

# ENVIRONMENTAL PRODUCT DECLARATION

as per *ISO 14025* and *EN 15804+A1*



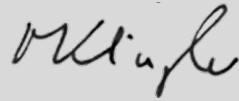
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Programme holder	Institut Bauen und Umwelt e.V. (IBU)
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## Scheucher Multilayer Parquet **Scheucher Holzindustrie GmbH**

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## 1. General Information

<p><b>Scheucher Holzindustrie GmbH</b></p> <hr/> <p><b>Programme holder</b>          IBU – Institut Bauen und Umwelt e.V.          Panoramastr. 1          10178 Berlin          Germany</p> <hr/> <p><b>Declaration number</b>          EPD-SCP-20200238-IBC1-EN</p> <hr/> <p><b>This declaration is based on the product category rules:</b>          Solid wood products, 12.2018          (PCR checked and approved by the SVR)</p> <hr/> <p><b>Issue date</b>          01.12.2020</p> <hr/> <p><b>Valid to</b>          30.11.2025</p> <hr/> <p></p> <hr/> <p>Dipl. Ing. Hans Peters          (chairman of Institut Bauen und Umwelt e.V.)</p> <hr/> <p></p> <hr/> <p>Dr. Alexander Röder          (Managing Director Institut Bauen und Umwelt e.V.)</p>	<p><b>Multilayer parquet</b></p> <hr/> <p><b>Owner of the declaration</b>          Scheucher Holzindustrie GmbH          Zehensdorf 100          A-8092 Mettersdorf</p> <hr/> <p><b>Declared product / declared unit</b>          1 m<sup>2</sup> Scheucher multilayer parquet (7,37 kg/m<sup>2</sup>) with a moisture of 6-9 % at delivery.</p> <hr/> <p><b>Scope:</b>          This Environmental Product Declaration refers to a declared unit of 1 m<sup>2</sup> average Scheucher multilayer parquet produced at the production site in Mettersdorf.</p> <p>The owner of the declaration shall be liable for the underlying information and evidence; the IBU shall not be liable with respect to manufacturer information, life cycle assessment data and evidences.</p> <p>The EPD was created according to the specifications of <i>EN 15804+A1</i>. In the following, the standard will be simplified as <i>EN 15804</i>.</p> <hr/> <p><b>Verification</b></p> <table border="1"> <tr> <td colspan="2">The standard <i>EN 15804</i> serves as the core PCR</td> </tr> <tr> <td colspan="2">Independent verification of the declaration and data according to <i>ISO 14025:2010</i></td> </tr> <tr> <td><input type="checkbox"/> internally</td> <td><input checked="" type="checkbox"/> externally</td> </tr> </table> <hr/> <p></p> <hr/> <p>Matthias Klingler          (Independent verifier)</p>	The standard <i>EN 15804</i> serves as the core PCR		Independent verification of the declaration and data according to <i>ISO 14025:2010</i>		<input type="checkbox"/> internally	<input checked="" type="checkbox"/> externally
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Independent verification of the declaration and data according to <i>ISO 14025:2010</i>							
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## 2. Product

### 2.1 Information about the enterprise

Over the past 100 years, the family-owned company Scheucher, with around 250 employees, has developed into one of the leading parquet manufacturers. The parquet floors are produced 100 % in Austria with green electricity from the company's own photovoltaic system, which is currently Austria's largest rooftop PV system with almost 5000 kWp.

### 2.2 Product description/Product definition

Scheucher produces multilayer parquet flooring:

#### 3-layer parquet WOODflor® (3-strip, planks)

- Top layer: various hardwoods
- Core layer: spruce, pine
- Balancing: spruce

#### 2-layer parquet BILAflor®

- Top layer: various hardwoods
- Substrate: spruce

#### 2-layer parquet MULTIfloor NOVOLOC® 5G

- Top layer: various hardwoods
- Substrate: plywood panel

The declared product represents a surface-weighted average of the ranges manufactured.

For the placing on the market of the product in the European Union/European Free Trade Association (EU/EFTA) (with the exception of Switzerland) Regulation (EU) No. 305/2011 (CPR) applies. The product needs a declaration of performance taking into consideration *EN 14342:2013*, Wood flooring - Characteristics, evaluation of conformity and marking and the CE-marking.

For the application and use the respective national provisions apply.

### 2.3 Application

Multilayer parquet flooring manufactured by Scheucher is intended for installation in Grade 1 interior applications (heated interiors with largely constant temperatures and climatic conditions typical for living areas).

