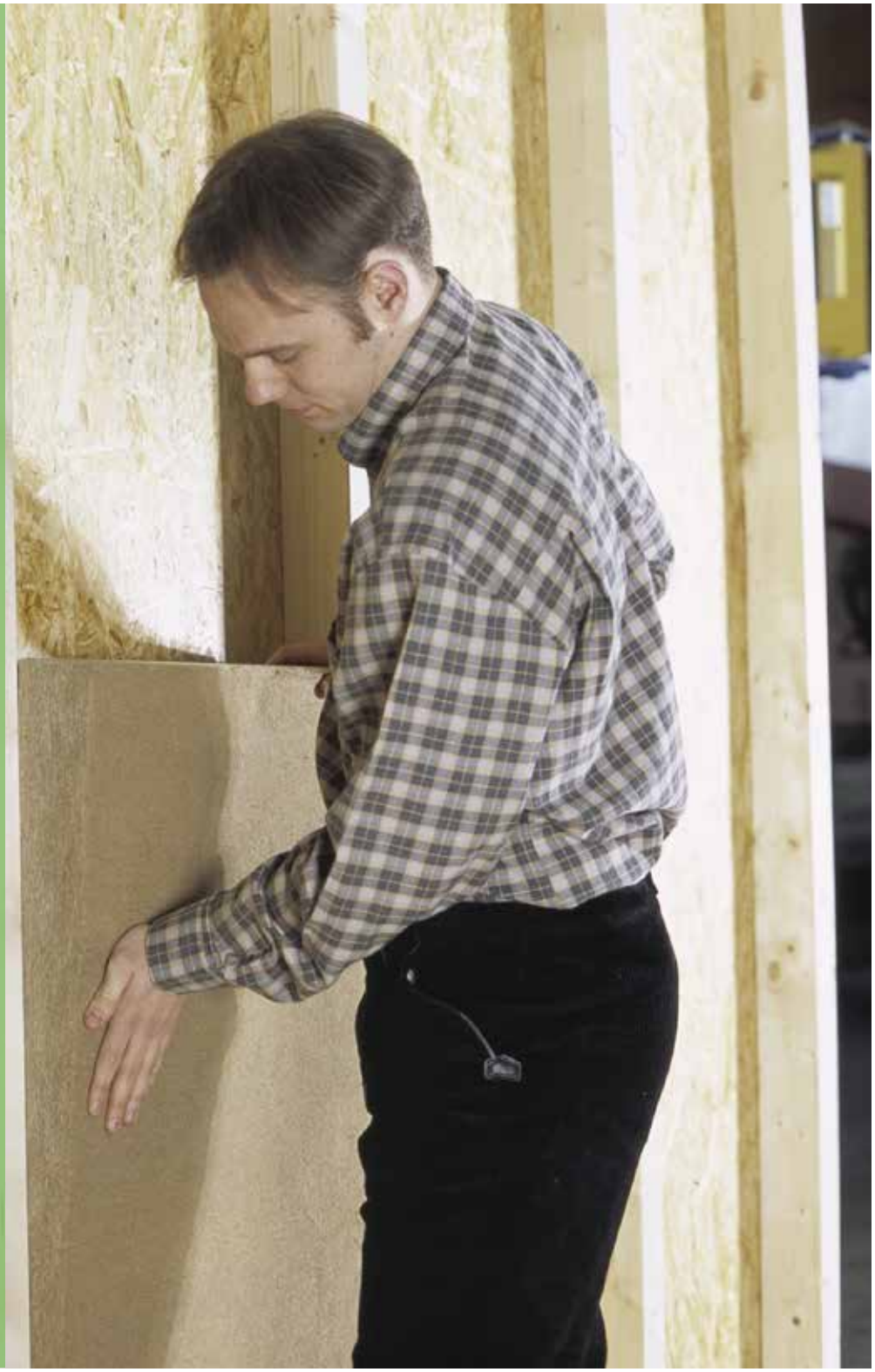
pavatex by SOPREMA



SOPREMA
SOLUTIONS

ENVIRONMENTAL PERFORMANCE DECLARATION

AS PER ISO 14025 AND EN 15804+A1

SOPREMA GROUP

1. GENERAL INFORMATION

SOPREMA NV
Bouwelven 5
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Belgium

Pavaflex
Declared product/declared unit
1m^3 wood fibre insulation

This declaration is based on the product category rules
Wood based panels, 12.2018

Scope
This environmental performance declaration applies for flexible Pavaflex wood fibre insulation boards manufactured on behalf of Soprema NV.

