

# ENVIRONMENTAL PRODUCT DECLARATION

as per ISO 14025 and EN 15804+A2

Owner of the Declaration	Balsan
Programme holder	Institut Bauen und Umwelt e.V. (IBU)
Publisher	Institut Bauen und Umwelt e.V. (IBU)
Declaration number	EPD-BAL-20220235-CCA1-EN
Issue date	18.08.2022
Valid to	17.08.2027

**MACRO MICRO HD / CARRE COUTURE**  
tufted carpet tiles made of recycled material

**Balsan**

[www.ibu-epd.com](http://www.ibu-epd.com) | <https://epd-online.com>



## General Information

### Balsan

#### Programme holder

IBU – Institut Bauen und Umwelt e.V.  
Hegelplatz 1  
10117 Berlin  
Germany

#### Declaration number

EPD-BAL-20220235-CCA1-EN

#### This declaration is based on the product category rules:

Floor coverings, 02/2018  
(PCR checked and approved by the SVR)

#### Issue date

18.08.2022

#### Valid to

17.08.2027

Dipl. Ing. Hans Peters  
(chairman of Institut Bauen und Umwelt e.V.)

Dr. Alexander Röder  
(Managing Director Institut Bauen und Umwelt e.V.)

### MACRO MICRO HD / CARRE

**COUTURE** - tufted carpet tiles made of recycled material

#### Owner of the declaration

Balsan  
Corbilly - D14  
36330 Arthon  
France

#### Declared product / declared unit

1 m<sup>2</sup> tufted carpet tiles MACRO MICRO HD / CARRE COUTURE

#### Scope:

The manufacturer declaration applies to the tufted carpet tiles MACRO MICRO HD with the GUT-PRODIS license number 14E008A4 and CARRE COUTURE with the GUT- PRODIS license number D7DD7C4B.

The products are produced in the Balsan manufacturing sites Arthon (tufting and precoating) and Neuville-Saint-Sépulchre (back coating), France.

The declaration is only valid in conjunction with a valid GUT-PRODIS license of the product.

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.

The EPD was created according to the specifications of EN 15804+A2. In the following, the standard will be simplified as EN 15804.

#### Verification

The standard EN 15804 serves as the core PCR

Independent verification of the declaration and data according to ISO 14025:2011

☐ internally ☒ externally

Angela Schindler  
(Independent verifier)

## Product

### Product description/Product definition

MACRO MICRO HD / CARRE COUTURE - tufted carpet tiles having a surface pile of solution-dyed polyamide 6 with 100 % recycled content, a polyester primary backing with 90 % recycled content and a bitumen based heavy backing.  
The total recycled content amounts to 23 %.

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 Construction Product Regulation (CPR) applies. The product needs a Declaration of Performance (DoP) taking into consideration EN 14041:2018-05, Resilient, textile and laminate floor coverings - Essential characteristics, and the CE-marking. The DoP of the product can be found

on the manufacturer's technical information section. For the application and use of the product the respective national provisions apply.

### Application

According to the use class as defined in EN 1307 the products can be used in all professional areas which require class 33 or less.



## Technical Data

### Constructional data

Name	Value	Unit
Product Form	Tiles 50 cm x 50 cm	-
Type of manufacture	Tufted carpet tiles	-
Yarn type	Polyamide 6, 100 % recycled	-
Coloration	Solution-dyed yarn	
Primary backing	Polyester, 90 % recycled	
Secondary backing	Bitumen based heavy backing	-
Surface pile weight	590	g/m <sup>2</sup>
Surface pile thickness	5	mm
Total pile weight	1050	g/m <sup>2</sup>
Total carpet weight	5210	g/m <sup>2</sup>
Total thickness	9.7	mm
Number of tufts or loops	1501	pce/d m <sup>2</sup>

Performance data of the product in accordance with the declaration of performance with respect to its essential characteristics according to *EN 14041: 2018-05*, Resilient, textile and laminate floor coverings - Essential characteristics.

