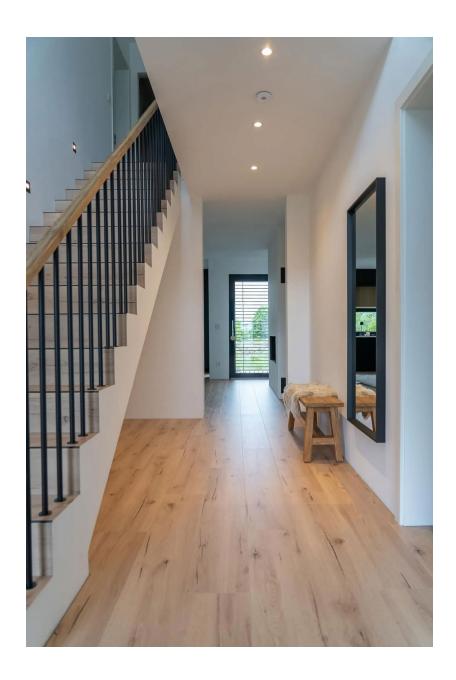
# **POSITIVE | MPACT COLLECTION**

BIO-BASED RESILIENT FLOORING - PLANK AND TILE





#### Conservation is at Our Core

As responsible stewards of the environment, we believe in using all resources as efficiently and judiciously as possible prioritizing conservation consumption reduction before recycling or reuse. conservation at the heart of our sustainability philosophy, finding alternatives for (and preventing the excessive use of) valuable resources is the basis of our approach to environmental impact management.

We believe true sustainability requires full attention to the potential impacts of every aspect of our business. Like other leading companies, we gauge our progress by measuring our environmental and social performance with as much stringency as our financial performance.





## **ENVIRONMENTAL PRODUCT DECLARATION**



Engineered Floors Commercial Division Bio-Based Resilient Flooring

According to EN 15804 and ISO 14025 Dual Recognition by UL Environment and Institut Bauen und Umwelt e.V.

This declaration is an environmental product declaration (EPD) in accordance with ISO 14025. EPDs rely on Life Cycle Assessment (LCA) to provide information on a number of environmental impacts of products over their life cycle. Exclusions: EPDs do not indicate that any environmental or social performance benchmarks are met, and there may be impacts that they do not encompass. LCAs do not typically address the site-specific environmental impacts of raw material extraction, nor are they meant to assess human health toxicity. EPDs can complement but cannot replace tools and certifications that are designed to address these impacts and/or set performance thresholds – e.g. Type 1 certifications, health assessments and declarations, environmental impact assessments, etc. Accuracy of Results: EPDs regularly rely on estimations of impacts, and the level of accuracy in estimation of effect differs for any particular product line and reported impact. Comparability: EPDs are not comparative assertions and are either not comparable or have limited comparability when they cover different life cycle stages, are based on different product category rules or are missing relevant environmental impacts. EPDs from different programs may not be comparable.



PROGRAM OPERATOR	UL Solutions							
DECLARATION HOLDER	J&J Flooring Group a division of Engineered Floors,1502 Cornet Drive, Dalton, GA. 30722							
ULE DECLARATION NUMBER	791591314.101.1							
IBU DECLARATION NUMBER	EPD-WIN-20230577-CBA1-EN							
DECLARED PRODUCT	Bio- Based urethane resilient / Positive Impact Collection							
REFERENCE PCR	IBU Floor Coverings 2021							
DATE OF ISSUE	April 4 <sup>th</sup> 2024							
PERIOD OF VALIDITY	5 years							
SCOPE	This EPD is Manufacturer Declaration (1a) – Declaration of a specific product from a manufacturer's plant. The owner of the declaration shall be liable for the underlying information and evidence.							
	Product definition							
	Information about basic material and the material's origin							
CONTENTS OF THE	Description of the product's manufacture							
DECLARATION	Indication of product processing							
	Life cycle assessment results							
	Testing results and verifications							