2. PRODUCT

2.1. PRODUCT DESCRIPTION/PRODUCT DEFINITION
Pavaflex are flexible wood fibre insulation boards manufactured in a dry process. The addition of a small quantity of textile binding fibre is necessary in order to achieve product flexibility.
Directive (EU) No. 305/2011 (CPR) applies for placing the product on the market in the EU/EFTA (except Switzerland). The product requires a Declaration of Performance taking consideration of EN 13171, Thermal insulation products for buildings – Factory-made wood fibre (WF) products – Specifications, and CE marking.
The following Declarations of Performance are available for Pavaflex: Pavaflex DOP No. INSEU0029.a

Use is governed by the respective national regulations.

2.2. APPLICATION
The flexible Pavaflex wood fibre thermal insulation is used as cavity insulation in roof, wall and ceiling constructions as well as in cavity insulation for partition walls, facing layers and installation levels.

2.3. TECHNICAL DATA
The following information refers to the Pavaflex product as delivered. More data can be downloaded from www.soprema.co.uk.

TECHNICAL CONSTRUCTION DATA

NAME	VALUE	UNIT
Gross density	50-60	kg/m^3
Material moisture on delivery	4	%
Tensile strength rectangular	0.01	N/mm^2
Thermal conductivity	0.036 or 0.038	W/(mK)
Water vapour diffusion resistance factor	2	-
Specific thermal capacity c	2100	J/(kg*K)
Airflow resistance	>=5	(kPa*s)/m

The product performance values comply with the Declaration of Performance in terms of its essential characteristics in accordance with EN 13171, Thermal insulation products for buildings – Factory- made wood fibre (WF) products – Specifications.

2.4. DELIVERY STATUS
Pavaflex is offered in the following standard sizes: Board thickness: 30 - 240 mm
Format: 1220 x 575 mm
Special formats of 385 to 2300 mm width and 500 to 10000 mm length available on request

2.5. BASE MATERIALS/ANCILLARY MATERIALS
The primary component of Pavaflex is wood fibres from regional sustainable forestry. The product can be broken down into the following components:
- Wood fibres: approx. 90%
- Water: approx. 4%
- Bi-component fibres: approx. 3%
- Ammonium salts: approx. 7%

The Pavaflex product contains no substances on the ECHA List of Candidates for including substances of very high concern in Annex XIV of the REACH Directive (last revised: 07.01.2019) exceeding 0.1% by mass.

The Pavaflex product contains no other CMR substances in categories 1A or 1B which are not on the ECHA List of Candidates exceeding 0.1% by mass in at least one partial product.

No biocide products were added to this Pavaflex construction product or it has not been treated with biocide products (this then concerns a treated product as defined by the (EU) Ordinance on Biocide Products No. 528/2012)

2.7. ENVIRONMENT AND HEALTH DURING MANUFACTURING

HEALTH PROTECTION
Owing to the manufacturing conditions, no other health protection measures are required extending beyond the legally specified measures.

ENVIRONMENTAL PROTECTION
Waste air generated during production is cleaned in accordance with statutory specifications.

No direct pollution of water or soil is caused by the production process.

2.8. PRODUCT PROCESSING/INSTALLATION

Pavatex wood fibre insulation boards can be processed using conventional wood-processing tools (handsaw, insulation knife, circular and band saw etc.). Neither the processing nor the installation of Pavatex wood fibre insulation materials leads to environmental pollution.