Additional product properties in accordance with *EN 1307* can be found on the Product Information System *PRODIS* using the *PRODIS* registration number of the product ([www.pro-dis.info](http://www.pro-dis.info)) or on the manufacturer's technical information section ([www.balsan.com](http://www.balsan.com)).

## Base materials/Ancillary materials

Name	Value	Unit
Polyamide 6	20.2	%
Polyester	4.3	%
SBR-latex	3.6	%
Limestone	50.7	%
Aluminum hydroxide	5.4	%
Bitumen	15.1	%
Glass fibre	0.7	%

This product contains substances listed in the *ECHA candidate list* (10.06.2022) 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

The products are registered in the *GUT-PRODIS* Information System. The *PRODIS* system ensures the compliance with limitations of various chemicals and Volatile Organic Compound (VOC)-emissions and a ban on the use of all substances that are listed as 'Substances of Very High Concern' (SVHC) under *REACH*.

### Reference service life

The service life of textile floor coverings strongly depends on the correct installation taking into account the declared use classification and the adherence to cleaning and maintenance instructions.

A calculation of the reference service life according to *ISO 15686* is not possible.

Alternatively, a reference service life of 10 years can be assumed, during which the functional and visual quality is guaranteed (*BNB, Nutzungsdauer von Bauteilen*). The technical service life can be significantly longer.

## LCA: Calculation rules

### Declared Unit

Name	Value	Unit
Declared unit	1	m <sup>2</sup>
Grammage	5.21	kg/m <sup>2</sup>
Layer thickness	0.0097	m
Gross density	537	kg/m <sup>3</sup>

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

### 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 end-of-life scenarios:

- 1 - landfill disposal
- 2 - municipal waste incineration
- 3 - recovery in a cement plant

#### 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 aggregated.

Biogenic carbon that is stored in renewable material (packaging paper) is taken into account as well as the associated carbon dioxide uptake from the air from which this biogenic carbon originates.

#### A4 Transport

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

#### A5 Installation

Installation of the textile 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 carpet 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 that is stored in renewable materials in packaging paper is released as carbon dioxide emissions into the air at the end of life 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 textile floor covering for a period of 1 year:

Vacuum cleaning – electricity supply

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 Repair, replacement, refurbishment

The modules are not relevant within the assumed reference service life of 10 years.

#### B6 - B7 Operational energy and water use

No energy and water input are required for the operation of the carpet 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 carpet waste to a landfill, to the municipal waste incineration plant (MWI) or to the waste collection facility for recycling.

#### 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 carpet 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 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.

#### 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 GaBi database, 2022-1. Remaining data gaps are covered by the ecoinvent 3.7 database, 2020.

## LCA: Scenarios and additional technical information

### Characteristic product properties

#### Information on biogenic Carbon

Name	Value	Unit
Biogenic Carbon Content in accompanying packaging	0.04	kg C

1 kg biogenic Carbon is equivalent to 44/12 kg of CO<sub>2</sub>

#### Transport to the construction site (A4)

Name	Value	Unit
Litres of fuel	0.012	l/100km
Transport distance	700	km
Capacity utilisation (including empty runs)	55	%
Gross density of products transported	537	kg/m <sup>3</sup>

#### Installation in the building (A5)

Name	Value	Unit
Material loss	0.156	kg

Polyethylene packaging waste and installation waste are considered to be incinerated in a municipal waste incineration plant. Cardboard packaging waste is going to be recycled.

Preparation of the floor and auxiliaries (adhesives, fixing agents, PET connectors etc.) are not taken into account.

#### Maintenance (B2)

The values for cleaning refer to 1 m<sup>2</sup> floor covering per year.

Depending on the application based on *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. Based on this useful life the effects of module B2 need to be calculated in order to obtain the overall environmental impacts.

