

# ENVIRONMENTAL PRODUCT DECLARATION

in accordance with /ISO 14025/ and /EN 15804+A1/

Owner of the declaration	<b>Pavafrance SAS</b>
Publisher	Institut Bauen und Umwelt e.V. (IBU)
Programme holder	Institut Bauen und Umwelt e.V. (IBU)
Declaration number	EPD-PAV-20190182-IBA1-DE
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Valid to	23/02/2025

Dry process wood fibre insulation 110-200 kg/m<sup>3</sup>  
**Pavafrance SAS**

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## 1. General Information

<p><b>PAVATEX SAS</b></p>	<p>Dry process wood fibre insulation 110-200 kg/m<sup>3</sup></p>
<p><b>Programme holder</b> IBU – Institut Bauen und Umwelt e.V. Panoramastrasse 1 10178 Berlin Germany</p>	<p><b>Owner of the declaration</b> <b>Pavafrance SAS</b> Rue Jean Charles Pellerin F-88190 Golbey</p>
<p><b>Declaration number</b> EPD-PAV-20190182-IBA1-DE</p>	<p><b>Declared product/declared unit</b> This declaration relates to 1 m<sup>3</sup> of wooden soft-fibre panel</p>
<p><b>This declaration is based on the following product category rules:</b> Derived timber products, 12/2018 (PCR tested and approved by the independent advisory board (SVR))</p>	<p><b>Scope:</b> This EPD relates to (dry process) wooden fibre panels which are produced in the PAVATEX works in Golbey (France). The calculation of the LCA relates to a product with a density of 200 kg/m<sup>3</sup>.</p>
<p><b>Issue date</b> 24/02/2020</p>	<p>The LCA results can be converted linearly for the following products:</p>
<p><b>Valid to</b> 23/02/2025</p>	<p><b>Product group 110-180 kg/m<sup>3</sup></b></p>
	<ul style="list-style-type: none"> <li>• PAVATHERM 110 kg/m<sup>3</sup></li> <li>• PAVAWALL SMART 115 kg/m<sup>3</sup></li> <li>• PAVAWALL 130 kg/m<sup>3</sup></li> <li>• PAVAWALL GF 130 kg/m<sup>3</sup></li> <li>• PAVAWALL-BLOC 130 kg/m<sup>3</sup></li> <li>• ISOLAIR (100-200 mm) 145 kg/m<sup>3</sup></li> <li>• ISOLAIR-ECO 150 kg/m<sup>3</sup></li> <li>• ISOROOF 145 kg/m<sup>3</sup></li> <li>• PAVATHERM-COMBI 145 kg/m<sup>3</sup></li> <li>• REVEAL PANEL 155 kg/m<sup>3</sup></li> <li>• PAVADENTRO LIGHT 155 kg/m<sup>3</sup></li> <li>• PAVATHERM-PROFIL 155 kg/m<sup>3</sup></li> </ul>
	<p><b>Product group 180-200 kg/m<sup>3</sup></b></p>
	<ul style="list-style-type: none"> <li>• PAVAWALL GF 190 kg/m<sup>3</sup></li> <li>• PAVABOARD 190 kg/m<sup>3</sup></li> <li>• ISOLAIR (30-80 mm) 200 kg/m<sup>3</sup></li> <li>• ISOROOF 200 kg/m<sup>3</sup></li> </ul>
	<p>The owner of the declaration is liable for the basic information and supporting evidence; any liability of the IBU in relation to manufacturer's information, LCA data and supporting evidence is excluded.</p>
	<p>This EPD was compiled in accordance with the requirements of <i>EN 15804+A1</i>. This standard is described in simplified form as <i>EN 15804</i> in the following.</p>
	<p><b>Verification</b></p>
<p>Dipl. Ing. Hans Peters (President of Institut Bauen und Umwelt e.V.)</p>	<p>European standard <i>/EN 15804/</i> serves as the core PCR</p>
	<p>Independent verification of the declaration and statements by an independent body in accordance with <i>/ISO 14025:2010/</i></p>
	<p><input type="checkbox"/> internal    <input checked="" type="checkbox"/> external</p>
<p>Dr. Alexander Röder (President of Institut Bauen und Umwelt e.V.)</p>	<p>Patricia Wolf, Independent verifier appointed by SVR</p>

## 2. Product

### 2.1 Product description/Product definition

PAVATEX wooden fibre insulation products are breathable panel-shaped heat insulation materials for buildings in accordance with /EN 13171/. The panels are produced in a so-called dry process. Wooden fibres gained from forest chips are glued with a resin adhesive and pressed into panels.