WOODflor® can be installed with or without adhesives. BILAflor® and MULTIfloor NOVOLOC® 5G must be installed fully glued down to subfloor.

## 2.4 Technical Data

The following information must be provided in accordance with EU Directive No. 305/2011:

### Technical construction data

Name	Value	Unit
Wood moisture acc. to EN 13489	5 - 9	%
Length (min. - max.)	0.5 - 2.4	m
Width (min. - max.)	0.07 - 0.222	m
Height (min. - max.)	0.009 - 0.016	m
Thermal conductivity acc. to EN 14342	0.14 - 0.17	W/(mK)
Formaldehyde emissions acc. to EN 717-1	<100	µg/m <sup>3</sup>
Formaldehyde emissions acc. to EN 14342	Class E1	All products are glued formaldehyde-free
VOC emissions acc. to EN 16516, ISO 16000	fulfils all requirements of AgBB 2018, LEED, TÜV Interior,	BREEAM, belgian and french VOC-regulation
Breaking strength acc. to EN 14342	NPD	Not relevant for multilayer parquet
Slip resistance acc. to EN 14342	NPD	No harmonised requirement standard available
Durability acc. to EN 14342	Grade 1	

NPD: no performance declared; this characteristic is not of relevance for multilayer parquet.

No harmonised requirement standards are available for slip-resistance characteristics, national requirements refer to a wide variety of test standards and must be examined on a country-by-country basis and complied with as required.

Performance data of the product in accordance with the declaration of performance with respect to its essential characteristics according to *EN 14342:2013*, Wood flooring - Characteristics, evaluation of conformity and marking (not part of CE-marking).

## 2.5 Delivery status

### WOODflor® 3-layer parquet flooring

top layer	select hardwoods
core layer	mainly spruce, partly pine
balancing	spruce
area weight	7,5 kg/m <sup>2</sup>
total thickness	14 mm
length	2200 mm
width	140-222 mm
packages	6 pieces/pack   1,848-2,93 m <sup>2</sup>   13,9-22 kg
palettes	32-56 packs   93,76-103,49 m <sup>2</sup>   700-780 kg

all values ±10%

### BILAflor® 3-layer parquet flooring

top layer	select hardwoods
core layer	spruce
area weight	5,8 kg/m <sup>2</sup>
total thickness	11 mm
length	500-1200 mm
width	70-120 mm
packages	12-48 pieces/pack   1,68-2,16 m <sup>2</sup>   9,5-12 kg
palettes	42-63 packs   82,32-136,08 m <sup>2</sup>   450-750 kg

all values ±10%

### MULTIFlor NOVOLOC® 5G 3-layer parquet flooring

top layer	select hardwoods
core layer	plywood
area weight	6,8 kg/m <sup>2</sup>
total thickness	9,8 mm
length	1200-2400 mm
width	140-222 mm
packages	6-14 pieces/pack   0,98-3,197 m <sup>2</sup>   7-21 kg
palettes	42-84 packs   82,32-127,88 m <sup>2</sup>   550-870 kg

all values ±10%

## 2.6 Base materials/Ancillary materials

Scheucher multilayer parquet consists of the following components:

	WOODflor® 3-layer parquet flooring	BILAflor® 3-layer parquet flooring	MULTIFlor NOVOLOC® 5G 3-layer parquet flooring
surface treatment (dry cont.)	0,50%	0,70%	0,70%
wood (dry content)	88,70%	90,20%	85,30%
glue (dry content)	2,60%	1,40%	4,90%
water	8,20%	7,70%	9,10%

This product contains substances listed in the *candidate list* (25.06.2020) exceeding 0.1 percentage by mass: no.

This product contains other CMR substances in categories 1A or 1B which are not on the candidate list, exceeding 0.1 percentage by mass: no.

Biocide products were added to this construction product or it has been treated with biocide products (this then concerns a treated product as defined by the (EU) Ordinance on Biocide Products No. 528/2012): no.

## 2.7 Manufacture

Purchased lamellae are glued as a top layer after drying, planing, separating and sorting. Then they are processed to WOODflor®, BILAflor®- or MULTIfloor NOVOLOC® 5G-multilayer parquet.

Purchased top layers are tested piece by piece for grading and quality and processed to WOODflor®, BILAflor®- or MULTIfloor NOVOLOC® 5G multilayer parquet as well.