Name	Value	Unit
Maintenance cycle (vacuum cleaning)	208	Number/year
Maintenance cycle (wet cleaning)	1,5	Number/year
Water consumption (wet cleaning)	4,4	kg/year
Cleaning agent (wet cleaning)	0,09	kg/year
Electricity consumption	0,314	kWh/year

#### Reference service life

Name	Value	Unit
Life Span (according to BBSR)	10	a
Declared product properties (at the gate) and finishes	Corresponds to the specifications of EN 1307	-
An assumed quality of work, when installed in accordance with the manufacturer's instructions	Conforms to the manufacturer's instructions	-
Usage conditions, e.g. frequency of use, mechanical exposure	Use in areas corresponding to use class 33 according to EN 1307	-
Maintenance e.g. required frequency, type and quality and replacement of components	According to the manufacturers instructions	-

#### 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:

EOL-impact = x % impact (Scenario 1)  
+ y % impact (Scenario 2)  
+ z % impact (Scenario 3)  
with  $x \% + y \% + z \% = 100 \%$

Name	Value	Unit
Collected as mixed construction waste (scenario 1 and 2)	5.21	kg
Collected separately (scenario 3)	5.21	kg
Landfilling (scenario 1)	5.21	kg
Energy recovery (scenario 2)	5.21	kg
Energy recovery (scenario 3)	2.25	kg
Recycling (scenario 3)	2.96	kg

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

Recovery or recycling potentials due to the three end of life scenarios (module C) are indicated separately.

##### Recycling in the cement industry (scenario 3)

The organic material of the carpet 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 original material input VDZ e.V.

## LCA: Results

The modules C3/1, C4/2 and C4/3 cause no additional impact (see chapter "LCA: Calculation rules").  
Module C2 represents the transport for scenarios 1, 2 and 3. The values in column D result from module A5.

### DESCRIPTION OF THE SYSTEM BOUNDARY (X = INCLUDED IN LCA; ND = MODULE OR INDICATOR 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	X	X	X	X	MNR	MNR	MNR	ND	ND	X	X	X	X	X

### RESULTS OF THE LCA - ENVIRONMENTAL IMPACT according to EN 15804+A2: 1 m<sup>2</sup> floor covering

Core Indicator	Unit	A1-A3	A4	A5	B1	B2	C1	C2	C3/2	C3/3	C4/1	D	D/1	D/2	D/3
GWP-total	[kg CO <sub>2</sub> -Eq.]	4.80E+0	3.15E-1	4.79E-1	0.00E+0	4.16E-1	0.00E+0	1.77E-2	5.83E+0	5.90E+0	3.66E-1	-1.38E-2	0.00E+0	-4.11E-1	-3.19E-1
GWP-fossil	[kg CO <sub>2</sub> -Eq.]	5.10E+0	3.09E-1	3.41E-1	0.00E+0	2.15E-1	0.00E+0	1.74E-2	5.83E+0	5.90E+0	3.65E-1	-1.38E-2	0.00E+0	-4.09E-1	-3.18E-1
GWP-biogenic	[kg CO <sub>2</sub> -Eq.]	-3.11E-1	4.00E-3	1.38E-1	0.00E+0	4.16E-3	0.00E+0	2.25E-4	8.22E-4	1.62E-3	4.42E-8	-6.61E-5	0.00E+0	-1.95E-3	-2.08E-4
GWP-luluc	[kg CO <sub>2</sub> -Eq.]	7.33E-3	1.75E-3	2.85E-4	0.00E+0	1.96E-1	0.00E+0	9.83E-5	3.03E-4	5.55E-4	1.80E-4	-1.40E-6	0.00E+0	-4.13E-5	-1.70E-4
ODP	[kg CFC11-Eq.]	1.23E-8	1.88E-14	3.70E-10	0.00E+0	3.42E-8	0.00E+0	1.06E-15	4.67E-13	8.61E-13	4.96E-13	-8.44E-14	0.00E+0	-2.48E-12	-4.58E-13
AP	[mol H <sup>+</sup> -Eq.]	1.83E-2	1.87E-3	7.72E-4	0.00E+0	8.32E-4	0.00E+0	1.05E-4	5.45E-3	5.77E-3	1.09E-3	-1.71E-5	0.00E+0	-5.06E-4	-1.22E-3
EP-freshwater	[kg P-Eq.]	5.14E-5	9.38E-7	1.60E-6	0.00E+0	5.19E-6	0.00E+0	5.26E-8	1.06E-6	1.27E-6	6.89E-5	-1.73E-8	0.00E+0	-5.07E-7	-4.41E-7
EP-marine	[kg N-Eq.]	6.28E-3	9.18E-4	2.98E-4	0.00E+0	1.97E-4	0.00E+0	5.15E-5	2.65E-3	2.79E-3	2.42E-4	-4.76E-6	0.00E+0	-1.41E-4	-3.72E-4
EP-terrestrial	[mol N-Eq.]	5.86E-2	1.02E-2	2.97E-3	0.00E+0	2.83E-3	0.00E+0	5.71E-4	2.95E-2	3.11E-2	2.66E-3	-5.11E-5	0.00E+0	-1.51E-3	-4.08E-3
POCP	[kg NMVOC-Eq.]	1.55E-2	1.74E-3	7.26E-4	4.18E-4	9.83E-4	0.00E+0	9.74E-5	6.80E-3	7.08E-3	7.79E-4	-1.34E-5	0.00E+0	-3.96E-4	-1.12E-3
ADPE	[kg Sb-Eq.]	1.19E-6	2.63E-8	3.73E-8	0.00E+0	2.30E-7	0.00E+0	1.47E-9	3.15E-8	4.25E-8	2.56E-8	-1.94E-9	0.00E+0	-5.73E-8	-3.43E-8
ADPF	[MJ]	1.05E+2	4.20E+0	3.40E+0	0.00E+0	5.90E+0	0.00E+0	2.36E-1	3.67E+0	4.74E+0	5.24E+0	-2.33E-1	0.00E+0	6.92E+0	3.38E+1
WDP	[m <sup>3</sup> world-Eq deprived]	6.19E+0	2.81E-3	2.11E-1	0.00E+0	9.99E-2	0.00E+0	1.58E-4	8.19E-1	8.25E-1	-3.92E-3	-1.32E-3	0.00E+0	-3.87E-2	-4.00E-2