EU regulation no. /305/2011/ (CPR) applies for putting the product on the market in the EU/EFTA (with the exception of Switzerland). This product requires a declaration of performance including /DIN EN 13171:2012/, Thermal insulation products for buildings - Factory made wood fibre (WF) products - Specification and CE labelling. The respective national regulations apply to use.

### 2.2 Application

The products specified in the validity area are compression-proof wooden fibre insulation panels. **PAVAWALL**, **PAVAWALL-BLOC** as well as **PAVAWALL SMART** and **PAVAWALL GF 80-160** are plasterable insulation elements for composite heat insulation system for exterior walls made of masonry and wood constructions. **PAVATHERM**, **PAVATHERM-COMBI** and **PAVATHERM-FORTE** are wood fibre insulation panels which can be used in many ways for roofs, walls and floors. **ISOLAIR** Under-roof panels are weatherable for three months and "watertight" in accordance with European standard /EN 14964/ for under-roof panels. ISOLAIR under-roof panels are also insulation panels and may therefore be included in the calculation of heat transfer. **PAVABOARD** and **PAVATHERM PROFIL** are panels which can be used in a variety of ways as panels for flooring systems. The **reveal panel** is a plasterable panel for indoor and outdoor window reveal panels. **PAVAWALL GF 40-60** is an optimised, plasterable insulation element which is especially suitable for covering prefabricated wooden elements in sectional construction. **PAVADENTRO LIGHT** is a structural-physically unproblematic solution for listed facades worth conserving.

### 2.3 Technical data

#### Constructional data

The following information relates to the ISOLAIR product.

Name	Value	Unit
Bulk density in accordance with EN 13171	200	kg/m <sup>3</sup>
Material humidity on delivery	7	%
Declared thermal conductivity in accordance with EN 13171	0,044	W/(mk)
Thermal conductivity rated value for Germany	0,046	W/(mk)
Specific thermal capacity	2,100	J/(kgK)
Water vapour diffusion resistance level in accordance with EN 13171	3	-
Fire behaviour in accordance with EN 13501-1	Class E	
Compressive stress at 10% compression in accordance with EN 13171	0.20	N/mm <sup>2</sup>
Formaldehyde emissions in accordance with EN 717-1	-	µg/m <sup>3</sup>

Information on the other products for this EPD is available at [www.soprema.com](http://www.soprema.com).

The product's performance data commensurate with the declaration of performance in relation to its main features in accordance with DIN EN 13171:2012, Thermal insulation products for buildings - Factory made wood fibre (WF) products - Specification.

### 2.4 Delivery status

ISOLAIR panels are supplied in the following dimensions:

Length x Width (cm)	Thicknesses (mm)
77 x 250	35/52/60

### 2.5 Base materials/ancillary materials

#### Composition of ISOLAIR

Name	Value	Unit
Softwood	95.2	% atro
Polyurea	4	% atro
Paraffin	0.7	% atro
Watery polymer concentrate	0.14	% atro

Certification for the origin of the timber from sustainable forestry in accordance with PEFC rules is currently being implemented.

