012-10-1109

EU taxonomy

The EU Taxonomy classifies economic activities and products according to their environmental impact. At the product level, the EU regulation defines clear requirements for harmful substances, formaldehyde and volatile organic compounds (VOCs). The Sentinel Holding Institut GmbH labels qualified products that meet this standard.

Criteria	Product type	Considered substances	Assessment
DNSH - Pollution prevention and control		Substances according to Annex C	EU taxonomy compliant
Verification: Herstellererklärung vom 01.07.2025			

Product:
SOLITEX MENTO (connect) 1000-5000

SHI Product Passport no.:
12012-10-1109

BREEAM DE Neubau 2018

BREEAM (Building Research Establishment Environmental Assessment Methodology) is a UK-based building assessment system that evaluates the sustainability of new constructions, refurbishments, and conversions. Developed by the Building Research Establishment (BRE), the system aims to assess and improve the environmental, economic, and social performance of buildings.

Criteria	Product category	Considered substances	Quality level
Hea 02 Indoor Air Quality			Not relevant for assessment

Product:
SOLITEX MENTO (connect) 1000-5000

SHI Product Passport no.:
12012-10-1109

LEED v4.1

LEED (Leadership in Energy and Environmental Design) is an internationally recognised building certification system developed by the U.S. Green Building Council. It is one of the most widely used sustainability standards for buildings worldwide and is particularly applied in internationally oriented projects. LEED assesses buildings holistically across categories such as energy efficiency, resource conservation, material selection, indoor environmental quality and site sustainability. Depending on the number of points achieved, projects are awarded one of the certification levels: LEED Certified, Silver, Gold or Platinum.

Criteria	Product category	Assessment
EQ Credit: Low-Emitting Materials		Not relevant for assessment

Product:
SOLITEX MENTO (connect) 1000-5000

SHI Product Passport no.:
12012-10-1109

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Product labels

In the construction industry, high-quality materials are crucial for a building's indoor air quality and sustainability. Product labels and certificates offer guidance to meet these requirements. However, the evaluation criteria of these labels vary, and it is important to carefully assess them to ensure products align with the specific needs of a construction project.

This product is SHI Indoor Air Quality certified and recommended by Sentinel Holding Institut. Indoor-air-focused construction, renovation, and operation of buildings is made possible by transparent and verifiable criteria thanks to the Sentinel Holding concept.

Products bearing the Sentinel Holding Institute QNG-ready seal are suitable for projects aiming to achieve the "Qualitätssiegel Nachhaltiges Gebäude" (Quality Seal for Sustainable Buildings). QNG-ready products meet the requirements of QNG Appendix Document 3.1.3, "Avoidance of Harmful Substances in Building Materials." The KfW loan program Climate-Friendly New Construction with QNG may allow for additional funding.

The International EPD® System is a globally recognised programme for the creation and publication of Environmental Product Declarations (EPDs). It enables companies to transparently present the environmental impacts of their products, based on international standards such as ISO 14025 and EN 15804 for construction products. The system provides a standardised method for assessing the environmental performance of products throughout their entire life cycle and promotes sustainable business practices and ecological transparency across various industries.

Product:
SOLITEX MENTO (connect) 1000-5000

SHI Product Passport no.:
12012-10-1109

Legal notices

(*) These criteria apply to the construction project as a whole. While individual products can positively contribute to the overall building score through proper planning, the evaluation is always conducted at the building level. The information was provided entirely by the manufacturer.

Find our criteria here: https://www.sentinel-holding.eu/de/Themenwelten/Pr%C3%BCfkriterien%20f%C3%BCr%20Produkte

The SHI Database is the first and only database for construction products whose comprehensive processes and data accuracy are regularly verified by the independent auditing company SGS-TÜV Saar

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SOLITEX MENTO 1000

Leichte Unterdeck- / Unterspannbahn



Technische Daten

	Stoff
Schutz- und Deckvlies	Polypropylen-Mikrofaser
Membran	TEEE, monolithisch

Eigenschaft	Regelwerk	Wert
Farbe		anthrazit
Flächengewicht	DIN EN 1849-2	115 g/m²
Dicke	DIN EN 1849-2	0,40 mm
Dampfdiffusionswiderstandszahl µ	DIN EN ISO 12572	125
sd-Wert	DIN EN ISO 12572	0,05 m
Brandverhalten	DIN EN 13501-1	E
Freibewitterung		3 Monate
Wasserdichtheit Nähte mit connect Verbindungen oder bei Verklebung mit TESCON VANA	DIN EN 13859-1	W1
Unterspannbahn / Unterdeckbahn		für untergeordnete Gebäude, nach Vereinbarung
Wassersäule	DIN EN ISO 811	10.000 mm
Widerstand Wasserdurchgang un-/gealtert*	DIN EN 13859-1	W1 / W1
Höchstzugkraft längs/quer	DIN EN 13859-1 (A)	220 N/5 cm / 170 N/5 cm
Höchstzugkraft längs/quer gealtert*	DIN EN 13859-1 (A)	185 N/5 cm / 160 N/5 cm
Dehnung längs/quer	DIN EN 13859-1 (A)	60 % / 70 %
Dehnung längs/quer gealtert*	DIN EN 13859-1 (A)	40 % / 50 %
Weiterreißwiderstand längs/quer	DIN EN 13859-1 (B)	130 N / 135 N
*) Dauerhaftigkeit nach künstl. Alterung	DIN EN 1297 / DIN EN 1296	bestanden
Kaltbiegeverhalten	DIN EN 1109	-40 °C
Temperaturbeständigkeit	EN 1109, EN 1296, EN 1297	dauerhaft -40 °C bis +100 °C
Wärmeleitzahl		0,04 W/(m·K)
QNG Anforderungen	Anhangdokument 3.1.3	erfüllt
CE-Kennzeichnung	DIN EN 13859-1	vorhanden

Anwendung

Einsatz als diffusionsoffene Unterspannung oder Unterdeckung auf Schalungen, MDF und Holzfaserunterdeckplatten sowie allen matten-/plattenförmigen Wärmedämmstoffen.

Lieferformen

Art.-Nr.	GTIN	Länge	Breite	Inhalt	Gewicht	VE	Gebinde
11447	4026639114471	50 m	1,5 m	75 m²	9 kg	1	30
12263	4026639122636	50 m	3 m	150 m²	18 kg	1	30

Die dargestellten Sachverhalte beziehen sich auf den Stand der aktuellen Forschung und der praktischen Erfahrung. Wir behalten uns Änderungen der empfohlenen Konstruktionen und der Verarbeitung sowie die Weiterentwicklung und die damit verbundene Qualitätsänderung der einzelnen Produkte vor. Wir informieren Sie gern über den aktuellen technischen Kenntnisstand zum Zeitpunkt der Verlegung.

Weitere Informationen über die Verarbeitung und Konstruktionsdetails enthalten die pro clima Planungs- und Anwendungsempfehlungen. Bei Fragen erreichen Sie die technische Hotline von pro clima unter
0 62 02 - 27 82.45.

MOLL
bauökologische Produkte GmbH
Rheintalstraße 35 - 43
D-68723 Schwetzingen
Fon: +49 (0) 62 02 - 27 82.0
eMail: info@proclima.de

pro clima®

Vorteile

- Bis zu 3 Monate Freibewitterung
- Sorgt für sichere Bauteile: Hochdiffusionsoffen und maximal schlagregendicht
- Trockene Bauteile: porenfreie TEEE-Funktions-Membran transportiert Feuchte aktiv nach außen ab
- Dauerhafter Schutz durch höchste Alterungs- und Hitzebeständigkeit der TEEE-Membran
- Sicher während der Bauphase: Für Bauzeitabdichtung geeignet (CH)

Rahmenbedingungen

SOLITEX MENTO Bahnen sollen mit der bedruckten Seite zum Verarbeiter hin zeigend verlegt werden. Sie werden straff und ohne Durchhang waagerecht (parallel zur Traufe) als Unterdeck- wie auch als Unterspannbahn verlegt.
Beim Einsatz als Unterdeckbahn auf planebenen Untergründen.
Beim Einsatz als Unterspannbahn ist der Sparrenabstand auf 100 cm begrenzt.

Befestigungen dürfen nicht in Bereichen erfolgen, in denen Wasser gesammelt abfließt (z. B. in Kehlen).

Bei ungedämmten, nicht ausgebauten Dachgeschossen sollte eine Firstentlüftung vorgesehen werden. Dafür die SOLITEX Bahn 5 cm vor dem First enden lassen. Zusätzlich sollte das unausgebaute Dachgeschoss mit Dauerlüftungseinrichtungen versehen werden.
Die Bahn sollte vor der Langzeitwirkung durch UV-Strahlung geschützt werden (z. B. durch Verdunkelung von Fenstern).

Zum Schutz der Konstruktion während der Bauphase kann die SOLITEX MENTO 1000 Unterdeck- und Unterspannbahn bis zu 3 Monate eingesetzt werden. Die Dachneigung muss in diesem Fall mind. 14° betragen. Dazu sind die Systemkomponenten TESCON NAIDECK Nageldichtungsband, ORCON F Anschlusskleber sowie TESCON VANA für die Verklebung der Überlappungen bzw. von Anschlüssen zu verwenden. Die connect Variante verfügt über zwei Selbstklebezonen für die sichere Außendichtung. Bei der Verlegung und Verklebung sind die Vorgaben des Regelwerks des deutschen Dachdeckerhandwerks zu berücksichtigen.

Diese Bahn erfüllt nicht die Anforderungen des ZVDH (Zentralverband des Deutschen Dachdeckerhandwerks) und kann daher nur nach einzelvertraglicher Vereinbarung für untergeordnete Konstruktionen eingesetzt werden.

GEBÄUDEHÜLLE SCHWEIZ
ENVELOPPE DES ÉDIFICES SUISSE
INVOLUCRO EDILIZIO SVIZZERA
VERBAND SCHWEIZER GEBÄUDEHÜLLEN-UNTERNEHMUNGEN

Schadstoffgeprüft nach AgBB

CE
07
EN 13859-1

Die dargestellten Sachverhalte beziehen sich auf den Stand der aktuellen Forschung und der praktischen Erfahrung. Wir behalten uns Änderungen der empfohlenen Konstruktionen und der Verarbeitung sowie die Weiterentwicklung und die damit verbundene Qualitätsänderung der einzelnen Produkte vor. Wir informieren Sie gern über den aktuellen technischen Kenntnisstand zum Zeitpunkt der Verlegung.

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eMail: info@proclima.de

pro clima®

Environmental Product Declaration

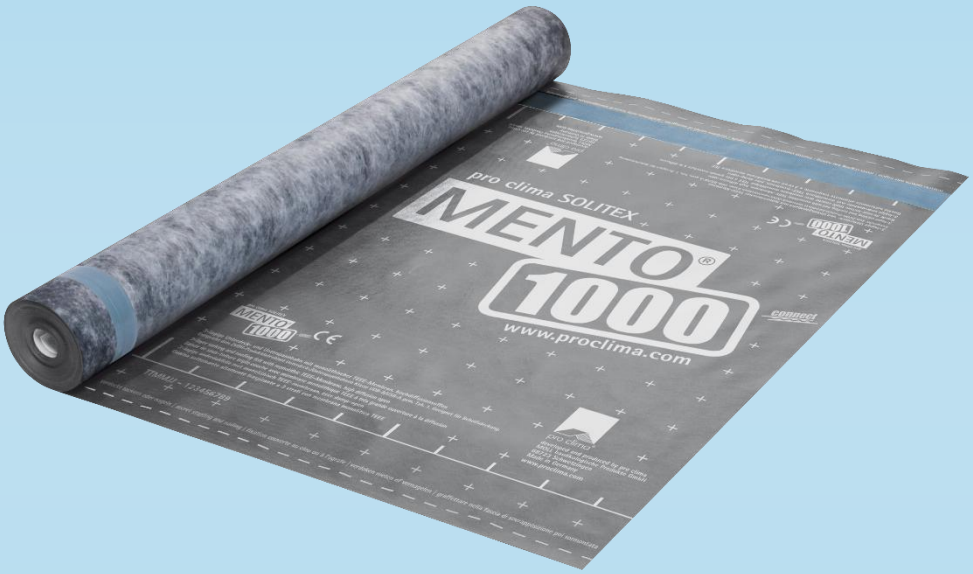
In accordance with ISO 14025:2006, EN 15804:2012+A2:2019/AC:2021 and ISO 21930:2017 for

SOLITEX MENTO 1000 connect

Light-weight roofing underlay, with self-adhesive strips

from

pro clima – MOLL bauökologische Produkte GmbH



Programme:	The International EPD® System, www.environdec.com
Programme operator:	EPD International AB Box 21060 SE-10031 Stockholm, Sweden
EPD registration number:	EPD-IES-0018806
Publication date:	16/04/2025
Valid until:	16/04/2030
EPD type:	EPD of a specific product

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

Product Category Rules (PCR)

CEN standard EN 15804 serves as the Core Product Category Rules (PCR)
Product category rules (PCR): PCR 2019:14 Construction Products, version 1.3.4.