Top layers are glued together with the substrate and balancing veneer if applicable. After an acclimatisation phase, the planks get puttied when necessary, all boards are sanded and treated with UV varnish or an oxidative drying oil/wax. After profiling with tongue-and-groove connections or a click profile for glueless installation (NovoLOC® 5G), the boards are packed for shipping and stored in air-conditioned warehouse until delivery.

## 2.8 Environment and health during manufacturing

Employee health protection is supported by the free provision of personalised ear protection, safety shoes and orthopedically-optimised workplaces with maximized daylight and daylight lamps.

All specifications by law are maintained and regularly examined by external safety experts and occupational physicians as well as responsible authorities.

The adhesives used in production do not contain any formaldehyde. The surface treatment agents do not contain any formaldehyde as well.

Adherence to the highest environmental standards was confirmed by awarding the EMAS Certificate in 1998 and is externally audited and confirmed annually through voluntary certification at TÜV.

## 2.9 Product processing/Installation

Scheucher parquet flooring must be installed in accordance with the installation instructions enclosed. The floor can be installed with or without adhesives (solely WOODflor®). Standard safety guidelines must be observed during installation (dust mask, goggles). Statutory guidelines concerning noise protection must be observed. Any tools required may only be used as designated and in accordance with the respective manufacturer's operating instructions. The specifications of the professional liability associations must be observed during commercial installation. Residual material or packaging must be disposed separately in accordance with the waste fraction.

## 2.10 Packaging

The packaging consists of cardboard, perforated PE foil and PET packing strips. The packaging materials must be collected separately and recycled in accordance with local legal specifications. The pallets used are disposable.

## 2.11 Condition of use

All customers receive our care and cleaning instructions for easy and swift cleaning and maintenance in order to guarantee the longest possible use of Scheucher parquet flooring.

## 2.12 Environment and health during use

Evidence that Scheucher parquet flooring is safe for use is provided by the TÜV PROFICERT-Interior

Program. The current certificate has the certificate registration number 70 720 5620-1 and is based on audit report 2117130/2020/1.

Scheucher parquet floors are considered emission-free in accordance with the Austrian *BAUBOOK*.

Scheucher parquet meet the requirements of the AgBB scheme, the French and Belgian VOC regulations, BREEAM general level and LEED v4 worldwide.

## 2.13 Reference service life

In accordance with the current *BNB* Guidelines, the Reference Service Life is 40 years when installed and cared correctly (*BNB* Guideline: 11/2011).

## 2.14 Extraordinary effects

### Fire

#### Fire safety acc. to EN 13501

Scheucher parquet flooring fully glue-down installation of min. class A2<sub>fl</sub> is classified as fire safety class C<sub>fl</sub>-s<sub>1</sub>. Scheucher parquet flooring floating installation is classified as fire safety class D<sub>fl</sub>-s<sub>1</sub>.

Name	Value
Fire safety class glue-down installation: Scheucher parquet flooring glue-down installation of min. class A2-fl	Cfl-s1
Fire safety class floating installation: Scheucher parquet flooring floating installation	Dfl-s1
Smoke gas class	s1

### Water

Substances hazardous to water are not washed out when exposed to water. Typical wood reactions such as swelling and deformation are typical of the material and occur with long or frequent exposure to water.

### Mechanical destruction

In case of unforeseen mechanical destruction, wood shows a typical fracture behaviour with the formation of sharp-edged fracture points with wooden splinters and chips that can cause injuries.

## 2.15 Re-use phase

Due to the click profile (NOVOLOC® 5G) glueless installed, WOODflor® can be removed and re-used for the same application. If re-use is not possible, the high calorific value of the product makes it suitable for an energetic recovery in the form of cascade utilization.

## 2.16 Disposal

After installation, residual parquet and packaging materials should be collected separately on site in accordance with the waste fractions. Residual parquet material can be recycled. If this is not possible, energetic utilization is possible.

In accordance with the *European Waste Catalogue - EWC*, parquet is classified as

- 17 02 01 (wood)

The packaging materials can be recycled as follows in accordance with the *European Waste Catalogue - EWC*:

- 15 01 01 (paper and cardboard packaging)
- 15 01 02 (plastic packaging)
- 15 01 03 (wooden packaging)

### 2.17 Further information

Further information is available on our website:  
[www.scheucherparkett.at](http://www.scheucherparkett.at)

## 3. LCA: Calculation rules

### 3.1 Declared Unit

This EPD refers to a declared unit of 1 m<sup>2</sup> of Scheucher multilayer parquet with an average surface weight of 7,37 kg/m<sup>2</sup> at 6-9 % moisture at delivery.