The PCR review was conducted by:	IBU				
The Forthern was somaasted by:	PCR Review Panel				
	info@ibu-epd.com				
The CEN Norm EN 15804 serves as the core PCR. This declaration was independently verified in accordance with ISO 14025 by Underwriters Laboratories  ☐ INTERNAL  ☐ EXTERNAL	Cooper McCollum, UL Solutions				
This life cycle assessment was independently verified in accordance with ISO 14044 and the reference PCR by:	Independent Verifier				



## **ENVIRONMENTAL PRODUCT DECLARATION**

as per ISO 14025 and EN 15804+A2

Owner of the Declaration J&J Flooring Group a division of Engineered Floors

Publisher Institut Bauen und Umwelt e.V. (IBU)

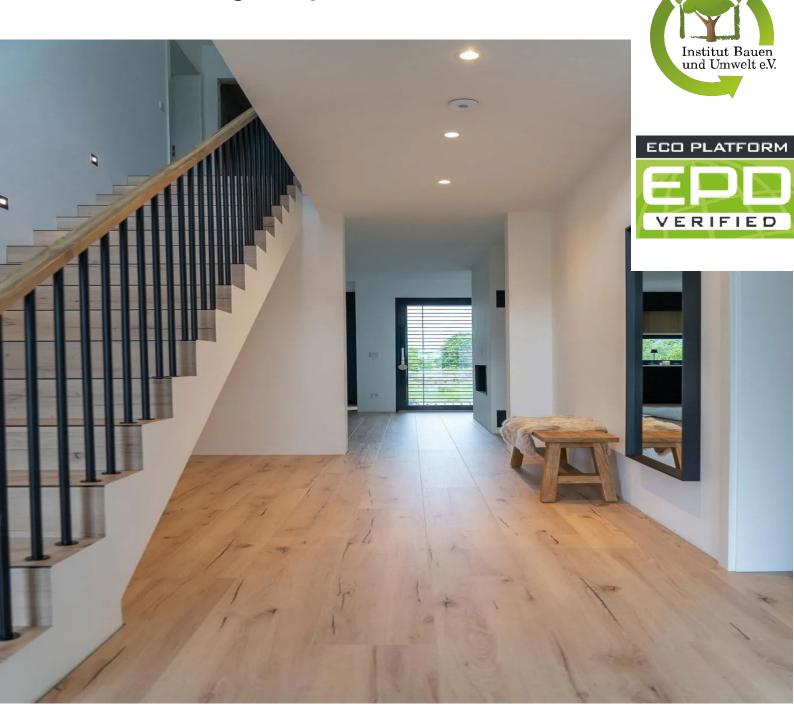
Programme holder Institut Bauen und Umwelt e.V. (IBU)

Declaration number EPD-WIN-20230577-CBA1-EN

Issue date 04.04.2024 Valid to 03.04.2029

Resilient polyurethane floor covering for adhesive bonding, maximum total weight 3,4 kg/m²

**J&J Flooring Group** 





## **General Information**

J&J Flooring Group	Resilient polyurethane floor covering for adhesive bonding, maximum total weight 3,4 kg/m <sup>2</sup>						
Programme holder IBU – Institut Bauen und Umwelt e.V. Hegelplatz 1 10117 Berlin Germany	Owner of the declaration J&J Flooring Group a division of Engineered Floors, 1502 Cornet Drive, Dalton, GA. 30722						
Declaration number	Declared product / declared unit						
EPD-WIN-20230577-CBA1-EN	1 m² resilient floor covering						
This declaration is based on the product category rules:	Scope:						
Floor coverings, 01.08.2021 (PCR checked and approved by the SVR)	The manufacturer declaration applies to products with a maximum total weight of 3,4 kg/m².						
Issue date 04.04.2024	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.						
Valid to 03.04.2029	The EPD was created according to the specifications of EN 15804+A2. In the following, the standard will be simplified as <i>EN 15804</i> .						
	Verification						
	The standard EN 15804 serves as the core PCR						
	Independent verification of the declaration and data according to ISO 14025:2011						
	internally X externally						
DiplIng. Hans Peters (Chairman of Institut Bauen und Umwelt e.V.)							
Florian Pronold (Managing Director Institut Bauen und Umwelt e.V.)	Angela Schindler, (Independent verifier)						