UN CPC code: No. 36330: Plates, sheets, film, foil and strip, of plastics, not self-adhesive, non-cellular and not reinforced, laminated, supported or similarly combined with other materials

PCR review was conducted by: The Technical Committee of the International EPD® System. See 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

Life Cycle Assessment (LCA)

LCA accountability: Jannik Schulz, María Díaz Cáceres
brands & values GmbH, info@brandsandvalues.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: Jan Weinzettel, weinzettel@seznam.cz
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.

Company information

Owner of the EPD
pro clima / MOLL bauökologische Produkte GmbH
Rheintalstr. 35-43 – 68723 Schwetzingen – Germany
T: +49 (0) 62 02 – 27 82.0; info@proclima.com

Contact
Michael Förster: support@proclima.com

Description of the organisation
pro clima is a pioneer in the intelligent, reliable sealing of building envelopes. The company develops and markets product systems for achieving maximum protection against moisture damage to structures and mould:

- Humidity-variable hydrosafe® high-performance vapour check and airtightness membranes for interior sealing on new buildings and renovation projects.
- Roofing underlays and breather membranes (WRBs) with active moisture transport for permanently protected exterior sealing of roofs and walls.
- Special adhesives and waterproof tapes.
- Sealing grommets as detailed solutions.

Highest quality for optimal performance

- The system products are manufactured using state-of-the-art production processes at leading production facilities in Germany.
- Production is subject to the highest quality standards, ensuring that insulation is reliably protected against moisture damage and mould.
- Highest effectiveness of thermal insulation.
- Reduction of heating costs due to optimal air sealing.
- Dry insulation materials.
- Best possible protection against moisture damage to structures and mould.
- Comfortable interiors in summer and winter.
- Healthy indoor climates.
- Highest ecological value.

Together towards a successful future
People are the focus of every decision at pro clima, and the company's guiding mission is to advance building culture as a whole. To achieve this goal, system products have been developed for over 30 years that are consistently geared to meet the health and comfort needs of users. Many of pro clima's pioneering developments are now established as state-of-the-art approaches. Today, these products are successfully used in over 40 countries worldwide.

Name and location of production site(s)
pro clima / MOLL bauökologische Produkte GmbH – Rheintalstr. 35-43 – 68723 Schwetzingen – Germany.

Product-related or management system-related certifications
All production sites are ISO 9001 certified.

Product information

Product name
SOLITEX MENTO 1000 connect

Product identification
Light-weight roofing underlay, with self-adhesive strips

Product description
SOLITEX MENTO 1000 connect has the following components:
Protective and covering fleece: Polypropylene microfibre; Functional film: Monolithic TEEE; Self-adhesive strips: Water-resistant SOLID adhesive.

UN CPC code
No. 36330: Plates, sheets, film, foil and strip, of plastics, not self-adhesive, non-cellular and not reinforced, laminated, supported or similarly combined with other materials

Products covered by the EPD
SOLITEX MENTO 1000 connect (width: 1.5 m / length: 50 m) GTIN 4026639122193

Geographical Scope
Global

Applications
For use as a diffusion-open roofing underlay over roof sheathing, MDF and wood-fibre underlay panels, and over all mat or panel-shaped thermal insulation materials.

Properties
Up to 3 months of outdoor exposure. Well-protected building components: highly diffusion-open and maximum protection against driving rain. Dry building components: pore-free TEEE functional film actively transports moisture to the outside. Permanent protection thanks to the high resistance to ageing and heat of the TEEE functional film. Provides protection during the construction period: suitable as a temporary covering. Quick and reliable adhesion thanks to the integrated 'connect' self-adhesive strips on the long edges of the membrane.

Technical specifications

Property	Regulation	Value
Colour	N/A	Anthracite
Surface weight	EN 1849-2	115 ±5 g/m² ; 0.38 ±0.02 oz/ft²
Thickness	EN 1849-2	0.40 mm ±0.05 mm ; 16 mils
Water vapour resistance factor μ	EN ISO 12572	125
s_d value	EN ISO 12572	0.05 m
g value	N/A	0.25 MN·s/g
Vapour permeance	ASTM E96	38 perms
Surface burning characteristics	ASTM E96	Class A (Flame Spread 0; Smoke Developed 85)
Fire class	EN 13501-1	E
Fire class/Surface burning characteristics	ASTM E84	Class A
Outdoor exposure	N/A	3 months
Watertight joints with 'connect' adhesive strips or TESCON VANA tape	EN 13859-1	W1
Water column	EN ISO 811	10 000 mm ; 32' 10"
Watertightness, non-aged/aged*	EN 13859-1	NBC part 5.4.1.2.2
CAN/ULC-S741	Air barrier assembly passed	NBC part 9.27.3.2
CAN/CGBS 51.32	Passed	W1 / W1
Tensile strength MD/CD	EN 13859-1 (A)	220 N/5 cm / 170 N/5 cm ; 25 lb/in / 19 lb/in
Tensile strength MD/CD, aged*	EN 13859-1 (A)	185 N/5 cm / 160 N/5 cm ; 21 lb/in / 18 lb/in
Elongation MD/CD	EN 13859-1 (A)	60% / 70%
Elongation MD/CD, aged*	EN 13859-1 (A)	40% / 50%
Nail tear resistance MD/CD	EN 13859-1 (B)	130 N / 135 N ; 29 lbf / 30 lbf
*) Durability after artificial ageing	EN 1297 / EN 1296	Passed
Flexibility at low temperature	EN 1109	-40 °C ; -40 °F
Temperature resistance	EN 1109, EN 1296, EN 1297	Permanent -40 °C to 100 °C ; -40 °F to 212 °F
Thermal conductivity	N/A	0.04 W/(m·K) ; 0.3 BTU·in/(h·ft²·°F)
CE labelling	EN 13859-1	Yes

LCA information

Declared unit: 1m² of SOLITEX MENTO 1000 connect external windtightness membrane and accompanying packaging.
Conversion factor to mass: 0.146 kg/m²
Reference service life: 30 years
Time representativeness: Based on yearly manufacturing data from 01/01/2023 until 31/12/2023.

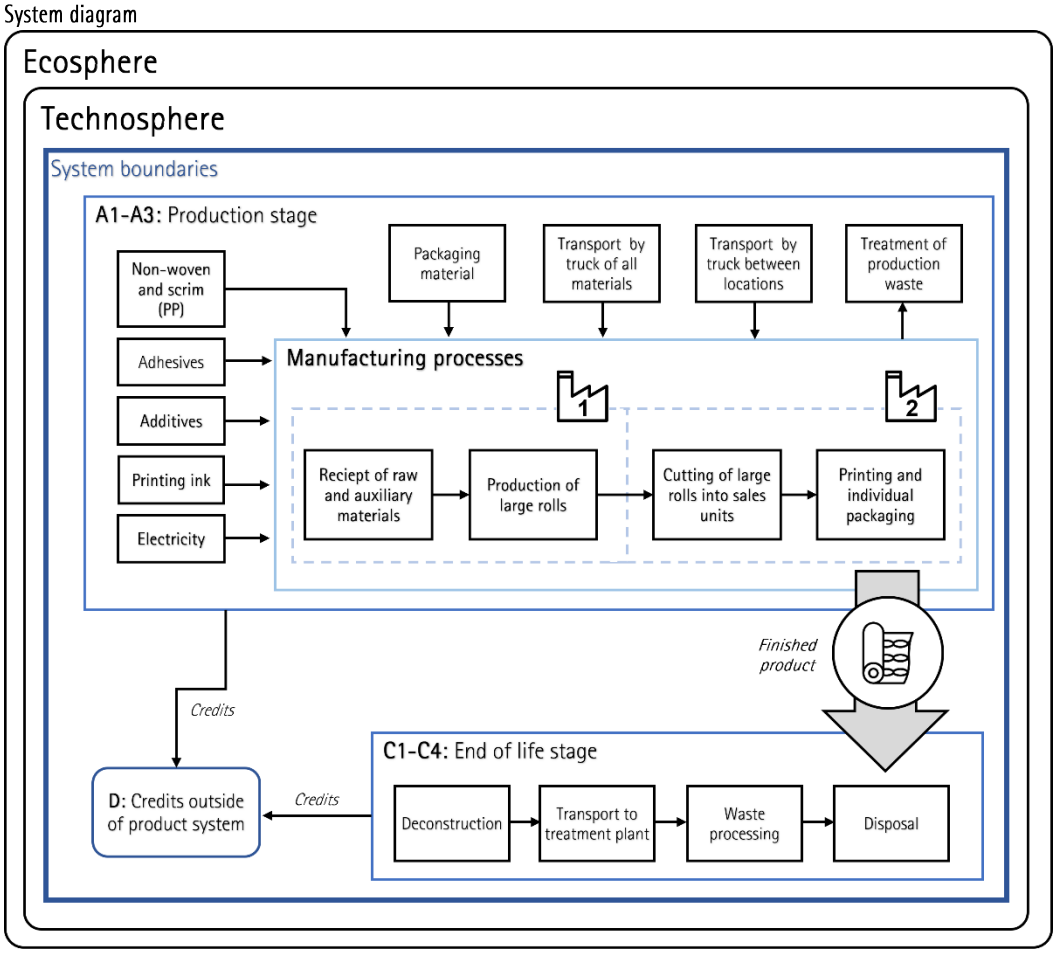
Description of the manufacturing processes
The SOLITEX MENTO 1000 connect light-weight roofing underlay with self-adhesive strips is produced by bonding and laminating two fleece layers (front and back) with a functional film layer between them to create large rolls. These rolls are printed and then cut into smaller rolls, which are the sales units. Adhesive strips and release films are fitted to the long edges of the membranes to create the self-adhesive 'connect' strips (one on the printed front surface, one on the back surface). These rolls are then packaged and sent for storage and distribution, first to the central warehouse in Germany, and then all over the world for further sale.

Database and LCA software used
For the LCA model, the software system for holistic balancing (LCA for Experts) version 10.9 was used. Background data sets from the current version of the LCA for experts (GaBi) database service pack 2024.2 were used entirely.

Description of system boundaries
a) Cradle to gate with modules C1–C4 and module D (A1–A3 + C + D)

- As module A5 is not declared, the results of modules A1-A3 include the biogenic C of the product packaging and the balancing out of the biogenic carbon flows from module A5.
- Infrastructure and capital goods are excluded from the system boundaries.
- All processing steps and locations are balanced within the system boundaries.
- The LCI data manufacturing data was gathered for the specific declared product, and no co-product allocation was necessary.
- The allocation of waste follows the polluter-pays principle. The system boundary to the next product system is set when the waste reaches the end-of-waste state. The impacts of waste treatment from production are included in Module A3. The impacts of waste treatment during end-of-life are included in Module C, where the product reaches the end-of-waste status.
- All the LCI data used for modelling in Modules A2 and A3 corresponds to primary data collected from the manufacturing plant and contracted suppliers, including transportation distances from suppliers to production sites, transportation distances between production sites, material and energy inputs, and waste and emission outputs.

System diagram



Each processing step within the system boundaries is marked with an icon and number (#1, #2, etc.), indicating the specific production site where it occurs. The system boundaries cover the following modules:

A1. Raw Material Supply

- Extraction and processing of raw materials required for manufacturing the defined external windtightness membrane: Non-woven (PP), Additives and adhesives, Printing ink.
- Extraction and processing of raw materials required for packaging the 1 m² of finished product, external windtightness membrane: Film (PE), Cardboard, Pallet.
- Extraction and processing of raw materials of internal packaging, used for transportation between all production locations. Internal packaging includes: Film (PE), Cardboard and Pallet.
- Generation of electricity from primary energy resources to supply the production sites with energy.

A2. Transportation

- Transportation of the raw materials was modelled based on the providers specific locations and transportation via truck to the production location #1 in Germany. All materials are procured from providers within less than 800 km.
- After production, the large rolls are transported to the production location #2.
- The transportation of raw materials for packaging, as well as the transportation of the large rolls from the production location #1 to location #2 is modelled in Module A2.