#### Declared unit

Name	Value	Unit
Declared unit	1	m <sup>3</sup>
Declared unit	1	m <sup>2</sup>
Grammage	7.37	kg/m <sup>2</sup>
Moisture at delivery	6-9	%
Conversion factor to 1 kg	0.14	-

At the production site in Mettersdorf, 2- and 3-layer parquet is produced in various thicknesses. The calculation of the average product is based on the amount of square meters produced.

### 3.2 System boundary

The life cycle assessment of average Scheucher multilayer parquet refers to a cradle-to-gate analysis with modules C1-C3 and D (A1-A3, +C, +D). The following life-cycle phases are taken into consideration in the analysis:

#### Module A1-A3 Production stage

The production stage includes the upstream burdens of raw material supply (wood, adhesive system, etc.) and their transports to the manufacturing plant in Mettersdorf. The provision of thermal energy is taken into account at the production stage in the form of the factory's own furnace. Electricity is obtained from the photovoltaic system on the roof of the production halls as well as from the regional electricity grid.

#### Module C3 Waste processing

Module C3 declares the biogenic carbon dioxide emissions during energetic utilisation at the end of the product's life. In addition, the chipping after removal of the product is considered.

#### Module D Benefits and loads beyond the system boundary

Module D describes the energetic recovery of the product at the end of life, including the corresponding energy substitution potentials in the form of an European average scenario.

### 3.3 Estimates and assumptions

Assumptions and approximations are applied in case of a lack of representative data. All assumptions and approximations are documented precisely and represent a best-guess representation of reality.

A generic data set from the *GaBi* database for spruce round timber was used as background data set for round timber. A large part of the wood processed by Scheucher represents spruce wood. For other wood species used, the data set for spruce round timber

should be regarded as an approximation.

Regional applicability of the used background data refers to average data under European or German conditions taken from the *GaBi* database. German data were used for the Austrian market whenever European or regionalised average data were not available

### 3.4 Cut-off criteria

The LCA model covers all available input and outflows, which can be represented based on robust data. Data gaps are filled with conservative assumptions from average data (when available) or with generic data and are documented accordingly. Only data with a contribution lower 1 % were cut off. Thus, no data were neglected, of which a substantial impact is to be expected. All relevant data were collected comprehensively. Cut-off material and energy flows were chosen carefully based on their expected quantitative contribution as well as potential environmental impacts. Thus, it can be assumed that the sum of all neglected input flows does not account for more than 5 % of the total material, water and energy flows.

### 3.5 Background data

This study uses generic background data for the evaluation of upstream environmental impacts from *GaBi* database 2020, SP40 as well as recognised literature such as *Rüter & Diederichs 2012*. The adhesive system was modeled using a specific background data set from the supplier.

### 3.6 Data quality

Data collection is based on industry-specific questionnaires. It follows an iterative process clarifying questions via e-mail, telephone calls or in personal meetings. Intensive discussions between Scheucher and Daxner & Merl results in an accurate mapping of product-related material and energy flows. This leads to a high quality of foreground data collected. Data collection relies on a consistent process according to *ISO 14044*.

The technological, geographical and time-related representativeness of the database was kept in mind when selecting background data. Whenever specific data were missing, either generic datasets or representative average data were used instead. The implemented *GaBi* background datasets refer to the latest versions available (not more than ten years old) and are carefully chosen.

### 3.7 Period under review

Foreground data were collected in the 2019 production year, and the data are based on the volumes produced on an annual basis.

### 3.8 Allocation

Carbon content and primary energy content of the products were assessed based on their material-inherent properties according to underlying physical relationships.

During the production of Scheucher multilayer parquet, co-products such as planed goods and combustibles are produced in addition to the declared product. The allocation of the environmental impacts of the multilayer parquet and the co-products is based on their market price. Co-products that are produced in small quantities, were cut-off.

The allocation in the forest chain is based on the publication by *Hasch 2002* and its update by *Rüter & Albrecht 2007*. For kiln-dried boards and veneers, a price allocation according to *Rüter & Diederichs 2012*

was applied. For cogeneration plants, the thermal and electrical energy generated was allocated according to exergy.

At the End-of-Life, it is assumed that thermal energy from natural gas [EU-28: Thermal energy from natural gas] and electrical energy from the regional electricity mix [EU-28: Electricity grid mix] are substituted.

### 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 taken into account.

The *GaBi* background database was used to calculate the LCA.