## **Product**

## Product description/Product definition

The resilient floor covering based on polyurethane is produced with the reactive component castor oil as renewable raw material and with natural inorganic filler. Products are available in many different decors and textures and it is offered as rolls or as planks. The declaration applies to a product with a maximum total weight of 3,4 kg/m.

#### **Application**

According to the use class as defined in ISO 10874 the product can be used

- in domestic areas, classified as use class 23,
- in commercial areas, classified as use class 33 and 43

#### **Technical Data**

#### **Constructional data**

Name	Value	Unit
Grammage	3,4	kg/m²
Product	Rolls of 2 m width or planks of several	_
Form	dimensions	

Additional product properties in accordance with *EN 16776* and performance data of the product in accordance with the

Declaration of Performance with respect to its Essential Characteristics according to *EN 14041* can be found in technical information section

#### Base materials/Ancillary materials

Name	Value	Unit
Polyurethane including 53% renewable material	31,4	%
Inorganic Filler	62,8	%
Paper	1,4	%
Glass fiber	1,7	%
Organic materials	2,4	%
Additives	0,4	%

The specific product covered by the EPD contains substances listed in the *ECHA candidate list* (14.06.2023) or other carcinogenic, mutagenic or reprotoxic (CMR) substances in categories 1A or 1B which are not on the candidate list exceeding 0.1 percentage by mass: no

#### Reference service life

A calculation of the reference service life according to *ISO* 15686 is not possible. The service life of resilient floor coverings depends on the correct installation taking into account the declared use classification and the adherence to cleaning and maintenance instructions. A minimum service life of 20 years can be assumed *BNB*, technical service life can be considerably longer.

## LCA: Calculation rules

## **Declared Unit**

Name	Value	Unit
Declared unit	1	m <sup>2</sup>
Grammage	3.4	kg/m <sup>2</sup>
Layer thickness	0.002	m
Gross density	1700	kg/m <sup>3</sup>

The declared unit refers to 1 m<sup>2</sup> produced floor covering. The output of module A5 'Assembly' is 1 m<sup>2</sup> installed floor covering.

## System boundary

Type of EPD: Cradle-to-grave

System boundaries of modules A, B, C, D:

## A1-A3 Production:

Energy supply and production of the basic material, auxiliary material, transport of the material to the manufacturing site, emissions, wastewater treatment, packaging material and waste processing up to the landfill disposal of residual waste (except radioactive waste). Benefits for generated electricity and steam due to the incineration of production waste are aggregated.

## A4 Transport:

Transport of the packed floor covering from factory gate to the place of installation.

## A5 Installation:

Installation of the floor covering, processing of installation waste and packaging waste up to the landfill disposal of residual waste (except radioactive waste), the production of the amount of floor covering that occurs as installation waste including its transport to the place of installation. Generated electricity and steam due to the incineration of waste are listed in the result table as exported energy. Preparing of the floor and adhesives are beyond the system boundaries and not taken into account.

## B1 Use:

Indoor emissions during the use stage. After the first year, no product-related volatile organic compound (VOC) emissions are relevant due to the VOC decay curves of the product.

## B2 Maintenance:

Cleaning of the floor covering for a period of 1 year: Wet cleaning – water consumption, production of the cleaning agent, wastewater treatment.

The declared values in this module must be multiplied by the assumed service life of the floor covering in the building in question (see annexe, chapter 'General information on use stage').

#### B3 - B7:

The modules are not relevant and therefore not declared.

#### C1 De-construction:

Energy consumption of the de-construction machine.

#### C2 Transport:

Transport of the floor covering waste to a landfill or to the



municipal waste incineration plant (MWI).