A3. Manufacturing

- Manufacturing of the defined external windtightness membrane occurs in Germany.
- The production of the large membrane roll is done in the production location #1, by bonding and laminating the polymers and the non-woven.
- In location #2, the membrane is confectioned, by adding the adhesive and release film. The membrane is cut into sale units. The products are then packed on pallets for further transportation.
- Treatment of waste generated from the manufacturing processes is included in the model. The model includes processing up to the end-of-waste status or disposal of final residues including any packaging not leaving the factory gate. Resulting credits are assigned to module D.
- Electricity for production in module A3 is modelled with the German Residual electricity mix.

C1-C4. End of Life

- The external windtightness membrane is treated as waste in module C3 by means of incineration with energy recovery.
- Module C2 contains the environmental impact of transportation of the product to the waste treatment plant.
- Module C3 contains the necessary processes for waste treatment at the end of the product life cycle. The loads for waste treatment are mapped here until the end of the waste property is reached.
- Emissions are assigned to module C3. Resulting credits are assigned to module D.

D. Reuse, recovery, recycling potential

- This product has no considerable benefits due to reuse, but considerable benefits from material and energy recovery.
- The value flows resulting from the treatment of production waste in module A3 and C3, which can potentially serve as material or energy input for a downstream product system in the form of the energy recovered from the waste-to-energy treatment and material recovery, are accounted for completely in module D as credits outside of product system.

More information

- Additional information can be obtained by contacting pro clima at info@proclima.com
- LCA practitioner: brands & values GmbH, info@brandsandvalues.com

Electricity use in Module A3 accounts for less than 30% of the GWP-GHG results of modules A1-A3. The energy requirements for production in Module A3 were modelled using the Residual electricity mix of the electricity supplier on the market. In this case the LCA for Experts dataset of Residual grid mix; AC, technology mix; consumption mix, to consumer; <1kV in Germany from the reference year 2022. The climate impact of the dataset is 0.847 kg CO_2 eq./kWh (using the GWP-GHG indicator). A residual mix represents the production mix of a country corrected with generation attributes which are explicitly tracked. Residual mix is used to determine the energy origin of untracked consumption, i.e. consumption, which has not been disclosed with explicit tracking instruments such as Guarantees of Origin. The Residual grid mix in question includes the following energy sources: 1.8% from renewable sources, 18.17% from nuclear, 34.57% from lignite, 21.19% from coal, 20.88% from gas, 1.08% from oil and 2.32% from non-specific fossil sources according to the LCA for Experts dataset.

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

	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	ND	ND	ND	ND	ND	ND	ND	ND	ND	X	X	X	X	X
Geography	DE	DE	DE										GLO	GLO	GLO	GLO	GLO
Specific data used	5%																
Variation – products	0%																
Variation – sites	0%																

Modules declared: (X = included; ND = not declared).

Content information

Product components	Weight, kg	Post-consumer material, weight-%	Biogenic material, weight-% and kg C/kg
Non-woven (PP)	0.090	0.0%	0 %- 0 kg C/kg
Scrim (PP)	0.000	0.0%	0 %- 0 kg C/kg
Additives and adhesives	0.027	0.0%	0 %- 0 kg C/kg
Printing ink	0.001	0.0%	0 %- 0 kg C/kg
Total product	0.118	0.0%	0 %- 0 kg C/kg
Packaging materials	**Weight, kg**	**Weight-% (relative to the product)**	**Weight biogenic carbon, [kg C/kg]**
Film (PE)	0.006	4.4%	0 kg C/kg
Cardboard	0.005	3.7%	0.002 kg C/kg
Pallet	0.016	11.0%	0.008 kg C/kg
Total packaging	0.028	19.0%	0.01 kg C/kg
TOTAL Product with packaging	**0.146**	**100%**	**0.01 kg C/kg**

The biogenic carbon content of product and packaging is 0.039 kg CO_2 eq. per declared unit.

Dangerous substances from the candidate list of SVHC for Authorisation	EC No.	CAS No.	Weight-% per functional or declared unit
None	Not applicable	Not applicable	Not applicable

Environmental information

The estimated impact results are only relative statements which do not indicate the end points of the impact categories, exceeding threshold values, safety margins or risks. According to the EN 15804 standard, the characterization factors of EU-JRC must be applied. The EN 15804 reference package based on EF 3.1. was used for the LCA calculations. The characterization factors are available at the following internet address: http://eplca.jrc.ec.europa.eu/LCDN/developerEF.xhtml

Disclaimer: The use of the results of modules A1-A3 (A1-A5 for services) without considering the results of module C is discouraged.

Potential environmental impact – mandatory indicators according to EN 15804

Results per functional or declared unit							
Indicator	Unit	Tot. A1-A3	C1	C2	C3	C4	D
GWP-fossil	kg CO_2 eq.	3.88E-01	0.00E+00	9.81E-04	3.43E-01	0.00E+00	-1.54E-01
GWP-biogenic	kg CO_2 eq.	1.35E-03	0.00E+00	3.04E-06	1.47E-05	0.00E+00	-7.74E-04
GWP-luluc	kg CO_2 eq.	2.91E-04	0.00E+00	1.61E-05	1.89E-06	0.00E+00	-1.44E-05
GWP-total	kg CO_2 eq.	3.90E-01	0.00E+00	1.00E-03	3.43E-01	0.00E+00	-1.55E-01
ODP	kg CFC 11 eq.	5.33E-11	0.00E+00	1.41E-16	2.40E-14	0.00E+00	-1.43E-12
AP	mol H+ eq.	7.21E-04	0.00E+00	1.82E-06	3.62E-05	0.00E+00	-1.62E-04
EP-freshwater	kg P eq.	1.26E-06	0.00E+00	4.09E-09	5.45E-09	0.00E+00	-2.69E-07
EP-marine	kg N eq.	2.37E-04	0.00E+00	7.42E-07	8.28E-06	0.00E+00	-4.98E-05
EP-terrestrial	mol N eq.	2.55E-03	0.00E+00	8.58E-06	1.72E-04	0.00E+00	-5.34E-04
POCP	kg NMVOC eq.	8.78E-04	0.00E+00	1.78E-06	2.42E-05	0.00E+00	-1.40E-04
ADP-minerals&metals	kg Sb eq.	5.19E-08	0.00E+00	8.34E-11	2.45E-10	0.00E+00	-1.36E-08
ADP-fossil*	MJ	1.08E+01	0.00E+00	1.26E-02	5.01E-02	0.00E+00	-2.73E+00
WDP	m^3	4.72E-02	0.00E+00	1.48E-05	3.18E-02	0.00E+00	-1.61E-02
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.

Potential environmental impact – additional mandatory and voluntary indicators

Results per functional or declared unit							
Indicator	Unit	Tot. A1-A3	C1	C2	C3	C4	D
GWP-GHG[1]	kg CO_2 eq.	3.89E-01	0.00E+00	9.97E-04	3.43E-01	0.00E+00	-1.54E-01
PM	Disease incidence	ND	ND	ND	ND	ND	ND
IR	kBq U235 eq.	ND	ND	ND	ND	ND	ND
ETP-fw	CTUe	ND	ND	ND	ND	ND	ND
HTP-c	CTUh	ND	ND	ND	ND	ND	ND
HTP-nc	CTUh	ND	ND	ND	ND	ND	ND
SQP	dimensionless	ND	ND	ND	ND	ND	ND
Acronyms	GWP-GHG = 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 CO2 is set to zero; PM = Particulate matter emissions; IR = Ionizing radiation, human health; ETP-fw = Eco-toxicity - freshwater; HTP-c = Human toxicity, cancer effect; HTP-nc = Human toxicity, non-cancer effects; SQP = Land use related impacts/Soil quality						

[1] The indicator includes all greenhouse gases included in GWP-total but excludes biogenic carbon dioxide uptake and emissions and biogenic carbon stored in the product. This indicator is thus almost equal to the GWP indicator originally defined in EN 15804:2012+A1:2013.

Resource use indicators

Results per functional or declared unit							
Indicator	Unit	A1-A3	C1	C2	C3	C4	D
PERE	MJ	8.30E-01	0.00E+00	1.09E-03	1.44E-02	0.00E+00	-9.33E-01
PERM	MJ	1.42E-03	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
PERT	MJ	8.32E-01	0.00E+00	1.09E-03	1.44E-02	0.00E+00	-9.33E-01
PENRE	MJ	6.25E+00	0.00E+00	1.26E-02	4.45E+00	0.00E+00	-2.73E+00
PENRM	MJ	4.54E+00	0.00E+00	0.00E+00	-4.40E+00	0.00E+00	0.00E+00
PENRT	MJ	1.08E+01	0.00E+00	1.26E-02	5.01E-02	0.00E+00	-2.73E+00
SM	kg	6.02E-03	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.44E-04
RSF	MJ	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
FW	m^3	1.74E-03	0.00E+00	1.21E-06	7.45E-04	0.00E+00	-6.89E-04
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 functional or declared unit							
Indicator	Unit	A1-A3	C1	C2	C3	C4	D
Hazardous waste disposed	kg	3.99E-08	0.00E+00	4.83E-13	3.04E-11	0.00E+00	-1.91E-09
Non-hazardous waste disposed	kg	4.63E-03	0.00E+00	2.06E-06	3.65E-03	0.00E+00	-1.44E-03
Radioactive waste disposed	kg	1.48E-04	0.00E+00	2.30E-08	2.53E-06	0.00E+00	-1.98E-04

Output flow indicators

Results per functional or declared unit							
Indicator	Unit	A1-A3	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
Material for recycling	kg	1.30E-03	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Materials for energy recovery	kg	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Exported energy, electricity	MJ	3.76E-02	0.00E+00	0.00E+00	6.89E-01	0.00E+00	0.00E+00
Exported energy, thermal	MJ	8.59E-02	0.00E+00	0.00E+00	1.24E+00	0.00E+00	0.00E+00

Additional environmental information

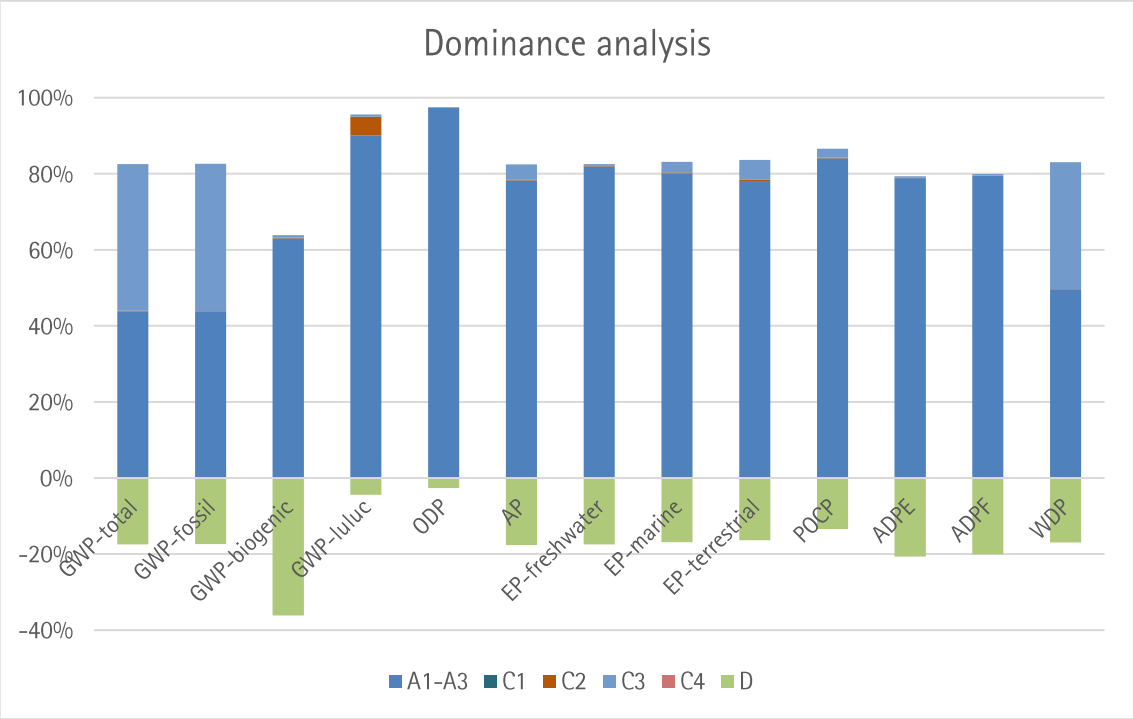
TRACI Indicators

The following TRACI indicators v 2.1 were calculated to comply with US Market requirements. The declared specific product complies with the ISO 21930:2017 Standard.

