# **ENVIRONMENTAL PRODUCT DECLARATION**

as per ISO 14025 and EN 15804+A2

Owner of the Declaration Windmöller GmbH

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

Declaration number EPD-WIN-20240289-CBC1-EN

Issue date 06.03.2025 Valid to 05.03.2030

# Resilient polyurethane floor covering for clicking, maximum total weight 9 kg/m²

Windmöller GmbH



www.ibu-epd.com | https://epd-online.com





# **General Information**

Windmöller GmbH	Resilient polyurethane floor covering for clicking, maximum total weight 9 kg/m²							
Programme holder	Owner of the declaration							
IBU – Institut Bauen und Umwelt e.V. Hegelplatz 1 10117 Berlin Germany	Windmöller GmbH Nord-West-Ring 21 32832 Augustdorf Germany							
Declaration number	Declared product / declared unit							
EPD-WIN-20240289-CBC1-EN	1 m² resilient floor covering for clicking							
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 9 kg/m².  The product is available as planks and tiles. It is manufactured at the Windmoller GmbH site in Detmold, Germany. Cutting of planks may also							
Issue date	take place at the Windmöller GmbH site in Augustdorf, Germany.							
06.03.2025	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	The EPD was created according to the specifications of EN 15804+A2. In							
05.03.2030	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 🗵 externally							
DiplIng. Hans Peters (Chairman of Institut Bauen und Umwelt e.V.)	_							
* Panil	Angela Schindle							
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 a renewable raw material and with a natural inorganic filler. Products are available in many different decors and textures and it is offered as tiles or as planks. The declaration applies to a product with a maximum total weight of 9 kg/m². 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 Declaration of Performance of the products taking into consideration EN 14041 and the CE-marking of the products can be found on the manufacturer's technical information section.

#### 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 32 and 33

#### **Technical Data**

#### **Constructional data**

Name	Value	Unit
Grammage	9	kg/m²
Product Form	Planks and tiles of several 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 on the manufacturer's technical information section (www.wineo.de)

#### Base materials/Ancillary materials

Name	Value	Unit
Polyurethane including 51% renewable material	24,8	%
Inorganic Filler	73,5	%
Paper	0,5	%
Glass fibre	0,9	%
Additives	0,3	%

The specific product covered by the EPD contains substances listed in the *ECHA* candidate list (21.01.2025) 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)*, yet technical service life can be considerably longer.

# LCA: Calculation rules

# **Declared Unit**

Name	Value	Unit
Declared unit	1	m <sup>2</sup>
Grammage	9	kg/m <sup>2</sup>
Layer thickness	0.005	m
Gross density	1800	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.

Other declared units are allowed if the conversion is shown transparently.

# System boundary

Type of EPD:

Cradle-to-gate with options, module C1-C4, module D, and additional modules A4, A5, B1, B2.

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

Modules C3, C4 and D are indicated separately for three endof-life scenarios:

- 0 landfill disposal (columns C3, C4, D)
- 1 municipal waste incineration (columns C3/1, C4/1, D/1)
- 2 recovery in a cement plant (columns C3/2, C4/2, D/2)

#### A1-A3 Production:

Energy supply and production of the basic material, processing of secondary material, auxiliary material, transport of the material to the manufacturing site, emissions, waste water

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 neglected. Biogenic carbon that is stored in renewable material (packaging paper) is taken into account as well as the associated uptake of

paper) is taken into account as well as the associated uptake of carbon dioxide from the air from which this biogenic carbon originates.

# 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. Biogenic carbon stored in renewable materials in packaging paper is released into the air as carbon dioxide emissions at the end of the life cycle in module A5.

Preparation of the floor and auxiliary materials (adhesives, fixing agents, PET connectors) 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 known VOC decay curves of the product.



#### B2 Maintenance:

Cleaning of the floor covering for a period of 1 year:

Wet cleaning – electricity, water consumption, production of the cleaning agent, waste water treatment.

The declared values in this module have to be multiplied by the assumed service life of the floor covering in the building in question.

# B3 - B5:

The modules are not relevant within the assumed reference service life of 20 years.

#### B6 - B7:

No energy and water input are required for the operation of the floor covering in the use stage. The modules are not relevant and not declared.