2.9. PACKAGING

Polyethene foil , paper and cardboard as well as wood are used for packaging Pavatex wood fibre insulation materials.

2.10. CONDITION OF USE

When used correctly and as designated, no material product changes are to be anticipated during the use phase.

2.11. ENVIRONMENT AND HEALTH DURING USE

ENVIRONMENT

When Pavatex wood fibre insulation materials are used as designated, no health risks or hazard potential for water, air or soil is currently known.

2.12. REFERENCE SERVICE LIFE

When used as designated, there is no known or expected limit to their durability. Accordingly, the average service life of the product is equivalent to the service life of the building.
Under Central European climate conditions, a service life of 50 years can be assumed as a conservative duration.

There are no known or anticipated influences on product ageing when the products are applied in accordance with the generally accepted rules of technology.

2.13. EXTRAORDINARY EFFECTS

FIRE

Information in acc. with EN 13501-1

FIRE PROTECTION

NAME	VALUE
Building material class	E
Burning droplets	-
Smoke production	-

WATER

Pavatex wood fibre insulation materials do not comprise any leachable components which are hazardous to water. Wood fibre insulation materials do not offer permanent resistance to standing water.

Damaged areas must be replaced in part or extensively depending on the respective degree of damage incurred.

MECHANICAL DESTRUCTION

Mechanical destruction does not have any negative impact on the environment.

2.14. RE-USE PHASE

When dismantled without damage, Pavatex wood fibre insulation materials may be reused for the same application after the end of utilisation, Provided that the wood fibre insulation materials are not damaged, material recycling of the raw material does not present a problem (e.g. reintroduction to the production process).

2.15. DISPOSAL

Insulation material residue without contamination (clippings and de-construction material) can be recycled in the production process.

2.16. FURTHER INFORMATION

Detailed information on Pavaflex and other products offered by Soprema UK Ltd (processing, characteristic values, approvals) is available at www.soprema.co.uk

3. LCA : CALCULATION RULES

3.1. DECLARED UNIT

The declared unit is 1 m³ wood fibre insulation material with an average apparent density of 50.00 kg and 4% water. Additives account for 11.03%.
In accordance with 5.2.1a in PCR Part A, this concerns a “Declaration of a specific product from a manufacturer’s plant”.

DECLARED UNIT

NAME	VALUE	UNIT
Declared unit	1	m^3
Conversion factor to 1kg (in kg/m^3)	50	-
Mass reference	50	kg/m^3

3.2. SYSTEM BOUNDARY

The Declaration complies with an EPD «from cradle to plant gate, with options». It includes the production stage, i.e. from provision of the raw materials through to production (cradle to gate, Modules A1 to A3), Module A5, and parts of the end-of-life stage (Modules C2 and C3). It also contains an analysis of the potential benefits and burdens over and beyond the product’s entire life cycle (Module D).

Module A1 comprises the provision of wood from forestry resources and the provision of additives. Transport of these substances is considered in Module

A2. Module A3 includes the expenses associated with manufacturing the product, such as the provision of fuels, consumables and energy, as well as product packaging.
Module A5 exclusively covers the disposal of product packaging which includes the disposal of biogenic carbon and primary energy (PERM and PENRM).
Module C2 considers transport to the disposal company and Module C3 is concerned with preparing and sorting waste wood. Due to a lack of data, the conservative assumption was made that the material is crushed – as is the case for waste wood – before it is ready for reuse. In accordance with EN 16485, Module C3 also includes as outflows the CO_2 equivalents of the carbon inherent in the wood product as well as the renewable and non-renewable primary energy (PERM and PENRM) contained in the product.
Module D takes account of the thermal utilisation of the product at its end of life as well as the ensuing potential benefits and burdens in the form of a system extension.

3.3. ESTIMATES AND ASSUMPTIONS

In principle, all of the material and energy flows for the processes required by production are established on the basis of questionnaires.