### C3 Waste processing:

C3-1: Landfill disposal needs no waste processing.

C3-2: Impact from waste incineration (plant with R1 > 0.6), generated electricity and steam are listed in the result table as exported energy.

C3-3: Collection of the flooring waste for recovery in the cement industry, waste processing (granulating), transport to the cement plant, emissions from the incineration.

## C4 Disposal:

C4-1: Impact from landfill disposal.

C4-2: The carpet waste leaves the system in module C3-2,

C4-3: The pre-processed carpet waste leaves the system in module C3-3

## D Recycling potential:

Calculated benefits result from materials exclusive to secondary materials (net materials).

D-A5: Benefits for generated energy due to incineration of packaging and installation waste (incineration plant with R1 > 0.6),

D-1: Benefits for generated energy due to landfill disposal of carpet waste at the end of life,

D-2: Benefits for generated energy due to incineration of carpet waste at the end-of-life (incineration plant with R1 > 0.6),

D-3: Benefits for saved fossil energy and saved inorganic material due to recovery of the carpet in a cement plant. (incineration plant with R1 > 0.6),

#### **Geographic Representativeness**

Land or region, in which the declared product system is manufactured, used or handled at the end of the product's lifespan: Europe

## 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. Background data are taken from the Sphera Manged LCA content database 2023.2. Remaining data gaps are filled with ecoinvent 3.9 database

## LCA: Scenarios and additional technical information

### Characteristic product properties of biogenic carbon

## Information on describing the biogenic Carbon Content at factory gate

, J		
Name	Value	Unit
Biogenic carbon content in product	0.424	kg C
Biogenic carbon content in accompanying packaging	0.011	kg C

Note: 1 kg of biogenic carbon is equivalent to 44/12 kg of CO<sub>2</sub>.

The following information refers to the declared modules and are the basis for calculations or can be used for further calculations. The indicated values refer to the declared functional unit of all products with a total weight of  $3.4 \text{ kg/m}^2$ .

## Transport to the construction site (A4)

Name	Value	Unit								
Liters of fuel, diesel, truck EURO 0-6 mix	0.0094	l/100km								
Liters of fuel, heavy fuel oil, ship	0.0009	I/100km								
Transport distance truck	540	km								
Transport distance ship	1600	km								
Capacity utilization (including empty runs) truck	55	%								
Capacity utilization (including empty runs) ship	70	%								

## Installation in the building (A5)

Name	Value	Unit
Material loss	0.102	kg

Coated packaging paper and installation waste are considered to be incinerated in a municipal waste incineration plant. Pure cardboard packaging waste is going to be recycled. Preparation of the floor and adhesives are not taken into account.

#### Maintenance (B2)

Indication per  $m^2$  floor covering and per year. Depending on the application based on *EN ISO 10874*, the technical service life

recommended by the manufacturer and the anticipated strain on the floor by customers, the case-specific useful life can be established. The effects of Module B2 need to be calculated on the basis of this useful life in order to obtain the overall environmental impacts.

Name	Value	Unit
Maintenance cycle (wet wiping)	130	1/year
Water consumption (wet wiping)	0.0325	m <sup>3</sup>
Cleaning agent (wet wiping)	0.325	kg

Further information on cleaning and maintenance see www.jjflooringgroup.com/technical/installation-maintenance/

## End of Life (C1-C4)

Three different end-of-life scenarios are declared, and the results are indicated separately in module C. Each scenario is calculated as a 100 % scenario.