## C1 De-construction:

The floor covering is de-constructed manually and no additional environmental impact is caused.

# C2 Transport:

Transport of the floor-covering waste to a landfill, to the municipal waste incineration plant (MWI) or to the waste collection facility for recycling.

#### C3 Waste processing:

C3-0: Landfill disposal needs no waste processing.

C3-1: Impact from waste incineration (plant with R1 > 0.6), generated electricity and steam are listed in the result table as exported energy.

C3-2: Collection of the floor covering waste for recovery in the cement industry, waste processing (granulating), transport to the cement plant, emissions from the incineration. The biogenic carbon that is stored in the renewable materials of the floor covering is released into the air as carbon dioxide emissions.

#### C4 Disposal:

C4-0: Impact from landfill disposal,

C4-1: The floor covering waste leaves the system in module C3-1.

C4-2: The pre-processed floor covering waste leaves the system in module C3-2.

D Recycling potential: Calculated benefits result from materials exclusive secondary materials (net materials).

D-0: Benefits for generated energy due to landfill disposal of floor covering waste at the end-of-life.

D-1: Benefits for generated energy due to incineration of floor covering waste at the end-of-life (incineration plant with R1 > 0.6)

D-2: Benefits for saved fossil energy and saved inorganic material due to recovery of the floor covering in a cement plant. D-A5 (declared as D/3 in the results table): Benefits for generated energy due to incineration of packaging and installation waste (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

inotory guto		
Name	Value	Unit
Biogenic carbon content in product	0.845	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  ${\rm CO}_2$ .

The following information refer 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  $9~{\rm kg/m^2}$ .

# Transport to the construction site (A4)

Name	Value	Unit
Litres of fuel , diesel, truck EURO 0-6 mix	0.0249	l/100km
Transport distance truck	467	km
Capacity utilisation (including empty runs) truck	55	%

# Installation in the building (A5)

motamation in the banding (Fite)		
Name	Value	Unit
Material loss	0.27	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

# Maintenance (B2)

account.

Indication per m<sup>2</sup> 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)	52	1/year
Water consumption (wet wiping)	0.013	m <sup>3</sup>
Cleaning agent (wet wiping)	0.13	kg
Electricity consumption	-	kWh

Further information on cleaning and maintenance see <a href="https://www.wineo.de">www.wineo.de</a>

# 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 0: 100 % landfill disposal

Scenario 1: 100 % municipal waste incineration (MWI)

with R1>0.6

Scenario 2: 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 0)

+ y % impact (Scenario 1)

+ z % impact (Scenario 2)

with x % + y % + z % = 100 %

Name	Value	Unit
Collected as mixed construction waste (scenarios 0 and 1)	9	kg
Collected separately waste type (scenario 2)	9	kg
Landfilling (scenario 0)	9	kg
Energy recovery (scenario 1)	9	kg
Energy recocery (scenario 2)	2,31	kg
Recycling (scenario 2)	6.69	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 2): 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.V.).



# LCA: Results

The results are valid for the declared product with a maximum total weight of 9 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, C4/1 and C4/2 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/3 represents module D/A5.

Version number of the characterisation factors used: EN 15804+A2 (EF 3.1)

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

	MODULE NOT RELEVANT)															
Pro	duct sta	age	_	ruction s stage			U	Jse stag	е	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	<b>A3</b>	A4	A5	B1	B2	B3	B4	B5	B6	B7	C1	C2	C3	C4	D
Χ	Χ	Х	Х	Χ	Χ	Χ	MNR	MNR	MNR	MND	MND	Х	Χ	Х	X	X