3.4. CUT-OFF CRITERIA

No known material or energy flows were ignored, including those below the limit of 1%. Accordingly, the total sum of input flows ignored is certainly less than 5% of the energy and mass applied. This also guarantees that no material or energy flows were ignored which display a potential for significant influences in terms of environmental indicators.

3.5. BACKGROUND DATA
All background data was taken from the GaBi Professional Database 2020 Edition and the "Ökobilanz-Basisdaten für Bauprodukte aus Holz" final report (S. Rüter, S. Diederichs: 2012).

3.6. DATA QUALITY
The primary data was validated on the basis of mass and in accordance with plausibility criteria.

3.7. PERIOD UNDER REVIEW
The data recorded for the primary system refers to 2019.

3.8. ALLOCATION
The allocations comply with the specifications of the EN 15804 and EN 16485, and are explained in detail in S. Rüter, S. Diederichs: 2012. Essentially, the following system extensions and allocations were carried out.

GENERAL INFORMATION

The product characteristics inherent in the material (biogenic carbon and the primary energy contained therein) are allocated in accordance with the physical criterion of mass.

MODULE A1

The processes in the upstream forestry chain concern associated co-productions of logs (primary product) and industrial wood (co-product). The corresponding expenses of this upstream chain were allocated based on log and industrial wood prices.
For the same reason, the expenses associated with sawn timber and sawmill by-products were also allocated on the basis of their prices in the upstream chain.

MODULE A3

In accordance with EN 16485, data which is only available for production as a whole is allocated to the products on the basis of the production volume (mass).

MODULE D

The potential benefit through substitution of fossil fuels in the course of generating energy with thermal utilisation of the product packaging and the actual product at its end of life is analysed in Module D,

3.9. COMPARABILITY
Basically, a comparison or an evaluation of EPD data is only possible if all the data sets to be compared were created according to EN 15804 and the building context, respectively the product-specific characteristics of performance, are considered.

The LCA was conducted using version 9.2 of the GaBi ts 2020 software.

4. LCA : SCENARIOS AND ADDITIONAL TECHNICAL INFORMATION

The scenarios on which the LCA is based are outlined in more detail below.

CONSTRUCTION INSTALLATION PROCESS (A5)

The information in Module A5 exclusively refers to the disposal of packaging materials. No information is provided on installation of the product. The volume of packaging materials incurred per declared unit in Module A5 and directed to thermal waste treatment as well as other details on the scenario are listed in the following table.

NAME	VALUE	UNIT
Solid wood (wood moisture= 40%) as packaging material for thermal waste treatment	7.5	kg
PE foil as packaging material for thermal waste treatment	0.89	kg
Paper as packaging material for thermal waste treatment	0.01	kg
Biogenic carbon contained in the solid wood share of packaging	2.68	kg
Total efficiency of thermal waste treatment	38-44	%
Total exported electrical energy	6.0	kWh
Total exported thermal energy	47.8	MJ

A transport distance of 20 km is assumed for disposal of the product packaging.

END OF LIFE (C1-C4)

A redistribution transport distance of 50 km is assumed in module C2

NAME	VALUE	UNIT
Energy recovery (waste wood)	50	kg

A collection rate of 100% without losses incurred by potential crushing of the material is assumed for the scenario of thermal utilisation as a secondary fuel.

REUSE, RECOVERY AND RECYCLING POTENTIAL (D), RELEVANT SCENARIO INFORMATION

NAME	VALUE	UNIT
Electricity generated (per tonne of bone-dry waste wood)	968.37	kWh
Waste heat generated (per tonne of bone-dry waste wood)	7053.19	MJ
Electricity generated (per net flow of declared unit)	47.1	kWh
Waste heat generated (per net flow of declared unit)	336.1	MJ

The product is recycled in the form of waste wood in the same composition as the declared unit at the end- of-life stage. Thermal recovery in a biomass power station with an overall degree of efficiency of 54.54% and electrical efficiency of 18.04% is assumed, whereby incineration of 1 tonne of bone-dry wood (mass value as bone dry, consideration of efficiency, yet ~18% wood moisture) generates approx. 965 kWh electricity and 7050 MJ useful heat. Converted to the net flow of the bone-dry wood percentage included in Module D and taking consideration of the percentage of adhesives in waste wood, 47 kWh electricity and 335 MJ thermal energy are produced per declared unit in Module D.