Results per functional or declared unit							
Indicator	Unit	A1-A3	C1	C2	C3	C4	D
Eutrophication	kg N eq.	6.03E-05	0.00E+00	1.89E-07	1.95E-06	0.00E+00	-1.57E-05
Global Warming Potential, air, excl. biogenic CO2	kg CO_2 eq.	3.70E-01	0.00E+00	9.71E-04	3.43E-01	0.00E+00	-1.43E-01
Global Warming Potential, air, incl. biogenic CO2	kg CO_2 eq.	3.59E-01	0.00E+00	9.44E-04	3.43E-01	0.00E+00	-1.43E-01
Ozone Depletion, air	kg CFC 11 eq.	6.19E-11	0.00E+00	2.82E-18	4.78E-16	0.00E+00	-2.59E-14
Resources, Fossil Fuels	MJ surplus energy	1.42E+00	0.00E+00	1.81E-03	5.04E-03	0.00E+00	-2.66E-01
Smog Air	kg O_3 eq.	1.41E-02	0.00E+00	3.49E-05	4.88E-04	0.00E+00	-2.73E-03
Acidification	kg SO_2 eq.	6.54E-04	0.00E+00	1.63E-06	3.20E-05	0.00E+00	-1.60E-04
Ecotoxicity	CTUe	6.28E-02	0.00E+00	9.13E-05	7.60E-05	0.00E+00	-5.18E-04
Human Health Particulate Air	kg PM2.5 eq	4.33E-05	0.00E+00	6.54E-08	9.52E-07	0.00E+00	-7.35E-06
Human toxicity, cancer	CTUh	5.15E-10	0.00E+00	5.51E-13	3.59E-12	0.00E+00	-5.89E-11
Human toxicity, non-canc.	CTUh	3.42E-08	0.00E+00	8.89E-11	1.64E-10	0.00E+00	-1.99E-09

Interpretation

The following dominance analysis examines the individual impact categories and considers them in detail.



The environmental impacts were analysed using the example of global warming potential (GWP total) to identify the responsible sources along the life cycle. Modules A1-A3 (53%) have a dominant influence followed by Module C3 (46.9%) on GWP total and fossil.
The main source of GWP impact is the incineration of non-woven, followed by its production. The production of non-woven is the second source of environmental impact in all main categories, only surpassed in the GWP-fossil by the incineration of Polypropylene (PP).
Transportation of raw materials to and between the manufacturing sites (A2) and disposal transportation of the product in EoL (C2) are not very relevant in terms of GWP total.
The production of non-woven in Modules A1-A3 has the largest contribution to the impacts of all main indicators, except for GWP luluc and GWP fossil. The truck transport in Module A2 is the main contributor for GWP luluc and the incineration of polypropylene (non-woven) in Module C3 for GWP fossil.

The data quality of the relevant generic datasets used is classified as very good, good or satisfactory. Relevant data sets are defined as data sets that together account for at least 80% of the absolute impact of each core indicator included in the EPD across the declared modules with the exception of Module D.

The variation of the environmental impact indicator results for modules A to C between the included products is 0%

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pro clima / MOLL bauökologische Produkte GmbH

www.proclima.com

www.environdec.com

EPD-0023-16/04/2025

Environmental Product Declaration

In accordance with ISO 14025:2006, EN 15804:2012+A2:2019/AC:2021 and ISO 21930:2017 for

SOLITEX MENTO 3000

Medium-weight roofing underlay

from

pro clima – MOLL bauökologische Produkte GmbH



Programme:	The International EPD® System, www.environdec.com
Programme operator:	EPD International AB Box 21060 SE-10031 Stockholm, Sweden
EPD registration number:	EPD-IES-0022279
Publication date:	16/04/2025
Valid until:	16/04/2030
EPD type:	EPD of a specific product

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

Product Category Rules (PCR)

CEN standard EN 15804 serves as the Core Product Category Rules (PCR)
Product category rules (PCR): PCR 2019:14 Construction Products, version 1.3.4.

UN CPC code: No. 36330: Plates, sheets, film, foil and strip, of plastics, not self-adhesive, non-cellular and not reinforced, laminated, supported or similarly combined with other materials

PCR review was conducted by: The Technical Committee of the International EPD® System. See 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

Life Cycle Assessment (LCA)

LCA accountability: Jannik Schulz, María Díaz Cáceres
brands & values GmbH, info@brandsandvalues.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: Jan Weinzettel, weinzettel@seznam.cz
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.

Company information

Owner of the EPD
pro clima / MOLL bauökologische Produkte GmbH
Rheintalstr. 35-43 – 68723 Schwetzingen – Germany
T: +49 (0) 62 02 – 27 82.0; info@proclima.com

Contact
Michael Förster: support@proclima.com

Description of the organisation
pro clima is a pioneer in the intelligent, reliable sealing of building envelopes. The company develops and markets product systems for achieving maximum protection against moisture damage to structures and mould:

- Humidity-variable hydrosafe® high-performance vapour check and airtightness membranes for interior sealing on new buildings and renovation projects.
- Roofing underlays and breather membranes (WRBs) with active moisture transport for permanently protected exterior sealing of roofs and walls.
- Special adhesives and waterproof tapes.
- Sealing grommets as detailed solutions.

Highest quality for optimal performance

- The system products are manufactured using state-of-the-art production processes at leading production facilities in Germany.
- Production is subject to the highest quality standards, ensuring that insulation is reliably protected against moisture damage and mould.
- Highest effectiveness of thermal insulation.
- Reduction of heating costs due to optimal air sealing.
- Dry insulation materials.
- Best possible protection against moisture damage to structures and mould.
- Comfortable interiors in summer and winter.
- Healthy indoor climates.
- Highest ecological value.

Together towards a successful future
People are the focus of every decision at pro clima, and the company's guiding mission is to advance building culture as a whole. To achieve this goal, system products have been developed for over 30 years that are consistently geared to meet the health and comfort needs of users. Many of pro clima's pioneering developments are now established as state-of-the-art approaches. Today, these products are successfully used in over 40 countries worldwide.

Name and location of production site(s)
pro clima / MOLL bauökologische Produkte GmbH – Rheintalstr. 35-43 – 68723 Schwetzingen – Germany.

Product-related or management system-related certifications
All production sites are ISO 9001 certified.

Product information

Product name
SOLITEX MENTO 3000

Product identification
Medium-weight roofing underlay

Product description
SOLITEX MENTO 3000 has the following components:
Protective and covering fleece: Polypropylene microfibre; Functional film: Monolithic TEEE.

UN CPC code
No. 36330: Plates, sheets, film, foil and strip, of plastics, not self-adhesive, non-cellular and not reinforced, laminated, supported or similarly combined with other materials

Products covered by the EPD
SOLITEX MENTO 3000 (width: 0.5 m / length: 50 m) GTIN 4026639150448
SOLITEX MENTO 3000 (width: 1.5 m / length: 50 m) GTIN 4026639129000
SOLITEX MENTO 3000 (width: 1.5 m / length: 50 m) GTIN 4026639136480
SOLITEX MENTO 3000 (width: 3 m / length: 50 m) GTIN 4026639143549
SOLITEX MENTO 3000 (width: 3 m / length: 50 m) GTIN 4026639153906

This EPD relates to a single product – SOLITEX MENTO 3000 – and covers multiple GTINs and product variants. While all variants are essentially the same product, they differ only in their dimensions or customised printing, such as customer logos. These variations meet specific customer requirements, but do not alter the inherent environmental characteristics of the product, thus justifying a common EPD.

Geographical Scope
Global

Applications
For use as a diffusion-open roofing underlay over roof sheathing, MDF and wood-fibre underlay panels, and over all mat or panel-shaped thermal insulation materials.

Properties
Flexible planning of construction schedules thanks to 4 months of outdoor exposure. Well-protected building components: highly diffusion-open and maximum protection against driving rain and hail. Dry building components: pore-free TEEE functional film actively transports moisture to the outside. Permanent protection thanks to the high resistance to ageing and heat of the TEEE functional film. Provides protection during the construction period: suitable as a temporary covering.

Technical specifications

Property	Regulation	Value
Colour	N/A	Anthracite
Surface weight	EN 1849-2	150 ±5 g/m² ; 0.50 ±0.02 oz/ft² (†)
Thickness	EN 1849-2	0.45 mm ; 18 mils
Water vapour resistance factor μ	EN ISO 12572	110
s_d value	EN ISO 12572	0.05 m
g value	N/A	0.25 MN·s/g
Vapour permeance	ASTM E 96	38 perms
Fire class	EN 13501-1	E
Outdoor exposure	N/A	4 months
Hail impact resistance	VKF / AEAI	Class HR 5
Watertight joints with 'connect' adhesive strips or TESCON VANA tape	EN 13859-1	W1
Sarking/roofing underlay membrane (Germany)	ZVDH-Produktdatenblatt 2024	USB / UDB
Suitable as temporary roof covering (Germany)	ZVDH	Yes
Water column	EN ISO 811	10 000 mm ; 32' 10"
Watertightness, non-aged/aged*	EN 13859-1	W1 / W1
Tensile strength MD/CD	EN 13859-1 (A)	280 N/5 cm / 220 N/5 cm ; 32 lb/in / 25 lb/in
Tensile strength MD/CD, aged*	EN 13859-1 (A)	240 N/5 cm / 165 N/5 cm ; 27 lb/in / 19 lb/in
Elongation MD/CD	EN 13859-1 (A)	60% / 70%
Elongation MD/CD, aged*	EN 13859-1 (A)	50% / 65%
Nail tear resistance MD/CD	EN 13859-1 (B)	180 N / 230 N ; 40 lbf / 52 lbf
*) Durability after artificial ageing at 120 °C ; 248 °F	EN 1297 / EN 1296	Passed
Flexibility at low temperature	EN 1109	-40 °C ; -40 °F
Temperature resistance	EN 1109, EN 1296, EN 1297	Permanent -40 °C to +120 °C; -40 °F to 248 °F
Thermal conductivity	N/A	0.04 W/(m·K) ; 0.3 BTU·in/(h·ft²·°F)
CE labelling	EN 13859-1	Yes

(†) The technical data specified here serves as a general guideline value, whereas the modelling calculations are based on exact annual production quantities and are therefore more precise. This creates an apparent discrepancy but actually ensures that the technical data is more consistent.

LCA information

Declared unit: 1m² of SOLITEX MENTO 3000 external windtightness membrane and accompanying packaging.
Conversion factor to mass: 0.178 kg/m²
Reference service life: 30 years
Time representativeness: Based on yearly manufacturing data from 01/01/2023 until 31/12/2023.