## 4. LCA: Scenarios and additional technical information

### Biogenic carbon in the product

The biogenic carbon content quantifies the amount of biogenic carbon in the declared product.

Name	Value	Unit
Biogenic carbon content (in the product)	3,3	kg/m <sup>2</sup>
Stored carbon dioxide (in the product)	12	kg/m <sup>2</sup>

As the End-of-Life of the product packaging is not declared in module A5, its carbon uptake is not considered in module A1-A3.

### Assembly (A5)

The End-of-Life of the product packaging is not declared in module A5.

Name	Value	Unit
Packaging (cardboard)	0,108	kg/m <sup>2</sup>
Packaging (pallets)	0,122	kg/m <sup>2</sup>
Packaging (PVC)	0,0041	kg/m <sup>2</sup>
Packaging (PE)	0,044	kg/m <sup>2</sup>
Packaging (PET)	0,00246	kg/m <sup>2</sup>
Packaging (glas fibre-springs)	0,00504	kg/m <sup>2</sup>

### End-of-Life (C1-C4)

The End-of-Life scenario used in this LCA study is based on the following assumptions:

Name	Value	Unit
Energy recovery [equilibrium moisture of 12 %]	7.71	kg

### Reuse-, recovery- and recycling potential (D), relevant scenario information

Name	Value	Unit
Moisture at thermal recovery	12	%
Processing rate	100	%
Efficiency of the plant	61	%

The product reaches the end of waste status after removal from the building. For the End-of-Life of Scheucher multilayer parquet, energy recovery as secondary combustibles is assumed. The energy recovery takes place in a biomass power plant. As the sales market for Scheucher multilayer parquet is concentrated in the European region, plant-specific characteristic values correspond to a European average scenario (EU-28). The scenario considers a reprocessing rate of the multilayer parquet of 100 % after removal from the building. This assumption has to be adjusted accordingly when applying the results in the building context. At the End-of-Life of the product, an equilibrium moisture content of 12 % is assumed. This value can vary widely depending on the storage of the product before energy recovery.

## 5. LCA: Results

The following table contains the LCA results for a declared unit of 1 m<sup>2</sup> Scheucher multilayer parquet with an average surface weight of 7,37 kg/m<sup>2</sup> (6-9 % moisture at delivery).

### 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 use	Operational water use	De-construction 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	MND	MND	MND	MNR	MNR	MNR	MND	MND	MND	MND	X	MND	X

### RESULTS OF THE LCA - ENVIRONMENTAL IMPACT according to EN 15804+A1: 1 m<sup>2</sup> multilayer parquet (7,37 kg/m<sup>2</sup>)

Parameter	Unit	A1-A3	C3	D
Global warming potential	[kg CO <sub>2</sub> -Eq.]	-6.71E+0	1.22E+1	-6.48E+0
Depletion potential of the stratospheric ozone layer	[kg CFC11-Eq.]	6.69E-8	1.74E-15	-1.08E-13
Acidification potential of land and water	[kg SO <sub>2</sub> -Eq.]	2.03E-2	1.06E-4	3.37E-3
Eutrophication potential	[kg (PO <sub>4</sub> ) <sup>3</sup> -Eq.]	4.86E-3	1.30E-5	2.27E-4
Formation potential of tropospheric ozone photochemical oxidants	[kg ethene-Eq.]	3.24E-3	8.70E-6	1.31E-3
Abiotic depletion potential for non-fossil resources	[kg Sb-Eq.]	3.87E-6	1.82E-8	-1.29E-6
Abiotic depletion potential for fossil resources	[MJ]	7.47E+1	6.46E-1	-9.24E+1

### RESULTS OF THE LCA - INDICATORS TO DESCRIBE RESOURCE USE according to EN 15804+A1: 1 m<sup>2</sup> multilayer parquet (7,37 kg/m<sup>2</sup>)

Parameter	Unit	A1-A3	C3	D
Renewable primary energy as energy carrier	[MJ]	1.25E+2	1.25E+2	-2.88E+1
Renewable primary energy resources as material utilization	[MJ]	1.25E+2	-1.25E+2	0.00E+0
Total use of renewable primary energy resources	[MJ]	2.50E+2	4.62E-1	-2.88E+1
Non-renewable primary energy as energy carrier	[MJ]	7.65E+1	1.18E+1	-1.17E+2
Non-renewable primary energy as material utilization	[MJ]	1.08E+1	-1.08E+1	0.00E+0
Total use of non-renewable primary energy resources	[MJ]	8.72E+1	1.04E+0	-1.17E+2
Use of secondary material	[kg]	3.78E-2	0.00E+0	0.00E+0
Use of renewable secondary fuels	[MJ]	1.20E+0	0.00E+0	1.16E+2
Use of non-renewable secondary fuels	[MJ]	0.00E+0	0.00E+0	-1.07E+2
Use of net fresh water	[m <sup>3</sup> ]	1.06E+0	5.35E-4	-2.38E-2