5. LCA : RESULTS

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DESCRIPTION OF THE SYSTEM BOUNDARY (X = INCLUDED IN LCA; MND = MODULE NOT DECLARED; MNR = MODULE NOT RELEVANT)

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

RESULTS OF THE LCA - ENVIRONMENTAL IMPACT according to EN 15804+A1: 1 m³ Pavaflex

PARAMETER	UNIT	A1	A2	A3	A5	C2	C3	D
GWP	[kg CO2-Eq.]	-7.14E+1	8.30E-1	4.23E+1	1.23E+1	1.45E-1	7.83E+1	-4.01E+1
ODP	[kg CFC11-Eq.]	6.29E-11	1.38E-16	1.55E-13	4.80E-15	2.42E-17	1.35E-16	-1.21E-12
AP	[kg SO^2-Eq.]	1.20E-2	3.48E-3	8.76E-2	2.18E-3	6.08E-4	3.69E-3	-4.21E-2
EP	[kg $(PO_4)^3$--Eq.]	2.07E-3	8.74E-4	1.07E-2	4.14E-4	1.53E-4	7.96E-4	-7.42E-3
POCP	[kg ethene-Eq.]	2.23E-3	-1.46E-3	1.58E-2	1.05E-4	-2.56E-4	3.60E-4	-4.06E-3
ADPE	[kg Sb-Eq.]	1.98E-6	6.99E-8	4.82E-6	3.18E-7	1.22E-8	3.75E-8	-1.20E-5
ADPF	[MJ]	1.79E+2	1.15E+1	6.31E+2	3.94E+0	2.00E+0	5.45E+0	-6.94E+2

CAPTION	GWP = Global warming potential; ODP = Depletion potential of the stratospheric ozone layer; AP = Acidification potential of land and water; EP = Eutrophication potential; POCP = Formation potential of tropospheric ozone photochemical oxidants; ADPE = Abiotic depletion potential for non- fossil resources; ADPF = Abiotic depletion potential for fossil resources

RESULTS OF THE LCA - INDICATORS TO DESCRIBE RESOURCE USE according to EN 15804+A1: 1m³ Pavaflex

PARAMETER	UNIT	A1	A2	A3	A5	C2	C3	D
PERE	[MJ]	5.70E+0	6.45E-1	1.56E+2	8.82E-1	1.13E-1	3.18E-1	-2.12E+2
PERM	[MJ]	8.19E+2	0.00E+0	1.03E+2	-1.03E+2	0.00E+0	-8.19E+2	0.00E+0
PERT	[MJ]	8.24E+2	6.45E-1	2.59E+2	-1.02E+2	1.13E-1	-8.18E+2	-2.12E+2
PENRE	[MJ]	1.83E+2	1.15E+1	6.40E+2	4.29E+0	2.01E+0	5.47E+0	-7.71E+2
PENRM	[MJ]	1.99E+2	0.00E+0	3.21E+1	-3.21E+1	0.00E+0	-1.99E+2	0.00E+0
PENRT	[MJ]	3.81E+2	1.15E+1	6.73E+2	-2.79E+1	2.01E+0	-1.93E+2	-7.71E+2
SM	[MJ]	0.00E+0	0.00E+0	0.00E+0	0.00E+0	0.00E+0	0.00E+0	0.00E+0
RSF	[kg]	0.00E+0	0.00E+0	8.07E+1	0.00E+0	0.00E+0	0.00E+0	8.19E+2
NRSF	[MJ]	0.00E+0	0.00E+0	0.00E+0	0.00E+0	0.00E+0	0.00E+0	1.99E+2
FW	[m^3]	6.79E-2	7.47E-4	1.56E-1	3.85E-2	1.31E-4	2.85E-4	9.94E-2