RESULTS (	OF THE	LCA - I	ENVIR	ONMEN	ITAL II	<b>ЛРАСТ</b>	acco	rding t	o EN	15804	+A2: 1	m² floo	rcovei	ring				
Parameter	Unit	A1-A3	A4	A5	B1	B2	C1	C2	C3	C3/1	C3/2	C4	C4/1	C4/2	D	D/1	D/2	D/3
GWP-total	kg CO <sub>2</sub> eq	5.02E +00	4.32E- 01	5.13E- 01	0	6.03E- 01	0	3.69E- 02	0	8.15E +00	8.28E +00	3.71E +00	0	0	0	-1.45E +00	-4.3E-01	-4.35E- 02
GWP-fossil	kg CO <sub>2</sub> eq	8.19E +00	4.27E- 01	4.09E- 01	0	3.13E- 01	0	3.65E- 02	0	4.98E +00	5.11E +00	6.1E-01	0	0	0	-1.44E +00	-4.3E-01	-4.33E- 02
GWP- biogenic	kg CO <sub>2</sub> eq	-3.45E +00	1E-03	9.5E-02	0	6.99E- 03	0	8.54E- 05	0	3.17E +00	3.17E +00	0	0	0	0	-6.36E- 03	7.31E- 04	-1.91E- 04
GWP-luluc	kg CO <sub>2</sub> eq	2.83E- 01	4.05E- 03	8.65E- 03	0	2.83E- 01	0	3.45E- 04	0	6.47E- 04	1.52E- 03	5.1E-04	0	0	0	-9.16E- 05	-3.26E- 04	-2.75E- 06
ODP	kg CFC11 eq	1.37E- 07	3.82E- 14	4.12E- 09	0	4.93E- 08	0	3.26E- 15	0	4.14E- 13	1.17E- 12	1.04E- 12	0	0	0	-1.07E- 11	-1.1E-12	-3.22E- 13
AP	mol H <sup>+</sup> eq	7.76E- 02	2.69E- 03	2.54E- 03	0	8.44E- 04	0	2.29E- 04	0	4.26E- 03	4.92E- 03	1.86E- 03	0	0	0	-1.75E- 03	-1.51E- 03	-5.26E- 05
EP- freshwater	kg P eq	2.46E- 03	1.59E- 06	7.39E- 05	0	1.07E- 05	0	1.36E- 07	0	2.1E-06	2.59E- 06	1.19E- 04	0	0	0	-2.22E- 06	-7.42E- 07	-6.65E- 08
EP-marine	kg N eq	3.09E- 02	1.32E- 03	1.03E- 03	0	2.19E- 04	0	1.12E- 04	0	1.96E- 03	2.26E- 03	4.25E- 04	0	0	0	-5.19E- 04	-5.09E- 04	-1.56E- 05
EP-terrestrial	mol N eq	3.13E- 01	1.46E- 02	1.05E- 02	0	3.25E- 03	0	1.25E- 03	0	2.22E- 02	2.55E- 02	4.67E- 03	0	0	0	-5.57E- 03	-5.58E- 03	-1.67E- 04
POCP	kg NMVOC eq	2.61E- 02	2.49E- 03	1.02E- 03	1.19E- 05	1.2E-03	0	2.13E- 04	0	5.09E- 03	5.68E- 03	1.35E- 03	0	0	0	-1.45E- 03	-1.52E- 03	-4.35E- 05
ADPE	kg Sb eq	9.2E-06	2.84E- 08	2.78E- 07	0	2.87E- 07	0	2.42E- 09	0	4.5E-08	5.73E- 08	1.64E- 08	0	0	0	-9.89E- 08	-2.14E- 08	-2.97E- 09
ADPF	MJ	1.43E +02	5.94E +00	4.66E +00	0	5.53E +00	0	5.07E- 01	0	5.67E +00	7.79E +00	9.24E +00	0	0	0	-2.65E +01	-6.6E +01	-7.95E- 01
WDP	m <sup>3</sup> world eq deprived	1.41E +02	5.03E- 03	4.27E +00	0	1.35E- 01	0	4.3E-04	0	1.28E +00	1.29E +00	-8.74E- 03	0	0	0	-1.3E-01	-5E-02	-3.9E-03