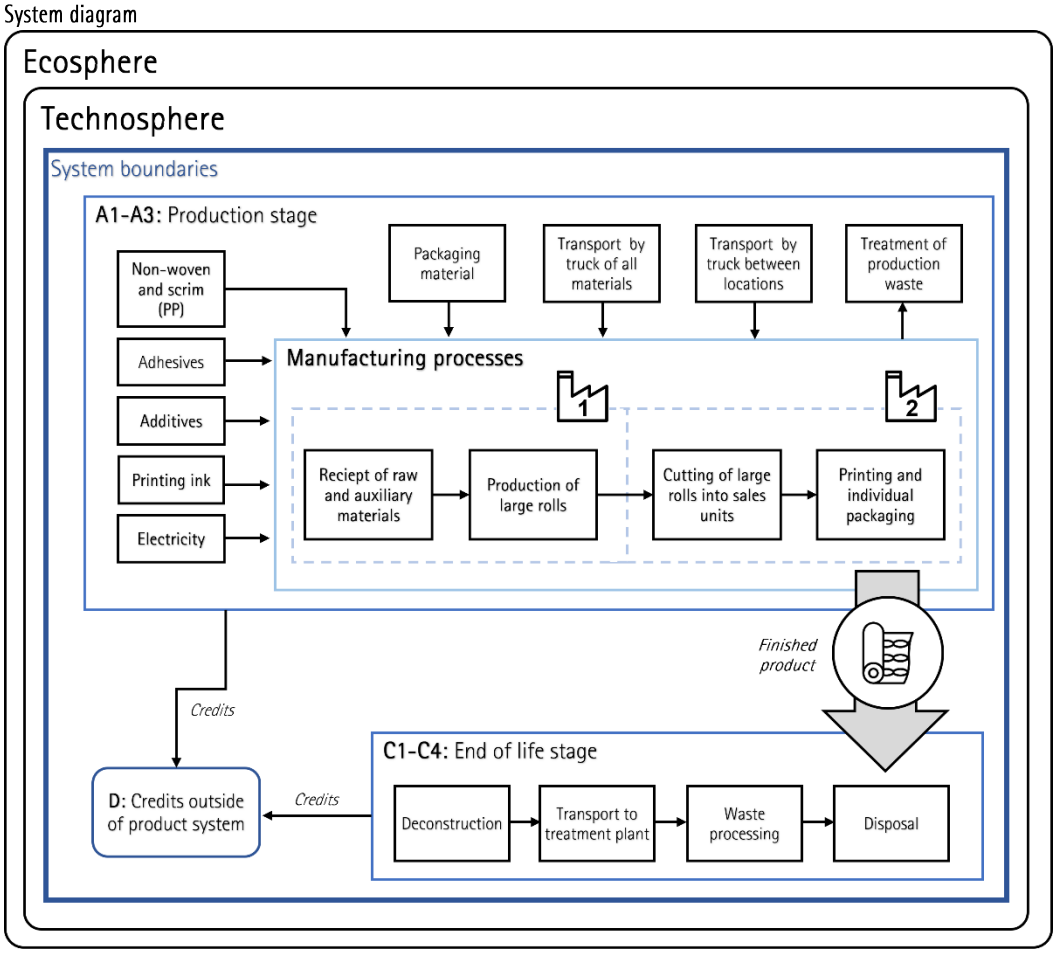
Description of the manufacturing processes
The SOLITEX MENTO 3000 medium-weight roofing underlay is produced by bonding and laminating two fleece layers (front and back) with a functional film layer between them to create large rolls. These rolls are printed and then cut into smaller rolls, which are the sales units. These rolls are then packaged and sent for storage and distribution, first to the central warehouse in Germany, and then all over the world for further sale.

Database and LCA software used
For the LCA model, the software system for holistic balancing (LCA for Experts) version 10.9 was used. Background data sets from the current version of the LCA for experts (GaBi) database service pack 2024.2 were used entirely.

Description of system boundaries
a) Cradle to gate with modules C1–C4 and module D (A1–A3 + C + D)

- As module A5 is not declared, the results of modules A1-A3 include the biogenic C of the product packaging and the balancing out of the biogenic carbon flows from module A5.
- Infrastructure and capital goods are excluded from the system boundaries.
- All processing steps and locations are balanced within the system boundaries.
- The LCI data manufacturing data was gathered for the specific declared product, and no co-product allocation was necessary.
- The allocation of waste follows the polluter-pays principle. The system boundary to the next product system is set when the waste reaches the end-of-waste state. The impacts of waste treatment from production are included in Module A3. The impacts of waste treatment during end-of-life are included in Module C, where the product reaches the end-of-waste status.
- All the LCI data used for modelling in Modules A2 and A3 corresponds to primary data collected from the manufacturing plant and contracted suppliers, including transportation distances from suppliers to production sites, transportation distances between production sites, material and energy inputs, and waste and emission outputs.

System diagram



Each processing step within the system boundaries is marked with an icon and number (#1, #2, etc.), indicating the specific production site where it occurs. The system boundaries cover the following modules:

A1. Raw Material Supply

- Extraction and processing of raw materials required for manufacturing the defined external windtightness membrane: Non-woven (PP), Additives and adhesives, Printing ink.
- Extraction and processing of raw materials required for packaging the 1 m² of finished product, external windtightness membrane: Film (PE), Cardboard, Pallet.
- Extraction and processing of raw materials of internal packaging, used for transportation between all production locations. Internal packaging includes: Film (PE), Cardboard and Pallet.
- Generation of electricity from primary energy resources to supply the production sites with energy.

A2. Transportation

- Transportation of the raw materials was modelled based on the providers specific locations and transportation via truck to the production location #1 in Germany. All materials are procured from providers within less than 800 km.
- After production, the large rolls are transported to the production location #2.
- The transportation of raw materials for packaging, as well as the transportation of the large rolls from the production location #1 to location #2 is modelled in Module A2.

A3. Manufacturing

- Manufacturing of the defined external windtightness membrane occurs in Germany.
- The production of the large membrane roll is done in the production location #1, by bonding and laminating the polymers and the non-woven.
- In location #2, the membrane is confectioned, by adding the adhesive and release film. The membrane is cut into sale units. The products are then packed on pallets for further transportation.
- Treatment of waste generated from the manufacturing processes is included in the model. The model includes processing up to the end-of-waste status or disposal of final residues including any packaging not leaving the factory gate. Resulting credits are assigned to module D.
- Electricity for production in module A3 is modelled with the German Residual electricity mix.

C1-C4. End of Life

- The external windtightness membrane is treated as waste in module C3 by means of incineration with energy recovery.
- Module C2 contains the environmental impact of transportation of the product to the waste treatment plant.
- Module C3 contains the necessary processes for waste treatment at the end of the product life cycle. The loads for waste treatment are mapped here until the end of the waste property is reached.
- Emissions are assigned to module C3. Resulting credits are assigned to module D.

D. Reuse, recovery, recycling potential

- This product has no considerable benefits due to reuse, but considerable benefits from material and energy recovery.
- The value flows resulting from the treatment of production waste in module A3 and C3, which can potentially serve as material or energy input for a downstream product system in the form of the energy recovered from the waste-to-energy treatment and material recovery, are accounted for completely in module D as credits outside of product system.

More information

- Additional information can be obtained by contacting pro clima at info@proclima.com
- LCA practitioner: brands & values GmbH, info@brandsandvalues.com

Electricity use in Module A3 accounts for less than 30% of the GWP-GHG results of modules A1-A3. The energy requirements for production in Module A3 were modelled using the Residual electricity mix of the electricity supplier on the market. In this case the LCA for Experts dataset of Residual grid mix; AC, technology mix; consumption mix, to consumer; <1kV in Germany from the reference year 2022. The climate impact of the dataset is 0.847 kg CO_2 eq./kWh (using the GWP-GHG indicator). A residual mix represents the production mix of a country corrected with generation attributes which are explicitly tracked. Residual mix is used to determine the energy origin of untracked consumption, i.e. consumption, which has not been disclosed with explicit tracking instruments such as Guarantees of Origin. The Residual grid mix in question includes the following energy sources: 1.8% from renewable sources, 18.17% from nuclear, 34.57% from lignite, 21.19% from coal, 20.88% from gas, 1.08% from oil and 2.32% from non-specific fossil sources according to the LCA for Experts dataset.

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

	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	ND	ND	ND	ND	ND	ND	ND	ND	ND	X	X	X	X	X
Geography	DE	DE	DE										GLO	GLO	GLO	GLO	GLO
Specific data used	4%																
Variation – products	0%																
Variation – sites	0%																

Modules declared: (X = included; ND = not declared).

Content information

Product components	Weight, kg	Post-consumer material, weight-%	Biogenic material, weight-% and kg C/kg
Non-woven (PP)	0.130	0.0%	0 %- 0 kg C/kg
Scrim (PP)	0.000	0.0%	0 %- 0 kg C/kg
Additives and adhesives	0.019	0.0%	0 %- 0 kg C/kg
Printing ink	0.001	0.0%	0 %- 0 kg C/kg
Total product	**0.150**	**0.0%**	**0 %- 0** kg C/kg
Packaging materials	Weight, kg	Weight-% (relative to the product)	Weight biogenic carbon, [kg C/kg]
Film (PE)	0.006	3.6%	0 kg C/kg
Cardboard	0.005	3.0%	0.002 kg C/kg
Pallet	0.016	9.0%	0.008 kg C/kg
Total packaging	0.028	15.6%	0.01 kg C/kg
TOTAL Product with packaging	**0.178**	**100%**	**0.01 kg C/kg**

The biogenic carbon content of product and packaging is 0.039 kg CO_2 eq. per declared unit.

Dangerous substances from the candidate list of SVHC for Authorisation	EC No.	CAS No.	Weight-% per functional or declared unit
None	Not applicable	Not applicable	Not applicable

Environmental information

The estimated impact results are only relative statements which do not indicate the end points of the impact categories, exceeding threshold values, safety margins or risks. According to the EN 15804 standard, the characterization factors of EU-JRC must be applied. The EN 15804 reference package based on EF 3.1. was used for the LCA calculations. The characterization factors are available at the following internet address: http://eplca.jrc.ec.europa.eu/LCDN/developerEF.xhtml

Disclaimer: The use of the results of modules A1-A3 (A1-A5 for services) without considering the results of module C is discouraged.

Potential environmental impact – mandatory indicators according to EN 15804

Results per functional or declared unit							
Indicator	Unit	Tot. A1-A3	C1	C2	C3	C4	D
GWP-fossil	kg CO_2 eq.	4.67E-01	0.00E+00	1.21E-03	4.51E-01	0.00E+00	-2.01E-01
GWP-biogenic	kg CO_2 eq.	1.66E-03	0.00E+00	3.74E-06	1.72E-05	0.00E+00	-1.00E-03
GWP-luluc	kg CO_2 eq.	3.45E-04	0.00E+00	1.98E-05	2.08E-06	0.00E+00	-1.86E-05
GWP-total	kg CO_2 eq.	4.69E-01	0.00E+00	1.23E-03	4.51E-01	0.00E+00	-2.02E-01
ODP	kg CFC 11 eq.	3.69E-11	0.00E+00	1.74E-16	2.84E-14	0.00E+00	-1.86E-12
AP	mol H+ eq.	9.03E-04	0.00E+00	2.24E-06	4.61E-05	0.00E+00	-2.13E-04
EP-freshwater	kg P eq.	1.39E-06	0.00E+00	5.03E-09	6.38E-09	0.00E+00	-3.48E-07
EP-marine	kg N eq.	2.99E-04	0.00E+00	9.13E-07	1.04E-05	0.00E+00	-6.50E-05
EP-terrestrial	mol N eq.	3.22E-03	0.00E+00	1.06E-05	2.18E-04	0.00E+00	-6.97E-04
POCP	kg NMVOC eq.	1.12E-03	0.00E+00	2.19E-06	3.07E-05	0.00E+00	-1.83E-04
ADP-minerals&metals	kg Sb eq.	5.44E-08	0.00E+00	1.03E-10	2.95E-10	0.00E+00	-1.78E-08
ADP-fossil*	MJ	1.34E+01	0.00E+00	1.55E-02	6.13E-02	0.00E+00	-3.58E+00
WDP	m^3	6.33E-02	0.00E+00	1.82E-05	4.16E-02	0.00E+00	-2.16E-02
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.

Potential environmental impact – additional mandatory and voluntary indicators

Results per functional or declared unit							
Indicator	Unit	Tot. A1-A3	C1	C2	C3	C4	D
GWP-GHG[1]	kg CO_2 eq.	4.67E-01	0.00E+00	1.23E-03	4.51E-01	0.00E+00	-2.01E-01
PM	Disease incidence	ND	ND	ND	ND	ND	ND
IR	kBq U235 eq.	ND	ND	ND	ND	ND	ND
ETP-fw	CTUe	ND	ND	ND	ND	ND	ND
HTP-c	CTUh	ND	ND	ND	ND	ND	ND
HTP-nc	CTUh	ND	ND	ND	ND	ND	ND
SQP	dimensionless	ND	ND	ND	ND	ND	ND
Acronyms	GWP-GHG = 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 CO2 is set to zero; PM = Particulate matter emissions; IR = Ionizing radiation, human health; ETP-fw = Eco-toxicity - freshwater; HTP-c = Human toxicity, cancer effect; HTP-nc = Human toxicity, non-cancer effects; SQP = Land use related impacts/Soil quality						

[1] The indicator includes all greenhouse gases included in GWP-total but excludes biogenic carbon dioxide uptake and emissions and biogenic carbon stored in the product. This indicator is thus almost equal to the GWP indicator originally defined in EN 15804:2012+A1:2013.