CAPTION	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 resources; SM = Use of secondary material; RSF = Use of renewable secondary fuels; NRSF = Use of non-renewable secondary fuels; FW = Use of net fresh water

RESULTS OF THE LCA - WASTE CATEGORIES AND OUTPUT FLOWS according to EN 15804+A1: 1m³ Pavaflex

PARAMETER	UNIT	A1	A2	A3	A5	C2	C3	D
HWD	[kg]	3.77E-7	5.35E-7	9.26E-7	1.41E-8	9.35E-8	2.04E-7	-3.93E-7
NHWD	[kg]	4.77E-2	1.76E-3	3.55E-1	3.09E-1	3.07E-4	9.59E-4	1.46E+0
RWD	[kg]	1.41E-3	1.42E-5	3.70E-3	1.37E-4	2.49E-6	5.76E-6	-3.07E-2
CRU	[kg]	0.00E+0	0.00E+0	0.00E+0	0.00E+0	0.00E+0	0.00E+0	0.00E+0
MFR	[kg]	0.00E+0	0.00E+0	0.00E+0	0.00E+0	0.00E+0	0.00E+0	0.00E+0
MER	[kg]	0.00E+0	0.00E+0	0.00E+0	0.00E+0	0.00E+0	5.00E+0	0.00E+0
EEE	[MJ]	0.00E+0	0.00E+0	0.00E+0	2.16E+1	0.00E+0	0.00E+0	1.70E+2
EET	[MJ]	0.00E+0	0.00E+0	0.00E+0	4.79E+1	0.00E+0	0.00E+0	3.36E+2

CAPTION	HWD = Hazardous waste disposed; NHWD = Non-hazardous waste disposed; RWD = Radioactive waste disposed; CRU = Components for re-use; MFR = Materials for recycling; MER = Materials for energy recovery; EEE = Exported electrical energy; EEE = Exported thermal energy

6. LCA : INTERPRETATION

The interpretation of results focuses on the production phase (Modules A1 to A3) as it is based on specific data provided by the company. The interpretation takes the form of a dominance analysis of the environmental impacts (GWP, ODP, AP, EP, POCP,

ADPE, ADPF) and the use of renewable/non- renewable primary energy (PERE, PENRE). Accordingly, the most significant factors for the respective categories are listed below.

6.1. GLOBAL WARMING POTENTIAL (GWP)

CO_2 product system inputs and outputs inherent in wood require separate consideration in terms of GWP. A total of approx. 87.7 kg CO_2 enters the system in the form of carbon stored in the biomass. Around 9.8 kg CO_2 bound in the form of the packaging material is accounted for in Module A3 and released again in Module A5.
The volume of carbon accounting for around 77.9 kg CO equiv. ultimately stored in the wood fibre insulating material is extracted from the system again when recycled in the form of waste wood.

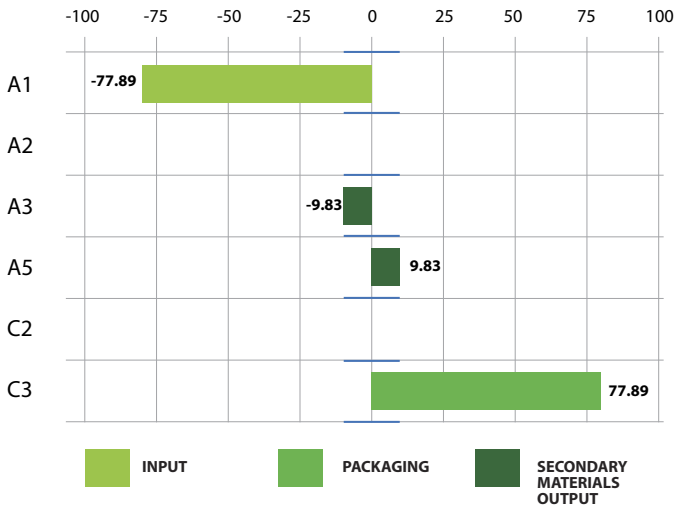

Fig. 2 CO_2 PRODUCT SYSTEM INPUTS AND OUTPUTS INHERENT IN WOOD. THE INVERSE INDICATIONS SUGGESTED BY INPUTS AND OUTPUTS ARE IN LINE WITH THE LCO CO2 FLOW ANALYSIS IN TERMS OF THE ATMOSPHERE.