Scenario 1: 100 % landfill disposal

Scenario 2: 100 % municipal waste incineration (MWI)

with R1 > 0.6

Scenario 3: 100 % recovery in the cement industry

If combinations of these scenarios have to be calculated this should be done according to the following scheme:

If combinations of these scenarios have to be calculated this should be done according to the following scheme:

EOL-impact = x % impact (Scenario 1)

+ y % impact (Scenario 2)

+ z % impact (Scenario 3)

with x % + v % + z % = 100 %

WILLIA 70 . 9 70 . 2 70 – 100 70		
Name	Value	Unit
Collected as mixed construction waste (scenario 1 and 2)	3.4	kg
Collected separately waste type (scenario 3)	3.4	kg
Landfilling (scenario 1)	3.4	kg
Energy recovery (scenario 2)	3.4	kg
Energy recovery (scenario 3)	1,208	kg
Recycling (scenario 3)	2.192	kg



## Reuse, recovery and/or recycling potentials (D), relevant scenario information

Recovery potentials due to the two end-of-life scenarios (module C) are indicated separately.

Recycling in the cement industry (scenario 3):

The organic material of the floor covering is used as an alternative fuel in a cement kiln. It mainly substitutes for lignite (68.8 %), hard coal (23.6 %) and petrol coke (7.6 %). The inorganic material is substantially integrated into the cement clinker and substitutes for the original material input. VDZ e.



## LCA: Results

The results are valid for the declared product with a maximum total weight of 3,4 kg/m<sup>2</sup>.

The declared result figures in module B2 have to be multiplied by the assumed service life (in years) of the floor covering in the building under consideration. Information on un-declared modules: Modules B3 - B7 are not relevant during the service life of the floor covering and are therefore not declared. Modules C3/1, C4/2 and C4/3 cause no additional impact (see "LCA: Calculation rules") and are therefore not declared. Module C2 represents the transport for scenarios 1 and 2. Column D represents module D/A5.

Version number of the characterization factors used : EN 15804+A2 (based on EF 3.1)

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

Pro	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
<b>A</b> 1	A2	А3	A4	A5	B1	B2	В3	B4	B5	B6	B7	C1	C2	C3	C4	D
Х	Х	Х	Х	Х	Х	Χ	MNR	MNR	MNR	MND	MND	Χ	Х	Х	Х	Х