Caption: GWP = Global warming potential; ODP = Depletion potential of the stratospheric ozone layer; AP = Acidification potential of land and water; EP = Eutrophication potential; POCP = Formation potential of tropospheric ozone photochemical oxidants; ADPE = Abiotic depletion potential for non-fossil resources; ADPF = Abiotic depletion potential for fossil resources; WDP = Water (user) deprivation potential

### RESULTS OF THE LCA - INDICATORS TO DESCRIBE RESOURCE USE according to EN 15804+A2: 1 m<sup>2</sup> floor covering

Indicator	Unit	A1-A3	A4	A5	B1	B2	C1	C2	C3/2	C3/3	C4/1	D	D/1	D/2	D/3
PERE	[MJ]	5.65E+1	2.39E-1	1.91E+0	0.00E+0	3.69E+0	0.00E+0	1.34E-2	6.22E-1	9.24E-1	4.31E-1	-5.84E-2	0.00E+0	-1.71E+0	-4.63E-1
PERM	[MJ]	1.79E-1	0.00E+0	-1.79E-1	0.00E+0	0.00E+0	0.00E+0	0.00E+0	0.00E+0	0.00E+0	0.00E+0	0.00E+0	0.00E+0	0.00E+0	0.00E+0
PERT	[MJ]	5.67E+1	2.39E-1	1.73E+0	0.00E+0	3.69E+0	0.00E+0	1.34E-2	6.22E-1	9.24E-1	4.31E-1	-5.84E-2	0.00E+0	-1.71E+0	-4.63E-1
PENRE	[MJ]	6.90E+1	4.21E+0	3.45E+0	0.00E+0	5.90E+0	0.00E+0	2.36E-1	4.01E+1	4.11E+1	5.24E+0	-2.33E-1	0.00E+0	-6.92E+0	-3.39E+1
PENRM	[MJ]	3.64E+1	0.00E+0	-4.30E-2	0.00E+0	0.00E+0	0.00E+0	-3.64E+1	-3.64E+1	0.00E+0	0.00E+0	0.00E+0	0.00E+0	0.00E+0	0.00E+0
PENRT	[MJ]	1.05E+2	4.21E+0	3.41E+0	0.00E+0	5.90E+0	0.00E+0	2.36E-1	3.67E+0	4.75E+0	5.24E+0	-2.33E-1	0.00E+0	-6.92E+0	-3.39E+1
SM	[kg]	1.34E+0	0.00E+0	4.01E-2	0.00E+0	0.00E+0	0.00E+0	0.00E+0	0.00E+0	0.00E+0	0.00E+0	0.00E+0	0.00E+0	0.00E+0	1.70E+0
RSF	[MJ]	0.00E+0	0.00E+0	0.00E+0	0.00E+0	0.00E+0	0.00E+0	0.00E+0	0.00E+0	0.00E+0	0.00E+0	0.00E+0	0.00E+0	0.00E+0	0.00E+0
NRSF	[MJ]	0.00E+0	0.00E+0	0.00E+0	0.00E+0	0.00E+0	0.00E+0	0.00E+0	0.00E+0	0.00E+0	0.00E+0	0.00E+0	0.00E+0	0.00E+0	0.00E+0
FW	[m <sup>3</sup> ]	1.60E-1	2.70E-4	5.41E-3	0.00E+0	3.34E-3	0.00E+0	1.51E-5	1.94E-2	1.97E-2	6.14E-5	-5.58E-5	0.00E+0	-1.64E-3	-2.97E-3