11% of the analysed fossil greenhouse gases are accounted for by the provision of raw materials (entire Module A1), 1% by transporting the raw materials (entire Module A2), and 88% by the manufacturing process for the wood fibre insulation material (entire Module A3).

Essential influential factors are represented by heat generation in the plant accounting for 37% and the provision of electricity accounting for 39% as part of Module A3, as well as the provision of additives used as part of Module A1 accounting for 10% of fossil greenhouse gas emissions.

6.2. OZONE DEPLETION POTENTIAL (ODP)

Emissions with an ozone depletion potential are incurred almost exclusively (almost 100%) by the provision of raw wood materials for the product.

6.3. ACIDIFICATION POTENTIAL (AP)

Essentially, the generation of energy during the manufacturing process accounting for 70% (Module A3) and the packaging materials for the product accounting for 8% (Module A3) are the most relevant sources for emissions contributing to the acidification potential.

6.4. EUTROPHICATION POTENTIAL (EP)

35% of total EP is attributable to the provision of electricity and a further 20% is accounted for by the provision of heat (both Module A3). The packaging for the product makes a 12% contribution to EP (also Module A3).

6.5. PHOTOCHEMICAL OZONE CREATION POTENTIAL (POCP)

The primary POCP contributions (35%) are accounted. for by energy generation during the manufacturing process (Module A3). Direct emissions in the plant (also Module A3) account for a further 53% of total POCP. The negative values recorded for the POCP in Modules A2 and C2 are attributable to the negative characterisation factor for nitrogen monoxide emissions of the standard-conformant CML IA 2013 version (2001 – April 2013) in combination with the GaBi Professional Database 2020 Edition truck transport process used.

6.6. ABIOTIC DEPLETION POTENTIAL NON-FOSSIL RESOURCES (ADPE)

The essential contributions to ADPE (28%) are incurred by the provision of additives for the product (Module A1). The consumables used also account for 25% of total ADPE (Module A3).

6.7. ABIOTIC DEPLETION POTENTIAL FOSSIL FUELS (ADPF)

39% of total ADPF is incurred by the generation of heat in the manufacturing process and 28% by the electricity consumed there (both Module A3). The provision of additives for the product accounts for 21% (Module A1).

6.8. RENEWABLE PRIMARY ENERGY AS ENERGY CARRIER (PERE)

Most of PERE use (69%) is attributable to the packaging materials used and the renewable share of electricity consumption accounting for 26% (both Module A3). 3% of total use is attributable to the provision of additives for the product (Module A1).

6.9. NON-ENEWABLE PRIMARY ENERGY AS ENERGY CARRIER (PERE)

The use of PENRE is distributed across the provision of product additives (21%, Module A1) and the manufacturing process, with 38% for heat generation and 28% for electricity consumption there (both Module A3).

6.10. WASTE

54% of special waste is incurred in Module A3 during the provision of packaging.

7. REQUISITE EVIDENCE

7.1. FORMALDEHYDE

Pavatex wood fibre insulation materials manufactured in a dry process are produced without adhesives containing formaldehyde. The formaldehyde emissions comply with those of natural wood.

7.2. MDI

No binding agents containing isocyanate are used in the production of Pavaflex.

7.3. TESTING FOR PRE-TREATMENT OF SUBSTANCES USED

No waste wood is used as a material input in the production of Pavatex wood fibre insulation materials. Only untreated fresh wood (conifer) is used.

7.4. VOC EMISSIONS

VOC evidence is available for the Pavaflex wood fibre insulation boards. The measurements were taken by MPA Eberswalde (PB 31/19//3623/01).