RESULTS	OF THE	LCA -	ENVI	RONM	ENTAL	. IMPA	CT a	accord	ling 1	to EN	15804	+A2: 1	m² i	floorco	verin	g				
Parameter	Unit	A1- A3	A4	A5	B1	B2	C1	C2	СЗ	C3/1	C3/2	C3/3	C4	C4/1	C4/2	C4/3	D	D/1	D/2	D/3
GWP-total	kg CO <sub>2</sub> eq	2.76E +00	2.56E- 01	2.5E- 01	0	1.51E +00	0	1.39E- 02	ND	ND	3.6E +00	3.65E +00	ND	1.79E +00	ND	ND	-2.44E- 02	0	-8.15E- 01	-2.43E- 01
GWP-fossil	kg CO <sub>2</sub> eq	4.33E +00	2.53E- 01	1.97E- 01	0	7.82E- 01	0	1.38E- 02	ND	ND	1.98E +00	2.03E +00	ND	2.31E- 01	ND	ND	-2.43E- 02	0	-8.11E- 01	-2.43E- 01
GWP- biogenic	kg CO <sub>2</sub> eq	-1.7E +00	5.11E- 04	4.87E- 02	0	1.75E- 02	0	3.23E- 05	ND	ND	1.62E +00	1.62E +00	ND	1.56E +00	ND	ND	-1.09E- 04	0	-3.64E- 03	1.81E- 04
GWP-luluc	kg CO <sub>2</sub> eq	1.37E- 01	1.84E- 03	4.19E- 03	0	7.09E- 01	0	1.31E- 04	ND	ND	2.14E- 04	5.42E- 04	ND	1.93E- 04	ND	ND	-1.56E- 06	0	-5.21E- 05	-1.63E- 04
ODP	kg CFC11 eq	7.15E- 08	2.14E- 14	2.14E- 09	0	1.23E- 07	0	1.23E- 15	ND	ND	2.14E- 13	4.98E- 13	ND	3.93E- 13	ND	ND	-1.86E- 13	0	-6.19E- 12	-5.91E- 13
AP	mol H <sup>+</sup> eq	3.87E- 02	3.2E- 03	1.31E- 03	0	2.11E- 03	0	8.67E- 05	ND	ND	1.87E- 03	2.11E- 03	ND	7.01E- 04	ND	ND	-3E-05	0	-1E-03	-8.15E- 04
EP- freshwater	kg P eq	1.21E- 03	7.39E- 07	3.63E- 05	0	2.68E- 05	0	5.14E- 08	ND	ND	7.08E- 07	8.93E- 07	ND	4.5E- 05	ND	ND	-3.84E- 08	0	-1.28E- 06	-3.61E- 07
EP-marine	kg N eq	1.51E- 02	1.09E- 03	5.13E- 04	0	5.46E- 04	0	4.25E- 05	ND	ND	8.65E- 04	9.79E- 04	ND	1.61E- 04	ND	ND	-8.83E- 06	0	-2.94E- 04	-2.76E- 04
EP-terrestrial	mol N eq	1.53E- 01	1.2E- 02	5.26E- 03	0	8.13E- 03	0	4.71E- 04	ND	ND	9.86E- 03	1.11E- 02	ND	1.76E- 03	ND	ND	-9.46E- 05	0	-3.15E- 03	-3.03E- 03
POCP	kg NMVOC eq	1.33E- 02	2.51E- 03	5.43E- 04	1.19E- 05	3.01E- 03	0	8.03E- 05	ND	ND	2.24E- 03	2.46E- 03	ND	5.1E- 04	ND	ND	-2.46E- 05	0	-8.21E- 04	-8.4E- 04
ADPE	kg Sb eq	4.75E- 06	1.35E- 08	1.43E- 07	0	7.17E- 07	0	9.15E- 10	ND	ND	1.55E- 08	2.01E- 08	ND	6.18E- 09	ND	ND	-1.71E- 09	0	-5.68E- 08	-1.03E- 08
ADPF	MJ	7.76E +01	3.42E +00	2.5E +00	0	1.38E +01	0	1.92E- 01	ND	ND	2.1E +00	2.9E +00	ND	3.49E +00	ND	ND	-4.48E- 01	0	-1.49E +01	-4.04E +01
WDP	m <sup>3</sup> world eq	6.9E +01	2.39E- 03	2.09E +00	0	3.38E- 01	0	1.62E- 04	ND	ND	5.14E- 01	5.17E- 01	ND	-3.3E- 03	ND	ND	-2.25E- 03	0	-7.5E- 02	-2.93E- 02

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; WDP = Water (user) deprivation potential)

RESULTS (	RESULTS OF THE LCA - INDICATORS TO DESCRIBE RESOURCE USE according to EN 15804+A2: 1 m <sup>2</sup> floorcovering																			
Parameter	Unit	A1- A3	<b>A</b> 4	<b>A</b> 5	B1	B2	C1	C2	С3	C3/1	C3/2	C3/3	C4	C4/1	C4/2	C4/3	D	D/1	D/2	D/3
PERE	MJ	1.62E +01	1.95E- 01	1.22E +00	0	9.15E +00	0	1.36E- 02	ND	ND	2.18E +01	2.2E +01	ND	3.15E- 01	ND	ND	-1.27E- 01	0	-4.23E +00	-3.87E- 01
PERM	MJ	2.15E +01	0	-7E-02	0	0	0	0	ND	ND	-2.14E +01	-2.14E +01	ND	0	ND	ND	0	0	0	0
PERT	MJ	3.77E +01	1.95E- 01	1.15E +00	0	9.15E +00	0	1.36E- 02	ND	ND	3.89E- 01	6.15E- 01	ND	3.15E- 01	ND	ND	-1.27E- 01	0	-4.23E +00	-3.87E- 01
PENRE	MJ	6.14E +01	3.43E +00	2.75E +00	0	1.38E +01	0	1.92E- 01	ND	ND	1.8E +01	1.88E +01	ND	3.49E +00	ND	ND	-4.48E- 01	0	-1.49E +01	-4.04E +01