Resource use indicators

Results per functional or declared unit							
Indicator	Unit	A1-A3	C1	C2	C3	C4	D
PERE	MJ	1.03E+00	0.00E+00	1.34E-03	1.75E-02	0.00E+00	-1.22E+00
PERM	MJ	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
PERT	MJ	1.03E+00	0.00E+00	1.34E-03	1.75E-02	0.00E+00	-1.22E+00
PENRE	MJ	7.50E+00	0.00E+00	1.55E-02	5.95E+00	0.00E+00	-3.58E+00
PENRM	MJ	5.89E+00	0.00E+00	0.00E+00	-5.89E+00	0.00E+00	0.00E+00
PENRT	MJ	1.34E+01	0.00E+00	1.55E-02	6.13E-02	0.00E+00	-3.58E+00
SM	kg	6.09E-03	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.52E-04
RSF	MJ	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
FW	m^3	2.16E-03	0.00E+00	1.49E-06	9.75E-04	0.00E+00	-9.19E-04
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 functional or declared unit							
Indicator	Unit	A1-A3	C1	C2	C3	C4	D
Hazardous waste disposed	kg	2.32E-08	0.00E+00	5.94E-13	3.66E-11	0.00E+00	-2.49E-09
Non-hazardous waste disposed	kg	5.64E-03	0.00E+00	2.53E-06	4.06E-03	0.00E+00	-1.88E-03
Radioactive waste disposed	kg	1.91E-04	0.00E+00	2.83E-08	3.26E-06	0.00E+00	-2.64E-04

Output flow indicators

Results per functional or declared unit							
Indicator	Unit	A1-A3	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
Material for recycling	kg	1.38E-03	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Materials for energy recovery	kg	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Exported energy, electricity	MJ	2.96E-02	0.00E+00	0.00E+00	9.31E-01	0.00E+00	0.00E+00
Exported energy, thermal	MJ	6.74E-02	0.00E+00	0.00E+00	1.66E+00	0.00E+00	0.00E+00

Additional environmental information

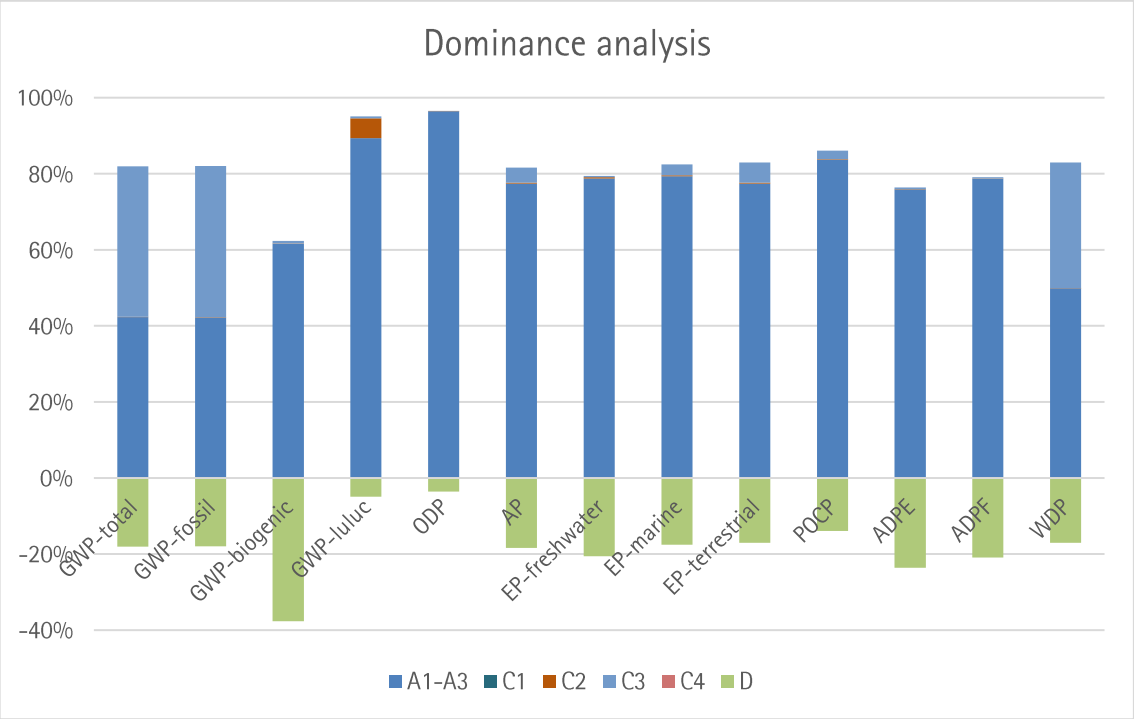
TRACI Indicators

The following TRACI indicators v 2.1 were calculated to comply with US Market requirements. The declared specific product complies with the ISO 21930:2017 Standard.

Results per functional or declared unit							
Indicator	Unit	A1-A3	C1	C2	C3	C4	D
Eutrophication	kg N eq.	7.27E-05	0.00E+00	2.33E-07	2.45E-06	0.00E+00	-2.12E-05
Global Warming Potential, air, excl. biogenic CO2	kg CO_2 eq.	4.48E-01	0.00E+00	1.20E-03	4.51E-01	0.00E+00	-1.91E-01
Global Warming Potential, air, incl. biogenic CO2	kg CO_2 eq.	4.38E-01	0.00E+00	1.16E-03	4.51E-01	0.00E+00	-1.91E-01
Ozone Depletion, air	kg CFC 11 eq.	3.74E-11	0.00E+00	3.47E-18	5.65E-16	0.00E+00	-3.49E-14
Resources, Fossil Fuels	MJ surplus energy	1.78E+00	0.00E+00	2.22E-03	6.27E-03	0.00E+00	-3.56E-01
Smog Air	kg O_3 eq.	1.80E-02	0.00E+00	4.30E-05	6.14E-04	0.00E+00	-3.67E-03
Acidification	kg SO_2 eq.	8.27E-04	0.00E+00	2.00E-06	3.95E-05	0.00E+00	-2.16E-04
Ecotoxicity	CTUe	7.29E-02	0.00E+00	1.12E-04	9.62E-05	0.00E+00	-6.89E-04
Human Health Particulate Air	kg PM2.5 eq	5.51E-05	0.00E+00	8.05E-08	1.17E-06	0.00E+00	-9.90E-06
Human toxicity, cancer	CTUh	6.02E-10	0.00E+00	6.78E-13	4.39E-12	0.00E+00	-7.91E-11
Human toxicity, non-canc.	CTUh	4.11E-08	0.00E+00	1.09E-10	1.85E-10	0.00E+00	-2.65E-09

Interpretation

The following dominance analysis examines the individual impact categories and considers them in detail.



The environmental impacts were analysed using the example of global warming potential (GWP total) to identify the responsible sources along the life cycle. Modules A1-A3 (51.5%) have a dominant influence followed by Module C3 (48.4%) on GWP total and fossil.
The main source of GWP impact is the incineration of non-woven, followed by its production. The production of non-woven is the second source of environmental impact in all main categories, only surpassed in the GWP-fossil by the incineration of Polypropylene (PP).
Transportation of raw materials to and between the manufacturing sites (A2) and disposal transportation of the product in EoL (C2) are not very relevant in terms of GWP total.
The production of non-woven in Modules A1-A3 has the largest contribution to the impacts of all main indicators, except for GWP luluc and GWP fossil. The truck transport in Module A2 is the main contributor for GWP luluc and the incineration of polypropylene (non-woven) in Module C3 for GWP fossil.

The data quality of the relevant generic datasets used is classified as very good, good or satisfactory. Relevant data sets are defined as data sets that together account for at least 80% of the absolute impact of each core indicator included in the EPD across the declared modules with the exception of Module D.

The variation of the environmental impact indicator results for modules A to C between the included products is 0%

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pro clima / MOLL bauökologische Produkte GmbH

www.proclima.com

www.environdec.com

EPD-0024-16/04/2025

Environmental Product Declaration

In accordance with ISO 14025:2006, EN 15804:2012+A2:2019/AC:2021 and ISO 21930:2017 for

SOLITEX MENTO 5000

Heavy-weight roofing underlay

from

pro clima – MOLL bauökologische Produkte GmbH



Programme:	The International EPD® System, www.environdec.com
Programme operator:	EPD International AB Box 21060 SE-10031 Stockholm, Sweden
EPD registration number:	EPD-IES-0022280
Publication date:	16/04/2025
Valid until:	16/04/2030
EPD type:	EPD of a specific product

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

Product Category Rules (PCR)

CEN standard EN 15804 serves as the Core Product Category Rules (PCR)
Product category rules (PCR): PCR 2019:14 Construction Products, version 1.3.4.

UN CPC code: No. 36330: Plates, sheets, film, foil and strip, of plastics, not self-adhesive, non-cellular and not reinforced, laminated, supported or similarly combined with other materials

PCR review was conducted by: The Technical Committee of the International EPD® System. See 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

Life Cycle Assessment (LCA)

LCA accountability: Jannik Schulz, María Díaz Cáceres
brands & values GmbH, info@brandsandvalues.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: Jan Weinzettel, weinzettel@seznam.cz
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.

Company information

Owner of the EPD
pro clima / MOLL bauökologische Produkte GmbH
Rheintalstr. 35-43 – 68723 Schwetzingen – Germany
T: +49 (0) 62 02 – 27 82.0; info@proclima.com

Contact
Michael Förster: support@proclima.com

Description of the organisation
pro clima is a pioneer in the intelligent, reliable sealing of building envelopes. The company develops and markets product systems for achieving maximum protection against moisture damage to structures and mould:

- Humidity-variable hydrosafe® high-performance vapour check and airtightness membranes for interior sealing on new buildings and renovation projects.
- Roofing underlays and breather membranes (WRBs) with active moisture transport for permanently protected exterior sealing of roofs and walls.
- Special adhesives and waterproof tapes.
- Sealing grommets as detailed solutions.

Highest quality for optimal performance

- The system products are manufactured using state-of-the-art production processes at leading production facilities in Germany.
- Production is subject to the highest quality standards, ensuring that insulation is reliably protected against moisture damage and mould.
- Highest effectiveness of thermal insulation.
- Reduction of heating costs due to optimal air sealing.
- Dry insulation materials.
- Best possible protection against moisture damage to structures and mould.
- Comfortable interiors in summer and winter.
- Healthy indoor climates.
- Highest ecological value.

Together towards a successful future
People are the focus of every decision at pro clima, and the company's guiding mission is to advance building culture as a whole. To achieve this goal, system products have been developed for over 30 years that are consistently geared to meet the health and comfort needs of users. Many of pro clima's pioneering developments are now established as state-of-the-art approaches. Today, these products are successfully used in over 40 countries worldwide.

Name and location of production site(s)
pro clima / MOLL bauökologische Produkte GmbH – Rheintalstr. 35-43 – 68723 Schwetzingen – Germany.

Product-related or management system-related certifications
All production sites are ISO 9001 certified.

Product information

Product name
SOLITEX MENTO 5000

Product identification
Heavy-weight roofing underlay

Product description
SOLITEX MENTO 5000 has the following components:
Protective and covering fleece: Polypropylene microfibre; Functional film: Monolithic TEEE.

UN CPC code
No. 36330: Plates, sheets, film, foil and strip, of plastics, not self-adhesive, non-cellular and not reinforced, laminated, supported or similarly combined with other materials

Products covered by the EPD
SOLITEX MENTO 5000 (width: 1.5 m / length: 50 m) GTIN 4026639129031
SOLITEX MENTO 5000 (width: 1.5 m / length: 50 m) GTIN 4026639218681
SOLITEX MENTO 5000 (width: 3 m / length: 50 m) GTIN 4026639137593
SOLITEX MENTO 5000 (width: 3 m / length: 50 m) GTIN 4026639218704

This EPD relates to a single product – SOLITEX MENTO 5000 – and covers multiple GTINs and product variants. While all variants are essentially the same product, they differ only in their dimensions or customised printing, such as customer logos. These variations meet specific customer requirements, but do not alter the inherent environmental characteristics of the product, thus justifying a common EPD.

Geographical Scope
Global

Applications
For use as a diffusion-open roofing underlay over roof sheathing, MDF and wood-fibre underlay panels, and over all thermal insulation materials.

Properties
Maximal flexibility in planning construction schedules thanks to 6 months of outdoor exposure. Well-protected building components: highly diffusion-open and maximum protection against driving rain and hail. Dry building components: pore-free TEEE functional film actively transports moisture to the outside. Permanent protection thanks to the high resistance to ageing and heat of the TEEE functional film. Provides protection during the construction period: suitable as a temporary covering.