### RESULTS OF THE LCA – WASTE CATEGORIES AND OUTPUT FLOWS according to EN 15804+A1: 1 m<sup>2</sup> multilayer parquet (7,37 kg/m<sup>2</sup>)

Parameter	Unit	A1-A3	C3	D
Hazardous waste disposed	[kg]	8.85E-7	4.32E-10	-4.64E-8
Non-hazardous waste disposed	[kg]	1.45E-1	7.40E-4	5.46E-3
Radioactive waste disposed	[kg]	4.59E-3	1.58E-4	-9.85E-3
Components for re-use	[kg]	0.00E+0	0.00E+0	0.00E+0
Materials for recycling	[kg]	0.00E+0	0.00E+0	0.00E+0
Materials for energy recovery	[kg]	0.00E+0	7.71E+0	0.00E+0
Exported electrical energy	[MJ]	0.00E+0	0.00E+0	0.00E+0
Exported thermal energy	[MJ]	0.00E+0	0.00E+0	0.00E+0

## 6. LCA: Interpretation

Global warming potential (GWP) shows a negative value in the production phase (module A1-A3) of Scheucher multilayer parquet. This is due to the material use of wood in the production and the sequestration of biogenic carbon in wood. Trees use carbon dioxide from the atmosphere in order to grow and thus bind carbon in their biomass (negative GWP). The parquet releases the bound biogenic carbon as carbon dioxide during the energetic treatment at the

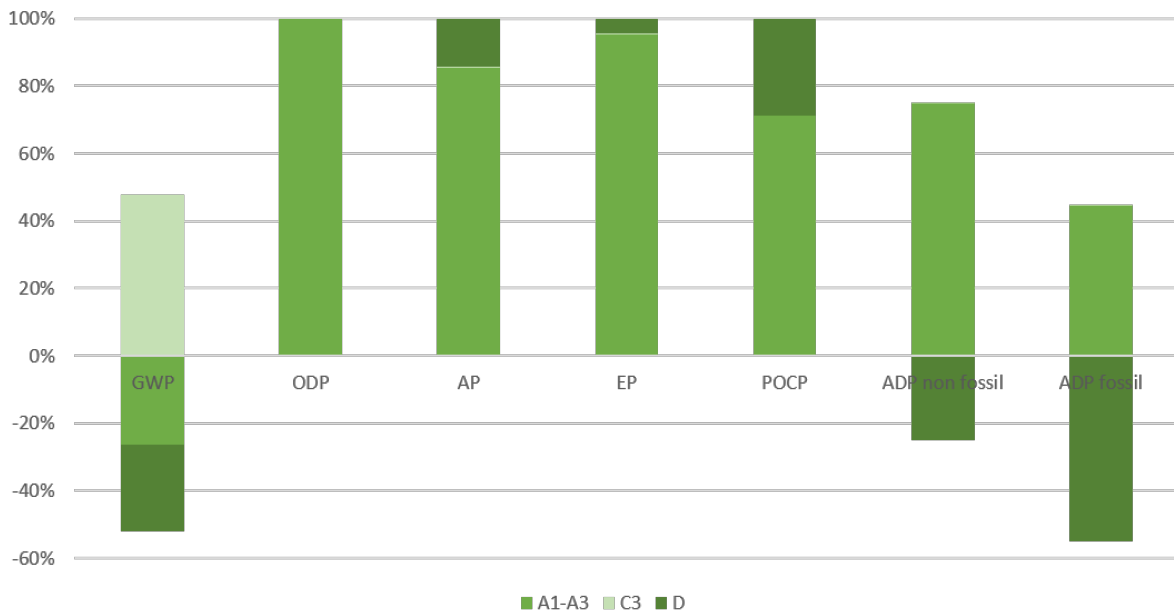
End-of-Life (module C3) in a biomass plant to the atmosphere again and thus contributes to potential global warming.

The negative values in module D can be explained by the fact that the energy generated by the energetic utilisation of the product can replace the combustion of fossil energy sources. Thus, more emissions of (mainly

fossil) energy sources are avoided than are emitted by using the energy stored in the wood.