PENRM	MJ	1.62E +01	0	-2.52E- 01	0	0	0	0	ND	ND	-1.59E +01	-1.59E +01	ND	0	ND	ND	0	0	0	0
PENRT	MJ	7.76E +01	3.43E +00	2.5E+00	0	1.38E +01	0	1.92E- 01	ND	ND	2.1E +00	2.9E +00	ND	3.49E +00	ND	ND	-4.48E- 01	0	-1.49E +01	-4.04E +01
SM	kg	2.15E- 02	0	6.44E- 04	0	0	0	0	ND	ND	0	0	ND	0	ND	ND	0	0	0	1.29E +00
RSF	MJ	0	0	0	0	0	0	0	ND	ND	0	0	ND	0	ND	ND	0	0	0	0
NRSF	MJ	0	0	0	0	0	0	0	ND	ND	0	0	ND	0	ND	ND	0	0	0	0
FW	m <sup>3</sup>	2.35E +00	2.15E- 04	7.09E- 02	0	9.78E- 03	0	1.49E- 05	ND	ND	1.22E- 02	1.24E- 02	ND	3.44E- 05	ND	ND	-1.03E- 04	0	-3.43E- 03	-3.51E- 03

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+A2:

Parameter	Unit	A1- A3	<b>A</b> 4	<b>A</b> 5	В1	B2	C1	C2	С3	C3/1	C3/2	C3/3	C4	C4/1	C4/2	C4/3	D	D/1	D/2	D/3
HWD	kg	1.66E- 08	1.23E- 11	5.07E- 10	0	1.51E- 04	0	7.11E- 13	ND	ND	2.73E- 10	2.5E- 10	ND	2.94E- 10	ND	ND	-2.54E- 11	0	-8.46E- 10	-2.16E- 12
NHWD	kg	1.79E- 01	4.57E- 04	3.55E- 02	0	3.55E- 02	0	2.77E- 05	ND	ND	1E+00	1E+00	ND	3.39E +00	ND	ND	-2.19E- 04	0	-7.29E- 03	-2.16E- 02
RWD	kg	1.3E- 03	4.35E- 06	4.17E- 05	0	1.56E- 04	0	2.48E- 07	ND	ND	8.55E- 05	1.37E- 04	ND	4.13E- 05	ND	ND	-3.37E- 05	0	-1.12E- 03	-6.86E- 05
CRU	kg	0	0	0	0	0	0	0	ND	ND	0	0	ND	0	ND	ND	0	0	0	0
MFR	kg	0	0	0	0	0	0	0	ND	ND	0	1.29E +00	ND	0	ND	ND	0	0	0	0
MER	kg	0	0	0	0	0	0	0	ND	ND	0	0	ND	0	ND	ND	0	0	0	0
EEE	MJ	0	0	1.12E- 01	0	0	0	0	ND	ND	3.73E +00	0	ND	0	ND	ND	0	0	0	0
EET	MJ	0	0	2.13E- 01	0	0	0	0	ND	ND	7.1E +00	3.73E +01	ND	0	ND	ND	0	0	0	0

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; EET = Exported thermal energy