Technical specifications

Property	Regulation	Value
Colour	N/A	Anthracite
Surface weight	EN 1849-2	215 ±5 g/m² ; 0.70 ±0.02 oz/ft² (†)
Thickness	EN 1849-2	0.70 mm ; 28 mils
Water vapour resistance factor μ	EN ISO 12572	114
s_d value	EN ISO 12572	0.08 m
g value	N/A	0.4 MN·s/g
Vapour permeance	ASTM E 96	41 perms
Fire class	EN 13501-1	E
Outdoor exposure	N/A	6 months
Hail impact resistance	VKF / AEAI	Class HR 5
Watertight joints with 'connect' adhesive strips or TESCON VANA tape	EN 13859-1	W1
Sarking/roofing underlay membrane (Germany)	ZVDH-Produktdatenblatt 2024	USB / UDB
Suitable as temporary roof covering (Germany)	ZVDH	Yes
Water column	EN ISO 811	10 000 mm ; 32' 10"
Watertightness, non-aged/aged*	EN 13859-1	W1 / W1
Tensile strength MD/CD	EN 13859-1 (A)	350 N/5 cm / 270 N/5 cm ; 40 lb/in / 31 lb/in
Tensile strength MD/CD, aged*	EN 13859-1 (A)	330 N/5 cm / 245 N/5 cm ; 38 lb/in / 28 lb/in
Elongation MD/CD	EN 13859-1 (A)	55% / 65%
Elongation MD/CD, aged*	EN 13859-1 (A)	30% / 40%
Nail tear resistance MD/CD	EN 13859-1 (B)	270 N / 400 N ; 61 lbf / 90 lbf
*) Durability after artificial ageing at 120 °C ; 248 °F	EN 1297 / EN 1296	Passed
Flexibility at low temperature	EN 1109	-40 °C ; -40 °F
Temperature resistance	EN 1109, EN 1296, EN 1297	Permanent -40 °C to +120 °C; -40 °F to 248 °F
Thermal conductivity	N/A	0.04 W/(m·K) ; 0.3 BTU·in/(h·ft²·°F)
CE labelling	EN 13859-1	Yes

(†) The technical data specified here serves as a general guideline value, whereas the modelling calculations are based on exact annual production quantities and are therefore more precise. This creates an apparent discrepancy, but actually ensures that the technical data is more consistent.

LCA information

Declared unit: 1m² of SOLITEX MENTO 5000 external windtightness membrane and accompanying packaging.
Conversion factor to mass: 0.242 kg/m²
Reference service life: 30 years
Time representativeness: Based on yearly manufacturing data from 01/01/2023 until 31/12/2023.

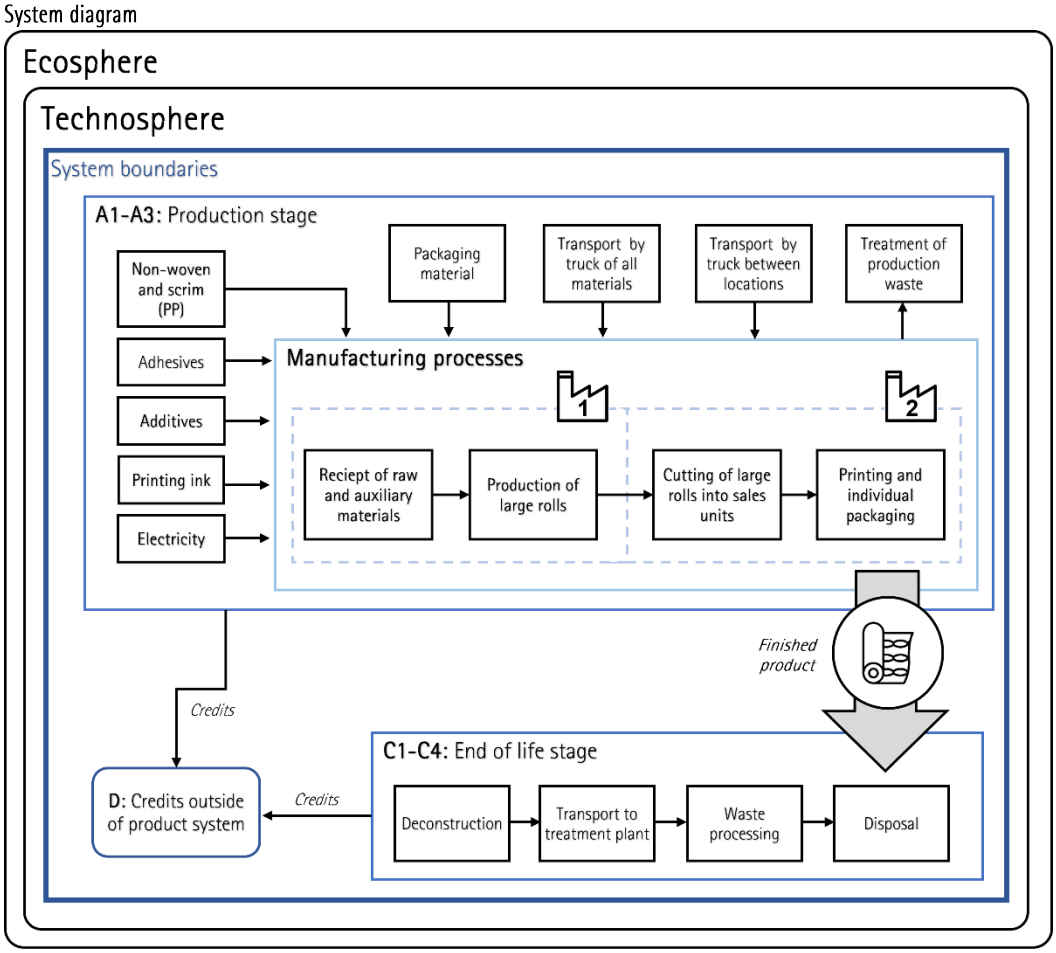
Description of the manufacturing processes
The SOLITEX MENTO 5000 heavy-weight roofing underlay is produced by bonding and laminating two fleece layers (front and back) with a functional film layer between them to create large rolls. These rolls are printed and then cut into smaller rolls, which are the sales units. These rolls are then packaged and sent for storage and distribution, first to the central warehouse in Germany, and then all over the world for further sale.

Database and LCA software used
For the LCA model, the software system for holistic balancing (LCA for Experts) version 10.9 was used. Background data sets from the current version of the LCA for experts (GaBi) database service pack 2024.2 were used entirely.

Description of system boundaries
a) Cradle to gate with modules C1–C4 and module D (A1–A3 + C + D)

- As module A5 is not declared, the results of modules A1-A3 include the biogenic C of the product packaging and the balancing out of the biogenic carbon flows from module A5.
- Infrastructure and capital goods are excluded from the system boundaries.
- All processing steps and locations are balanced within the system boundaries.
- The LCI data manufacturing data was gathered for the specific declared product, and no co-product allocation was necessary.
- The allocation of waste follows the polluter-pays principle. The system boundary to the next product system is set when the waste reaches the end-of-waste state. The impacts of waste treatment from production are included in Module A3. The impacts of waste treatment during end-of-life are included in Module C, where the product reaches the end-of-waste status.
- All the LCI data used for modelling in Modules A2 and A3 corresponds to primary data collected from the manufacturing plant and contracted suppliers, including transportation distances from suppliers to production sites, transportation distances between production sites, material and energy inputs, and waste and emission outputs.

System diagram



Each processing step within the system boundaries is marked with an icon and number (#1, #2, etc.), indicating the specific production site where it occurs. The system boundaries cover the following modules:

A1. Raw Material Supply

- Extraction and processing of raw materials required for manufacturing the defined external windtightness membrane: Non-woven (PP), Additives and adhesives, Printing ink.
- Extraction and processing of raw materials required for packaging the 1 m² of finished product, external windtightness membrane: Film (PE), Cardboard, Pallet.
- Extraction and processing of raw materials of internal packaging, used for transportation between all production locations. Internal packaging includes: Film (PE), Cardboard and Pallet.
- Generation of electricity from primary energy resources to supply the production sites with energy.

A2. Transportation

- Transportation of the raw materials was modelled based on the providers specific locations and transportation via truck to the production location #1 in Germany. All materials are procured from providers within less than 800 km.
- After production, the large rolls are transported to the production location #2.
- The transportation of raw materials for packaging, as well as the transportation of the large rolls from the production location #1 to location #2 is modelled in Module A2.

A3. Manufacturing

- Manufacturing of the defined external windtightness membrane occurs in Germany.
- The production of the large membrane roll is done in the production location #1, by bonding and laminating the polymers and the non-woven.
- In location #2, the membrane is confectioned, by adding the adhesive and release film. The membrane is cut into sale units. The products are then packed on pallets for further transportation.
- Treatment of waste generated from the manufacturing processes is included in the model. The model includes processing up to the end-of-waste status or disposal of final residues including any packaging not leaving the factory gate. Resulting credits are assigned to module D.
- Electricity for production in module A3 is modelled with the German Residual electricity mix.

C1-C4. End of Life

- The external windtightness membrane is treated as waste in module C3 by means of incineration with energy recovery.
- Module C2 contains the environmental impact of transportation of the product to the waste treatment plant.
- Module C3 contains the necessary processes for waste treatment at the end of the product life cycle. The loads for waste treatment are mapped here until the end of the waste property is reached.
- Emissions are assigned to module C3. Resulting credits are assigned to module D.

D. Reuse, recovery, recycling potential

- This product has no considerable benefits due to reuse, but considerable benefits from material and energy recovery.
- The value flows resulting from the treatment of production waste in module A3 and C3, which can potentially serve as material or energy input for a downstream product system in the form of the energy recovered from the waste-to-energy treatment and material recovery, are accounted for completely in module D as credits outside of product system.

More information

- Additional information can be obtained by contacting pro clima at info@proclima.com
- LCA practitioner: brands & values GmbH, info@brandsandvalues.com

Electricity use in Module A3 accounts for less than 30% of the GWP-GHG results of modules A1-A3. The energy requirements for production in Module A3 were modelled using the Residual electricity mix of the electricity supplier on the market. In this case the LCA for Experts dataset of Residual grid mix; AC, technology mix; consumption mix, to consumer; <1kV in Germany from the reference year 2022. The climate impact of the dataset is 0.847 kg CO_2 eq./kWh (using the GWP-GHG indicator). A residual mix represents the production mix of a country corrected with generation attributes which are explicitly tracked. Residual mix is used to determine the energy origin of untracked consumption, i.e. consumption, which has not been disclosed with explicit tracking instruments such as Guarantees of Origin. The Residual grid mix in question includes the following energy sources: 1.8% from renewable sources, 18.17% from nuclear, 34.57% from lignite, 21.19% from coal, 20.88% from gas, 1.08% from oil and 2.32% from non-specific fossil sources according to the LCA for Experts dataset.

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

	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	ND	ND	ND	ND	ND	ND	ND	ND	ND	X	X	X	X	X
Geography	DE	DE	DE										GLO	GLO	GLO	GLO	GLO
Specific data used	3%																
Variation – products	0%																
Variation – sites	0%																

Modules declared: (X = included; ND = not declared).

Content information

Product components	Weight, kg	Post-consumer material, weight-%	Biogenic material, weight-% and kg C/kg
Non-woven (PP)	0.190	0.0%	0 %- 0 kg C/kg
Additives and adhesives	0.023	0.0%	0 %- 0 kg C/kg
Printing ink	0.001	0.0%	0 %- 0 kg C/kg
Total product	0.214	0.0%	0 %- 0 kg C/kg
Packaging materials	**Weight, kg**	**Weight-% (relative to the product)**	**Weight biogenic carbon, [kg C/kg]**
Film (PE)	0.006	2.6%	0 kg C/kg
Cardboard	0.005	2.2%	0.002 kg C/kg
Pallet	0.016	6.6%	0.008 kg C/kg
Total packaging	0.028	11.4%	0.01 kg C/kg
TOTAL Product with packaging	**0.242**	**100%**	**0.01 kg C/kg**

The biogenic carbon content of product and packaging is 0.039 kg CO_2 eq. per declared unit.

Dangerous substances from the candidate list of SVHC for Authorisation	EC No.	CAS No.	Weight-% per functional or declared unit
None	Not applicable	Not applicable	Not applicable

Environmental information

The estimated impact results are only relative statements which do not indicate the end points of the impact categories, exceeding threshold values, safety margins or risks. According to the EN 15804 standard, the characterization factors of EU-JRC must be applied. The EN 15804 reference package based on EF 3.1. was used for the LCA calculations. The characterization factors are available at the following internet address: http://eplca.jrc.ec.europa.eu/LCDN/developerEF.xhtml

Disclaimer: The use of the results of modules A1-A3 (A1-A5 for services) without considering the results of module C is discouraged.