Environmental burdens (AP, EP, POCP) in module D are mainly caused by emissions from the combustion of biomass.

Hot-spot analysis of Scheucher multilayer parquet



When it comes to potential global warming (GWP) as well as depletion of fossil resources (ADPF) from production processes and its upstream supply chains, the use of electrical energy at Mettersdorf and the processing of the wooden precursors are the main drivers. In particular, the electricity (European grid mix) required for processing the wear layer and the back-pull material represents an important driver.

The use of renewable primary energy (PERE) is mainly characterised by the use of thermal energy from biomass in the supply chain. Non-renewable primary energy (PENRE) is mainly used in the provision of electrical energy at the Mettersdorf production site and for the production of wooden intermediates.

Potential acidification (AP), eutrophication (EP) and photochemical ozone creation potential (POCP) are also dominated by the supply chain of wooden products used in the production. This is mainly due to the provision of thermal energy from biomass.

A comparison of the results with the previous EPD, shows a reduction in the environmental impacts of the updated results in all categories considered. This is due to the reduction of the specific material and energy input in production. In addition, the update of the background data also influences the results. At the product level, this results in a reduction in greenhouse gas emissions of approx. -25 % per kilogramme of product, compared to the previous EPD.

Potential ozone depletion (ODP) as well as abiotic depletion potential of non-fossil resources (ADPe) are mainly caused by the manufacturer-specific data set for the adhesive system.

## 7. Requisite evidence

### Formaldehyde:

Test institute: Entwicklungs- und Prüflabor Holztechnologie GmbH, Zellescher Weg 24, 01217 Dresden  
 Test report: Nr. 250251/2015/1/2 dated 30.11.2015  
 Test method: ISO 16000-3, ISO 16000-9

Result: Formaldehyde emissions:  
 3-layer-parquet: not detectable  
 2-layer-parquet: not detectable

### PCP:

Test institute: Holzforschung Austria, Franz-Grill-Str. 7, 1030 Wien  
 Test report: Nr. 226/2009-AZ dated 10.3.2009  
 Test method: EN 14342

### Result PCP emissions:

3-layer-parquet: not detectable  
 2-layer-parquet: not detectable

### Fire safety class:

Test institute: IBS Linz, Petzoldstraße 45-49, 4017 Linz  
 Test report: 13061804A dated 25.6.2013  
 Test method: EN 13501-1

### Result:

Scheucher parquet flooring glue-down installation min. class A2fl: fire safety class Cfl-s1  
 3-layer-parquet floating installation: fire safety class Dfl-s1



### VOC emissions

Test institute: EPH Dresden, Entwicklungs- und Prüflabor Holztechnologie GmbH, Zellescher Weg 24, 01217 Dresden.

Test report: Nr. 250241/2015/1/1 dated 30.11.2015  
 Test method: chamber test acc. to *ISO 16000 -3, ISO 16000-6* and *ISO 16000-9*

Name	Value	Unit
TVOC (C6 - C16)	506	µg/m <sup>3</sup>
Sum SVOC (C16 - C22)	0	µg/m <sup>3</sup>
R (dimensionless)	0.3	-
VOC without NIK	46	µg/m <sup>3</sup>
Carcinogenic Substances	0	µg/m <sup>3</sup>
Formaldehyde (detection limit 0,005 ppm)	< 0,005	ppm

### AgBB-result summary (3 days [µg/m<sup>3</sup>])

Name	Value	Unit
TVOC (C6 - C16)	-	µg/m <sup>3</sup>
Sum SVOC (C16 - C22)	-	µg/m <sup>3</sup>
R (dimensionless)	-	-
VOC without NIK	-	µg/m <sup>3</sup>
Carcinogenic Substances	-	µg/m <sup>3</sup>

## 8. References

### Standards

#### EN 717

DIN EN 717-1:2005-01, Wood-based panels - Determination of formaldehyde release - Part 1: Formaldehyde emission by the chamber method. German version EN 717-1:2004.

#### EN 13489

DIN EN 13489:2017-12, Wood-flooring and parquet - Multi-layer parquet elements; German version EN 13489:2017.

#### EN 13501

DIN EN 13501-1:2007+A1:2009, Fire classification of construction products and building elements - Part 1: Classification using data from reaction to fire tests; German version EN 13501-1:2007+A1:2009.

#### EN 14342

DIN EN 14342:2013-09, Wood flooring - Characteristics, evaluation of conformity and marking; German version EN 14342:2013.