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	A4	A5	B1	B2	C1	C2	C3	C3/1	C3/2	C4	C4/1	C4/2	D	D/1	D/2	D/3
PERE	MJ	2.86E +01	4.2E-01	2.24E +00	0	3.66E +00	0	3.59E- 02	0	4.41E +01	4.47E +01	8.34E- 01	0	0	0	-7.33E +00	-7.53E- 01	-2.2E-01
PERM	MJ	4.31E +01	0	-4.8E-02	0	0	0	0	0	-4.3E +01	-4.3E +01	0	0	0	0	0	0	0
PERT	MJ	7.17E +01	4.2E-01	2.2E+00	0	3.66E +00	0	3.59E- 02	0	1.04E +00	1.64E +00	8.34E- 01	0	0	0	-7.33E +00	-7.53E- 01	-2.2E-01
PENRE	MJ	1.13E +02	5.96E +00	4.92E +00	0	5.54E +00	0	5.08E- 01	0	3.58E +01	3.79E +01	9.25E +00	0	0	0	-2.65E +01	-6.6E+01	-7.95E- 01
PENRM	MJ	3.04E +01	0	-2.52E- 01	0	0	0	0	0	-3.01E +01	-3.01E +01	0	0	0	0	0	0	0



PENRT	MJ	1.43E +02	5.96E +00	4.66E +00	0	5.54E +00	0	5.08E- 01	0	5.67E +00	7.79E +00	9.25E +00	0	0	0	-2.65E +01	-6.6E+01	-7.95E- 01
SM	kg	2.15E- 02	0	6.45E-04	0	0	0	0	0	0	0	0	0	0	0	0	3.85E +00	0
RSF	MJ	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
NRSF	MJ	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
FW	m <sup>3</sup>	4.81E +00	4.63E- 04	1.45E-01	0	3.91E- 03	0	3.95E- 05	0	3.03E- 02	3.08E- 02	9.12E- 05	0	0	0	-5.94E- 03	-5.8E-03	-1.78E- 04

PERE = Use of renewable primary energy excluding renewable primary energy resources used as raw materials; PERM = Use of renewable primary energy resources; PENRE = Use of non-renewable primary energy excluding non-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: m<sup>2</sup> floorcovering Parameter Unit A1-A3 C2 C3/1 C4 **D/1 B2** C3/2 C4/2 D/2D/3 2.65E- 2.2E-11 8.19E-6.06E-1.88E-7.77E- 7.15E- 7.78E--1.57E--4.12E--4.72E-0

1	ı.g	80		10		05	~	12	~	10	10	10		"	ľ	09	11	11
NHWD	kg	4.37E- 01	8.58E- 04	1.05E- 01	0	1.42E- 02	0	7.33E- 05	0	3.04E +00	3.05E +00	8.96E +00	0	0	0	-1.28E- 02	-6.5E-02	-3.84E- 04
RWD	kg	1.8E-03	7.7E-06	6.11E- 05	0	6.25E- 05	0	6.57E- 07	0	2.28E- 04	3.65E- 04	1.09E- 04	0	0	0	-1.94E- 03	-1.29E- 04	-5.83E- 05
CRU	kg	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
MFR	kg	0	0	0	0	0	0	0	0	0	3.85E +00	0	0	0	0	0	0	0
MER	kg	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
EEE	MJ	0	0	1.94E- 01	0	0	0	0	0	6.47E +00	0	0	0	0	0	0	0	0
EET	MJ	0	0	3.86E- 01	0	0	0	0	0	1.29E +01	7.32E +01	0	0	0	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:

I III- HOOFC	overing																	
Parameter	Unit	A1-A3	A4	A5	B1	B2	C1	C2	C3	C3/1	C3/2	C4	C4/1	C4/2	D	D/1	D/2	D/3
РМ	Disease incidence	7.22E- 07	1.69E- 08	2.33E- 08	0	9.59E- 08	0	1.44E- 09	0	3.75E- 08	4.19E- 08	1.8E-08	0	0	0	0	-6.84E- 08	-4.47E- 10
IR	kBq U235 eq	5.98E- 01	1.11E- 03	1.9E-02	0	1.66E- 02	0	9.49E- 05	0	3.46E- 02	5.72E- 02	1.62E- 02	0	0	0	0	-1.3E-02	-9.7E-03
ETP-fw	CTUe	6.72E +01	4.18E +00	2.25E +00	1.02E- 04	2.29E +00	0	3.57E- 01	0	3.08E +00	4.2E+00	7.89E +00	0	0	0	0	-2.49E +01	-1.06E- 01
HTP-c	CTUh	4.74E- 09	8.46E- 11	1.49E- 10	0	8.77E- 10	0	7.22E- 12	0	1.4E-10	1.7E-10	4.05E- 10	0	0	0	0	-1.21E- 10	-8.66E- 12
HTP-nc	CTUh	2.04E- 07	3.73E- 09	6.49E- 09	7.4E-13	9.88E- 09	0	3.18E- 10	0	8.27E- 09	9.26E- 09	3.23E- 08	0	0	0	0	-4.98E- 09	-2.18E- 10
SQP	SQP	ND	ND	ND	ND	ND	0	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