Potential environmental impact – mandatory indicators according to EN 15804

Results per functional or declared unit							
Indicator	Unit	Tot. A1-A3	C1	C2	C3	C4	D
GWP-fossil	kg CO_2 eq.	6.44E-01	0.00E+00	1.71E-03	6.48E-01	0.00E+00	-2.90E-01
GWP-biogenic	kg CO_2 eq.	2.30E-03	0.00E+00	5.31E-06	2.34E-05	0.00E+00	-1.44E-03
GWP-luluc	kg CO_2 eq.	4.64E-04	0.00E+00	2.81E-05	2.48E-06	0.00E+00	-2.69E-05
GWP-total	kg CO_2 eq.	6.47E-01	0.00E+00	1.75E-03	6.48E-01	0.00E+00	-2.92E-01
ODP	kg CFC 11 eq.	3.74E-11	0.00E+00	2.46E-16	3.91E-14	0.00E+00	-2.68E-12
AP	mol H+ eq.	1.26E-03	0.00E+00	3.17E-06	6.57E-05	0.00E+00	-3.07E-04
EP-freshwater	kg P eq.	1.67E-06	0.00E+00	7.14E-09	8.68E-09	0.00E+00	-5.03E-07
EP-marine	kg N eq.	4.17E-04	0.00E+00	1.30E-06	1.47E-05	0.00E+00	-9.39E-05
EP-terrestrial	mol N eq.	4.50E-03	0.00E+00	1.50E-05	3.12E-04	0.00E+00	-1.01E-03
POCP	kg NMVOC eq.	1.58E-03	0.00E+00	3.10E-06	4.34E-05	0.00E+00	-2.65E-04
ADP-minerals&metals	kg Sb eq.	6.87E-08	0.00E+00	1.46E-10	4.06E-10	0.00E+00	-2.57E-08
ADP-fossil*	MJ	1.88E+01	0.00E+00	2.20E-02	8.45E-02	0.00E+00	-5.17E+00
WDP	m^3	9.08E-02	0.00E+00	2.59E-05	5.98E-02	0.00E+00	-3.13E-02
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.

Potential environmental impact – additional mandatory and voluntary indicators

Results per functional or declared unit							
Indicator	Unit	Tot. A1-A3	C1	C2	C3	C4	D
GWP-GHG[1]	kg CO_2 eq.	6.45E-01	0.00E+00	1.74E-03	6.48E-01	0.00E+00	-2.90E-01
PM	Disease incidence	ND	ND	ND	ND	ND	ND
IR	kBq U235 eq.	ND	ND	ND	ND	ND	ND
ETP-fw	CTUe	ND	ND	ND	ND	ND	ND
HTP-c	CTUh	ND	ND	ND	ND	ND	ND
HTP-nc	CTUh	ND	ND	ND	ND	ND	ND
SQP	dimensionless	ND	ND	ND	ND	ND	ND
Acronyms	GWP-GHG = 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 CO2 is set to zero; PM = Particulate matter emissions; IR = Ionizing radiation, human health; ETP-fw = Eco-toxicity - freshwater; HTP-c = Human toxicity, cancer effect; HTP-nc = Human toxicity, non-cancer effects; SQP = Land use related impacts/Soil quality						

[1] The indicator includes all greenhouse gases included in GWP-total but excludes biogenic carbon dioxide uptake and emissions and biogenic carbon stored in the product. This indicator is thus almost equal to the GWP indicator originally defined in EN 15804:2012+A1:2013.

Resource use indicators

Results per functional or declared unit							
Indicator	Unit	A1-A3	C1	C2	C3	C4	D
PERE	MJ	1.40E+00	0.00E+00	1.90E-03	2.42E-02	0.00E+00	-1.77E+00
PERM	MJ	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
PERT	MJ	1.40E+00	0.00E+00	1.90E-03	2.42E-02	0.00E+00	-1.77E+00
PENRE	MJ	1.03E+01	0.00E+00	2.20E-02	8.59E+00	0.00E+00	-5.17E+00
PENRM	MJ	8.50E+00	0.00E+00	0.00E+00	-8.50E+00	0.00E+00	0.00E+00
PENRT	MJ	1.88E+01	0.00E+00	2.20E-02	8.45E-02	0.00E+00	-5.17E+00
SM	kg	6.62E-03	0.00E+00	0.00E+00	0.00E+00	0.00E+00	2.17E-04
RSF	MJ	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
FW	m^3	3.00E-03	0.00E+00	2.11E-06	1.40E-03	0.00E+00	-1.33E-03
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 functional or declared unit							
Indicator	Unit	A1-A3	C1	C2	C3	C4	D
Hazardous waste disposed	kg	2.84E-08	0.00E+00	8.43E-13	5.05E-11	0.00E+00	-3.60E-09
Non-hazardous waste disposed	kg	7.78E-03	0.00E+00	3.59E-06	4.84E-03	0.00E+00	-2.72E-03
Radioactive waste disposed	kg	2.66E-04	0.00E+00	4.01E-08	4.59E-06	0.00E+00	-3.82E-04

Output flow indicators

Results per functional or declared unit							
Indicator	Unit	A1-A3	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
Material for recycling	kg	1.97E-03	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Materials for energy recovery	kg	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Exported energy, electricity	MJ	4.25E-02	0.00E+00	0.00E+00	1.35E+00	0.00E+00	0.00E+00
Exported energy, thermal	MJ	9.70E-02	0.00E+00	0.00E+00	2.39E+00	0.00E+00	0.00E+00

Additional environmental information

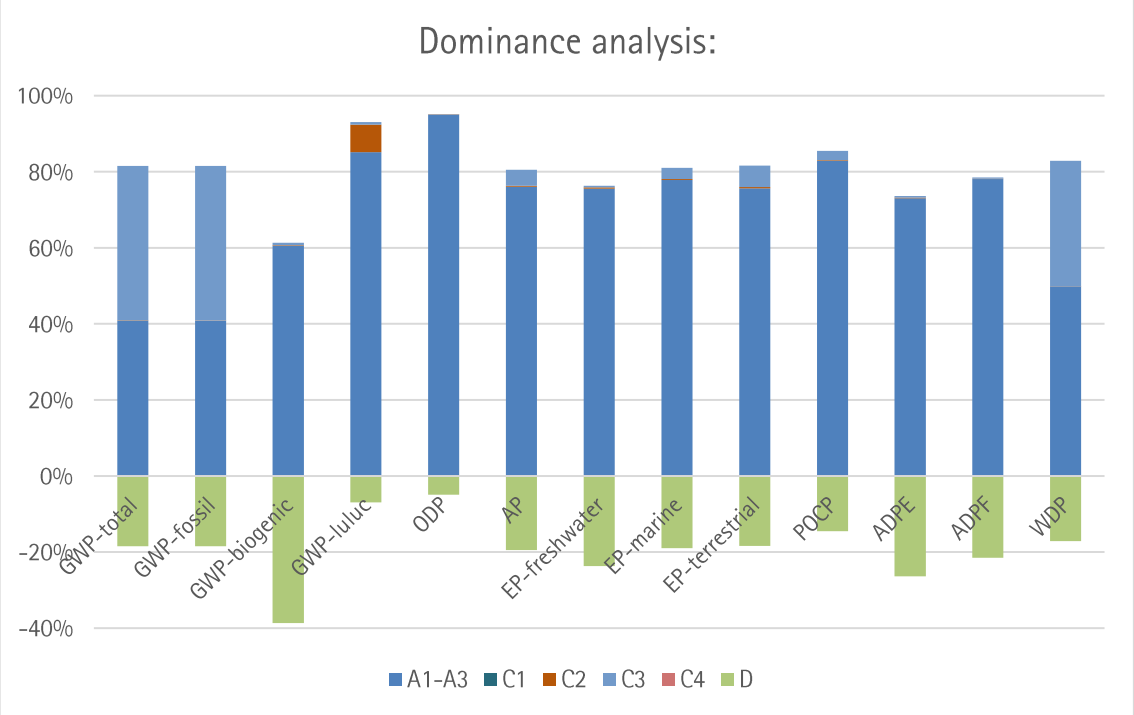
TRACI Indicators

The following TRACI indicators v 2.1 were calculated to comply with US Market requirements. The declared specific product complies with the ISO 21930:2017 Standard.

Results per functional or declared unit							
Indicator	Unit	A1-A3	C1	C2	C3	C4	D
Eutrophication	kg N eq.	9.68E-05	0.00E+00	3.31E-07	3.48E-06	0.00E+00	-3.07E-05
Global Warming Potential, air, excl. biogenic CO2	kg CO_2 eq.	6.18E-01	0.00E+00	1.70E-03	6.48E-01	0.00E+00	-2.77E-01
Global Warming Potential, air, incl. biogenic CO2	kg CO_2 eq.	6.06E-01	0.00E+00	1.65E-03	6.48E-01	0.00E+00	-2.76E-01
Ozone Depletion, air	kg CFC 11 eq.	3.74E-11	0.00E+00	4.93E-18	7.78E-16	0.00E+00	-5.05E-14
Resources, Fossil Fuels	MJ surplus energy	2.51E+00	0.00E+00	3.15E-03	8.76E-03	0.00E+00	-5.15E-01
Smog Air	kg O_3 eq.	2.52E-02	0.00E+00	6.10E-05	8.66E-04	0.00E+00	-5.31E-03
Acidification	kg SO_2 eq.	1.15E-03	0.00E+00	2.84E-06	5.46E-05	0.00E+00	-3.12E-04
Ecotoxicity	CTUe	9.40E-02	0.00E+00	1.59E-04	1.34E-04	0.00E+00	-9.96E-04
Human Health Particulate Air	kg PM2.5 eq	7.66E-05	0.00E+00	1.14E-07	1.62E-06	0.00E+00	-1.43E-05
Human toxicity, cancer	CTUh	7.85E-10	0.00E+00	9.63E-13	5.91E-12	0.00E+00	-1.14E-10
Human toxicity, non-canc.	CTUh	5.64E-08	0.00E+00	1.55E-10	2.22E-10	0.00E+00	-3.83E-09

Interpretation

The following dominance analysis examines the individual impact categories and considers them in detail.



The environmental impacts were analysed using the example of global warming potential (GWP total) to identify the responsible sources along the life cycle. Modules A1-A3 (50.3%) have a dominant influence followed by Module C3 (49.6%) on GWP total and fossil.
The main source of GWP impact is the incineration of non-woven, followed by its production. The production of non-woven is the second source of environmental impact in all main categories, only surpassed in the GWP-fossil by the incineration of Polypropylene (PP).
Transportation of raw materials to and between the manufacturing sites (A2) and disposal transportation of the product in EoL (C2) are not very relevant in terms of GWP total.
The production of non-woven in Modules A1-A3 has the largest contribution to the impacts of all main indicators, except for GWP luluc and GWP fossil. The truck transport in Module A2 is the main contributor for GWP luluc and the incineration of polypropylene (non-woven) in Module C3 for GWP fossil.

The data quality of the relevant generic datasets used is classified as very good, good or satisfactory. Relevant data sets are defined as data sets that together account for at least 80% of the absolute impact of each core indicator included in the EPD across the declared modules with the exception of Module D.

The variation of the environmental impact indicator results for modules A to C between the included products is 0%

References

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1. Juli 2025

Herstellererklärung SVHC & CMR-Stoffe

Sehr geehrte Frau Szczyglowski,

gerne bestätige ich Ihnen, dass die folgenden auf dem Sentinel Portal gelisteten pro clima Produkte die Anforderungen SVHC < 0,1% (gemäß REACH-Kandidatenliste, Stand 25.05.2025), sowie CMR-Stoffe mit der Einstufung CMR 1A/1B < 0,1% erfüllen:

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- TESCON VANA, TESCON No.1, TESCON PROFECT
- UNI TAPE, UNI TAPE XL
- DUPLEX
- EXTOSEAL ENCORS
- ORCON F, ORCON MULTIBOND
- TESCON NAIDECK, TESCON NAIDECK mono
- TESCON PRIMER RP
- KAFLEX mono, KAFLEX duo, ROFLEX 20, ROFLEX 30-300
- INTELLO, INTELLO X, INTELLO PLUS, INTELLO X PLUS
- DA
- DASAPLANO 0,01 connect
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- SOLITEX ADHERO 3000, SOLITEX ADHERO VISTO
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- SOLITEX MENTO 1000-5000 (connect)
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