#### EN 15804

EN 15804:2012-04+A1 2013, Sustainability of construction works - Environmental Product Declarations - Core rules for the product category of construction products. German version EN 15804:2012+A2:2019.

#### EN 16516

DIN EN 16516:2018-01, Construction products: Assessment of release of dangerous substances - Determination of emissions into indoor air; German version EN 16516:2017+A1:2020.

#### ISO 14025

DIN EN ISO 14025:2011-10 Environmental labels and declarations – Type III environmental declarations – Principles and procedures.

#### ISO 14044

ISO 14044:2006-07, Environmental management - Life cycle assessment - Requirements and guidelines.

#### ISO 16000-3

DIN ISO 16000-3:2013-01, Indoor air - Part 3: Determination of formaldehyde and other carbonyl compounds in indoor air and test chamber air - Active sampling method.

#### ISO 16000-6

ISO 16000-6:2011-12, Indoor air contaminants - Part 6: Determination of VOCs in indoor air and test chambers, sampling on Tenax TA®, thermal desorption and gas chromatography with MS/FID.

#### ISO 16000-9

DIN EN ISO 16000-9:2008-04, Indoor air - Part 9: Determination of the emission of volatile organic compounds from building products and furnishing - Emission test chamber method.

### Further References

#### General technical approvals nos. Z-156.607-625

and Z-156.607-760: The approvals for the Scheucher wood industry can be accessed from the DIBt using the following link, whereby "Scheucher" must be entered in the applicant field:  
<https://publikationen.dibt.de/service/searching/zsearch.aspx?language=de&id=2>

#### BAUBOOK

baubook GmbH. Database for energy-efficient and ecological construction.

MULTIfloor NOVOLOC® 5G:

<http://www.baubook.info/m/PHP/Info.php?SI=2142733044>

BILAflo®:

<http://www.baubook.info/m/PHP/Info.php?SI=2142685598>

WOODflo®:

<http://www.baubook.info/m/PHP/Info.php?SI=2142685632>

#### BNB

BNB evaluation table for building products. Useful lives of components for life cycle assessments in accordance with the sustainable building assessment system (BNB), Federal Ministry of Transport, Building

and Urban Development (BMVBS); last revised: 11/2011.

**ECHA-candidate list**

List of substances of very high concern (SVHC) for authorisation (ECHA Candidate List), 25.06.2020, published under Article 59(10) of REACH. Helsinki: European Chemicals Agency.

**Emissions test by EPH Dresden**

Test report no. 250241/2013/4 dated 15.9.2014.

**European Waste Catalogue – EWC**

in accordance with the AVV dated 10.12.2001 (BGBl I, p. 3379), last amended by the Directive dated 24.7.2002 (BGBl. I, p. 2833).

**GaBi**

GaBi 9, Software-System and Database for Life Cycle Engineering. DB v8.7 SP 40. Stuttgart, Echterdingen: thinkstep AG, 1992-2020. Available at: <http://documentation.gabi-software.com>

**Hasch 2002, Rüter & Albrecht 2007**

Ökologische Betrachtung von Holzspan und Holzfaserverplatten, Diss., Uni Hamburg. Edited 2007: Rüter, S. (BFH HAMBURG; Holztechnologie), Albrecht, S. (Uni Stuttgart, GaBi).

**IBU 2016**

Institut Bauen und Umwelt e.V.: General Programme Instructions for the Preparation of EPDs at the Institut Bauen und Umwelt e.V. Version 1.1, Berlin: Institut Bauen und Umwelt e.V., 2016. [www.ibu-epd.com](http://www.ibu-epd.com)

**PCR Part A**

Institut Bauen und Umwelt e.V. (IBU), 2019. Product Category Rules for Building-Related Products and Services. Part A: Calculation Rules for the Life Cycle Assessment and Requirements on the Project Report. Version 1.8. Berlin, 04.07.2019.

**PCR Part B**

Institut Bauen und Umwelt e.V., (IBU) 2019. Product Category Rules for Building-Related Products and Services. Part B: Requirements on the EPD for Solid wood products. Version 1.7. Berlin, 08.01.2019.

**Rüter & Diederichs 2012**

Ökobilanz-Basisdaten für Bauprodukte aus Holz. Working report from the Institute of Wood Technology and Wood Biology. Nr. 2012/1. Hamburg: Johann Heinrich von Thünen-Institut.

**Self-declaration according to the French VOC Directive**

Declaration drawn up by EPH Dresden under no. EPH 2513572.

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