AgBB OVERVIEW OF RESULTS (28 DAYS [µg/m³])

NAME	VALUE	UNIT
TVOC (C6 - C16)	750	µg/m3
Sum SVOC (C16 - C22)	<0.005	µg/m3
R (dimensionless)	1	-
VOC without NIK	<0.005	µg/m3
Carcinogenic Substances	<1	µg/m3

AgBB OVERVIEW OF RESULTS (3 DAYS [µg/m³])

NAME	VALUE	UNIT
TVOC (C6 - C16)	1593	µg/m3
Sum SVOC (C16 - C22)	<0.005	µg/m3
R (dimensionless)	4.62	-
VOC without NIK	<0.005	µg/m3
Carcinogenic Substances	<1	µg/m3

8. REFERENCES

STANDARDS

EN 13171:2012
DIN EN EN 13171:2012, Thermal insulation products for buildings - Factory made wood fiber (WF) products - Specification.

EN 15804
EN 15804:2012-04+A1 2013, Sustainability of buildings - environmental product declarations - basic rules for the product category construction products.

EN 15804
EN 15804:2019-04+A2 (in press), Sustainability of Buildings - Environmental Product Declarations - Basic Rules for the Product Category Building Products.

EN 16485
EN 16485:2014-07, Logs and sawn timber - Environmental product declarations - Product category rules for wood and wood-based materials in construction.

ISO 14001
DIN EN ISO 14001:2015,
environmental management systems
- Requirements.

ISO 14025
DIN EN ISO 14025:2011-10, Environmental Labels and Declarations - Type III Environmental Declarations - Policies and Procedures.

ISO 9001
EN ISO 9001:2015-11,
Quality Management Systems - Requirements.

MORE LITERATURE

IBU 2016
Institut Bauen und Umwelt e.V.: General EPD program instructions of the Institut Bauen und Umwelt
e.V. (IBU). Version 1.1, Berlin: Institut Bauen und Umwelt e.V., 2016.
www.ibu-epd.com

AgBB
Evaluation scheme for VOCs from building products, Committee for Health-related Evaluation of Building Products (AgBB), 2012.

Biocidal Products Ordinance Regulation
(EU) No. 528/2012 of the European Parliament and of the Council of 22 May 2012 concerning the making available on the market and use of biocidal products, 2012.

CML-IA 2013
Oers, L. van: 2015, CML-IA database, characterization and normalization factors for midpoint impact category indicators. Version (2011-April 2013).

CPR
Regulation (EU) No. 305/2011 of the European Parliament and of the Council of March 9th, 2011 establishing harmonized conditions for the marketing of construction products and repealing Council Directive 89/106/EEC

EN 13501-1
EN 13501-1: 2019-05, Fire classification of construction products and building elements - Part 1: Classification using results from reaction to fire tests for construction products.

EAK
European Waste Catalog (EWC) according to the Ordinance on the European Waste Catalog (Waste Catalog Ordinance - AVV), 2016.

ECHA Candidate List
List of substances of very high concern for approval (as of January 15, 2018) in accordance with Article 59 Paragraph 10 of the REACH Regulation. European Chemicals Agency.

GaBi Professional Database 2020 Edition GaBi Professional Database Version 8.7, SP40, sphera, 2020.

GaBi ts 2020
GaBi ts Software Version 9.2.1: Software and database for holistic accounting. sphera, 2020.

PCR Part A
Product Category Rules for Building-Related Products and Services, Part A: Calculation Rules for Life Cycle Assessment and Background Report Requirements, 2019.

PCR wood-based materials
PCR guidance texts for building-related products and services, Part B: Requirements for the EPD for wood-based materials, 2018.

REACH regulation
Regulation (EC) No. 1907/2006 of the European Parliament and of the Council of December 18, 2006 on the Registration, Evaluation, Authorization and Restriction of Chemicals (REACH). Last changed on 07.01.2019.

SOPREMA SOLUTIONS

Do you have a question about one of our products and/or their application?

All information can be found at
www.soprema.co.uk

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