Caption: PERE = Use of renewable primary energy excluding renewable primary energy resources used as raw materials; PERM = Use of renewable primary energy resources used as raw materials; PERT = Total use of renewable primary energy resources; PENRE = Use of non-renewable primary energy excluding non-renewable primary energy resources used as raw materials; PENRM = Use of non-renewable primary energy resources used as raw materials; PENRT = Total use of non-renewable primary energy resources; SM = Use of secondary material; RSF = Use of renewable secondary fuels; NRSF = Use of non-renewable secondary fuels; FW = Use of net fresh water

### RESULTS OF THE LCA – WASTE CATEGORIES AND OUTPUT FLOWS according to EN 15804+A2: 1 m<sup>2</sup> floor covering

Indicator	Unit	A1-A3	A4	A5	B1	B2	C1	C2	C3/2	C3/3	C4/1	D	D/1	D/2	D/3
HWD	[kg]	3.08E-3	2.01E-11	9.24E-5	0.00E+0	4.19E-5	0.00E+0	1.13E-12	5.52E-10	5.97E-10	8.08E-10	-3.25E-11	0.00E+0	-9.68E-10	-2.48E-10
NHWD	[kg]	6.24E-1	6.03E-4	6.33E-2	0.00E+0	7.30E-3	0.00E+0	3.39E-5	1.49E+0	1.49E+0	5.19E+0	-1.13E-4	0.00E+0	-3.33E-3	-1.34E-1
RWD	[kg]	1.38E-3	5.18E-6	4.56E-5	0.00E+0	3.76E-4	0.00E+0	2.91E-7	1.35E-4	2.13E-4	6.44E-5	-1.67E-5	0.00E+0	-4.91E-4	-9.45E-5
CRU	[kg]	0.00E+0	0.00E+0	0.00E+0	0.00E+0	0.00E+0	0.00E+0	0.00E+0	0.00E+0	0.00E+0	0.00E+0	0.00E+0	0.00E+0	0.00E+0	0.00E+0
MFR	[kg]	2.39E-2	0.00E+0	9.27E-2	0.00E+0	0.00E+0	0.00E+0	0.00E+0	0.00E+0	0.00E+0	1.70E+0	0.00E+0	0.00E+0	0.00E+0	0.00E+0
MER	[kg]	0.00E+0	0.00E+0	0.00E+0	0.00E+0	0.00E+0	0.00E+0	0.00E+0	0.00E+0	0.00E+0	0.00E+0	0.00E+0	0.00E+0	0.00E+0	0.00E+0
EEE	[MJ]	0.00E+0	0.00E+0	2.17E-1	0.00E+0	0.00E+0	0.00E+0	7.01E+0	0.00E+0	0.00E+0	0.00E+0	0.00E+0	0.00E+0	0.00E+0	0.00E+0
EET	[MJ]	0.00E+0	0.00E+0	4.07E-1	0.00E+0	0.00E+0	0.00E+0	1.32E+1	7.30E+1	0.00E+0	0.00E+0	0.00E+0	0.00E+0	0.00E+0	0.00E+0