The SQP indicator is not given due to considerable uncertainties in the calculation.

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, from 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 3,097 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 3,097 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

DIN EN 13501-1:2010-01: Fire classification of construction products and building elements - Part 1: Classification using data from reaction to fire tests

#### 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

DIN EN 15804:2012+A2:2019 + AC:2021, Sustainability of construction works —  $\,$ 

Environmental Product Declarations — Core rules for the product category of construction products

#### **ISO 15686**

ISO 15686: Buildings and constructed assets - Service life planning

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

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

ISO 15686-7: 2006-03: Part 7: Performance evaluation for feedback of service life data from practice

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

#### EN 16776

DIN EN 16776: 2016-09: Resilient floor coverings - Heterogeneous polyurethane floor coverings - Specification

#### EN 16810

DIN EN16810: 2017-08: Resilient, textile and laminate floor coverings – Environmental product declarations – Product category rules

# **BNB**

Bundesministerium des Innern, für Bau und Heimat, 'Nutzungsdauern von Bauteilen zur Lebenszyklusanalyse nach BNB, 2017' des Bundesinstitut für Bau-, Stadt- und Raumforschung (BBSR)

#### **CPR**

Construction Producs Regulation, Regulation (EU) No 305/2011 of the European Parliament and of the Council of 9 March 2011

#### ecoinvent 3.9

ecoinvent, Zurich, Switzerland, Database Version 3.9, Dezember 2022

#### **General Instructions for the IBU-EPD Program**

General Instructions for the EPD-Program of the Institut Bauen und Umwelt e.V., The Preparation of Environmental Product Declarations - EPDs, version 2.0, Institut Bauen und Umwelt e.V., Berlin, January 2021, www.ibu-epd.de

#### **PCR Part A**

Product Category Rules for Building-Related Products and Services Part A: Calculation Rules for the Life Cycle Assessment and Requirements on the Project Report according to EN 15804+A2:2019, V1.4, Berlin: Institut Bauen und Umwelt e.V. (IBU), April 2024

#### **PCR Part B**

Product Category Rules for Building-Related Products and Services Part B: Requirements on the EPD for floor coverings, Berlin: Institut Bauen und Umwelt e.V. (IBU), August 2021

#### **REACH**

Regulation concerning the Registration, Evaluation, Authorisation and Restriction of Chemicals (REACH), establishing a European Chemicals Agency (ECHA), European Union Regulation No 1907/2006, June 2017.

## Sphera Software and database

LCA for experts Software-System and Database for Life Cycle Engineering, Sphera Solutions Inc., Stuttgart, 2023-2

# VDZ e.V.

Association of German Cement Works, Ed. Environmental Data of the German Cement Industry 2020





## **Publisher**

Institut Bauen und Umwelt e.V. Hegelplatz 1 10117 Berlin Germany +49 (0)30 3087748- 0 info@ibu-epd.com www.ibu-epd.com



# Programme holder

Institut Bauen und Umwelt e.V. Hegelplatz 1 10117 Berlin Germany +49 (0)30 3087748- 0 info@ibu-epd.com www.ibu-epd.com



# **Author of the Life Cycle Assessment**

Gemeinschaft umweltfreundlicher Teppichboden (GUT) e.V. Schönebergstraße 2 52068 Aachen Germany +45 (0)241 96843 410 mail@gut-ev.de www.gut-ev.org



## **Owner of the Declaration**

Windmöller GmbH Nord-West-Ring 21 32832 Augustdorf Germany +49 (0)5237 609 0 info@windmoeller.de www.windmoeller.de