- 1) Does the product/at least one part product contain substances which are on the candidate list (status: 07/01/2019) in doses of more than 0.1 mass %: yes/no."
- 2) Does the product/at least one part product contain further CMR Category 1A or 1B substances which are not on the candidate list in doses above 0.1 mass % in at least one part product: yes/no.
- 3) Have biocidal products been added to this building product or it has been treated with biocidal products (is it therefore a processed product in terms of EU Biocidal Product Directive no. 528/2012): yes/no

### 2.6 Manufacturing

The drying process for producing PAVATEX softwood panels is divided into the following steps:

1. Heating of the chips under steam pressure
2. Defibration process
3. Drying of the fibres in a flash tube drier
4. Spraying of the fibres with resin-based adhesive
5. Distributing the fibres to an even mat of fibres
6. The fibre mat passes through a continuous pre-press
7. The fibre mat passes through the calibration and hardening unit
8. Cutting to size and profiling depending on the product
9. Destacking and packaging

All residues which accrue during production (trimming and cutting waste) are recycled for energy recovery.

A quality management system in accordance with /ISO 9001/ is implemented to guarantee quality.



## **2.7 Environment and health during use**

### **Health protection**

Due to manufacturing conditions, no health

protection measures beyond those prescribed by statutory and other regulations are necessary. The MAK values are not exceeded in any part of the plant.

### Environmental protection

**Air:** The exhaust air produced by manufacturing is cleaned in accordance with statutory regulations. Emissions are below national requirements.

**Water/Soil:** No direct contamination for water or soil are produced.

The plant has an environmental management system in accordance with /ISO 14001 - SQS 14086/.

### 2.8 Product processing/installation

PAVATEX wood fibre boards can be worked with normal tools and machines such as insulation knives, electrical ripsaws and circular or belt saws. Circular saws with a large number of teeth and a high cutting speed are recommended up to 80 mm; a jigsaw is preferable above this.

Breathing protection should be worn when using hand tools without dust extraction.

Working on PAVATEX insulation materials cause no environmental contamination. No special environmental protection measures need to be taken.

### 2.9 Packaging

Insert sheets, cardboard, polyethylene (PE) foil, plastic or metal bands and wood are used to package PAVATEX insulation materials. All packaging can be sorted and recycled or otherwise incinerated to produce energy. External disposal can be arranged with the manufacturer in individual cases.

### 2.10 Condition of use

The ingredients of PAVATEX panels are the same as the composition of the base materials. At 200 kg/m<sup>3</sup>, around 322 kg CO<sub>2</sub> have been stored over the lifecycle of ISOLAIR fibre boards.

### 2.11 Environment and health during use

**Environmental protection:** based on current knowledge, no hazards for water, air and soil can arise with appropriate use of the products described (see evidence).

**Health protection:** No hazards or impairments to health are to be expected if PAVATEX panels are used appropriately. Natural wood ingredients may be excreted in small quantities. No emissions of harmful substances which may be relevant to health have been detected (see Chapter 7).

### 2.12 Reference period of use

No reference period of use is declared due to the large variety of possible uses for PAVATEX softwood panels.

The durability of PAVATEX panels is defined via the application classes in accordance with /EN 13171/ and /EN 622-4/. The average service life depends on the size of the building.

### 2.13 Extraordinary influences

#### Fire

Information in accordance with /EN 13501/:

#### Fire protection

Name	Value
Building material class	E
Flaming droplets	no
Flue gas development	s2

#### Water

No ingredients are washed out which could be hazardous to water (see Chapter 7). Wood fibre panels are not resistant against the permanent effects of water. Damaged areas can be replaced locally.

#### Mechanical destruction

PAVATEX wood fibre insulation can be mechanically stressed (compression and tensile stress). In case of damage there is a soft break where the fibres are torn off unevenly.

### 2.14 End-of-life phase

PAVATEX wood fibre panels can easily be reused or used further for the same purpose in case of rebuilding or the termination of the use phase of a building in case of selective dismantling as long as they are untreated and not damaged.

Insofar as there was no contamination with third-party products, PAVATEX insulation materials can be easily utilised again.

### 2.15 Disposal

To conclude cascade use, PAVATEX wood fibre panels can be thermally recycled as renewable energy providers with the heating value of 16.22 MJ/kg (if u=20%) in old wood combustion plants or refuse/garbage incineration plants (MVA/KVA) to produce process energy and electricity. European waste code: 03 0105.

### 2.16 Further information

More detailed information and processing recommendations are available in the technical brochures available at: [www.soprema.com](http://www.soprema.com).