## RESULTS OF THE LCA – additional impact categories according to EN 15804+A2-optional:

Parameter	Unit	A1- A3	<b>A</b> 4	A5	B1	B2	C1	C2	С3	C3/1	C3/2	C3/3	C4	C4/1	C4/2	C4/3	D	D/1	D/2	D/3
PM	Disease	3.51E-	4.31E-	1.22E-	0	2.4E-	0	5.45E-	ND	ND	1.37E-	1.53E-	ND	6.8E-	ND	ND	-2.55E-	0	-8.48E-	-2.59E-
I IVI	incidence	07	08	80	O	07	0	10	טאו	טא	80	80	מא	09	ND	ND	10	U	09	80
IR	kBq U235	5.04E-	6.27E-	1.55E-	0	4.14E-	0	3.58E-	ND	ND	1.3E-	2.16E-	ND	6.11E-	ND	ND	-5.6E-	0	-1.87E-	-6.59E-
IIK	eq	01	04	02	U	02	U	05	טאו	ND	02	02	טאו	03	ND	ND	03	U	01	03
ETD 4	CTUe	3.32E	2.41E	1.11E	1.02E-	5.72E	0	1.35E-	ND	ND	1.08E	1.51E	ND	2.98E	ND	ND	-6.09E-	٥	-2.03E	-1.52E
ETP-fw		+01	+00	+00	04	+00		01	ND	טאו	+00	+00	ND	+00	ND	ND	02	U	+00	+01
LITD -	OT III	2.82E-	4.78E-	8.77E-	0	2.19E-	•	2.73E-	ND	ND	5.24E-	6.39E-	ND	1.53E-	ND	ND	-4.92E-	0	-1.64E-	-6.78E-
HTP-c	CTUh	09	11	11	U	09	0	12	ND	ND	11	11	ND	10	ND	ND	12	U	10	11
LITD	OT! III	1.5E-	1.99E-	4.65E-	7.4E-	2.47E-	_	1.2E-	ND	ND.	2.82E-	3.19E-	ND	1.22E-	7	7	-1.22E-	0	-4.08E-	-2.55E-
HTP-nc	CTUh	07	09	09	13	08	0	10	ND	ND	09	09	ND	80	ND	ND	10	U	09	09
SQP	SQP	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND

PM = Potential incidence of disease due to PM emissions; IR = Potential Human exposure efficiency relative to U235; ETP-fw = Potential comparative Toxic Unit for ecosystems; HTP-c = Potential comparative Toxic Unit for humans (cancerogenic); HTP-nc = Potential comparative Toxic Unit for humans (not cancerogenic); SQP = Potential soil quality index

No substantiated values can be given for the SQP indicator with the existing database.

The result figures given in module B2 refer to a period of 1 year because a reference service life is not declared. They have to be multiplied by the assumed service life (in years) of the floor covering in the building under consideration.

Disclaimer 1 – for the indicator 'Potential Human exposure efficiency relative to U235'. This impact category deals mainly with the eventual impact of low-dose ionizing radiation on human health of the nuclear fuel cycle. It does not consider effects due to possible nuclear accidents, occupational exposure or radioactive waste disposal in underground facilities. Potential ionizing radiation from the soil, radon and from some construction materials is also not measured by this indicator.

Disclaimer 2 – for the indicators 'abiotic depletion potential for non-fossil resources', 'abiotic depletion potential for fossil resources', 'water (user) deprivation potential, deprivation-weighted water consumption', 'potential comparative toxic unit for ecosystems', 'potential comparative toxic unit for humans – cancerogenic', 'Potential comparative toxic unit for humans – not cancerogenic', 'potential soil quality index'. The results of this environmental impact indicator shall be used with care as the uncertainties on these results are high as there is limited experience with the indicator.

The CO<sub>2</sub> uptake during the growth phase of renewable materials in the product is 1,55 kg. This amount is stored in the material as



biogenic carbon. At the end of life the stored carbon is released into the air again as 1,55 kg CO<sub>2</sub> emissions.

## References

#### ISO 10874

DIN EN ISO 10874: 2012-04: Resilient, textile and laminate floor coverings - Classification

#### EN 13501-1

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#### ISO 14025

DIN EN /ISO 14025:2011-10/, Environmental labels and declarations — Type III environmental declarations — Principles and procedures

#### EN 14041

DIN EN 14041: 2008-05: Resilient, textile and laminate floor coverings - Essential characteristics

#### EN 15804

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#### **ISO 15686**

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ISO 15686-1: 2011-05: Part 1: General principles and framework

ISO 15686-2: 2012-05: Part 2: Service life prediction procedures

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ISO 15686-8: 2008-06: Part 8: Reference service life and service-life estimation

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