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

## RESULTS OF THE LCA – additional impact categories according to EN 15804+A2-optional: 1 m<sup>2</sup> floor covering

Indicator	Unit	A1-A3	A4	A5	B1	B2	C1	C2	C3/2	C3/3	C4/1	D	D/1	D/2	D/3
PM	[Disease Incidence]	1.54E-7	1.08E-8	5.79E-9	0.00E+0	6.84E-8	0.00E+0	6.07E-10	2.73E-8	2.93E-8	1.05E-8	-1.42E-10	0.00E+0	0.00E+0	-3.67E-8
IRP	[kBq U235-Eq.]	2.29E-1	7.59E-4	7.51E-3	0.00E+0	6.78E-2	0.00E+0	4.26E-5	2.04E-2	3.37E-2	9.50E-3	-2.83E-3	0.00E+0	0.00E+0	-1.13E-2
ETP-fw	[CTUe]	6.13E+1	2.91E+0	1.99E+0	3.60E-3	2.69E+0	0.00E+0	1.64E-1	1.93E+0	2.55E+0	5.13E+0	-4.68E-2	0.00E+0	0.00E+0	-6.90E+0
HTP-c	[CTUh]	2.81E-9	5.89E-11	8.90E-11	0.00E+0	6.21E-10	0.00E+0	3.31E-12	9.13E-11	1.06E-10	2.30E-10	-2.30E-12	0.00E+0	0.00E+0	-9.64E-11
HTP-nc	[CTUh]	9.51E-8	3.49E-9	3.16E-9	2.60E-11	9.46E-9	0.00E+0	1.96E-10	6.45E-9	7.16E-9	1.93E-8	-8.87E-11	0.00E+0	0.00E+0	-5.74E-9
SQP	[-]	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Caption	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 nor due to 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 or as there is limited experience with the indicator.

## References

### EN 1307

DIN EN 1307: 2014+A1:2016+A2:2018-05: Textile floor coverings - Classification

DIN EN ISO 14040:2006+A1:2020 Environmental management - Life cycle assessment - Principles and framework

### EN 13501-1

DIN EN 13501-1:2019-05: Fire classification of construction products and building elements - Part 1: Classification using data from reaction to fire tests

### ISO 14044

DIN EN ISO 14044:2006+A1:2018+A2:2020 Environmental management - Life cycle assessment - Requirements and guidelines

### EN 14041

DIN EN 14041: 2018-05: Resilient, textile and laminate floor coverings - Essential characteristics

### 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: 2017-04: 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 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

### EN 16810

DIN EN 16810: 2017-08: Resilient, textile and laminate floor coverings – Environmental product declarations – Product category rules

### Regulation (EU) No. 305/2011

Regulation No. 305/2011 Construction Products Regulation (CPR) of the European Council and of the European Parliament, April 2011

### ISO 10874

DIN EN ISO 10874: 2012+A1:2021-04: Resilient, textile and laminate floor coverings - Classification

### ISO 14025

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

### 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

### ISO 14040

**BNB, Nutzungsdauer von Bauteilen**

Bewertungssystem Nachhaltiges Bauen (BNB),  
Nutzungsdauer von Bauteilen, Bundesministerium des  
Inneren, für Bau und Heimat, 24.02.2017

**ECHA candidate list**

Candidate List of substances of very high concern  
(SVHCs) for authorisation, 08.07.2021, European  
Chemicals Agency (ECHA), Helsinki, Finland

**ecoinvent**

ecoinvent, Zurich, Switzerland, database version 3.7,  
published September 2020

**GaBi database**

GaBi Software-System and Database for Life Cycle  
Engineering, thinkstep AG, Leinfelden-Echterdingen,  
2022-1

**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, V1.2, Berlin:  
Institut Bauen und Umwelt e.V. (IBU), November 2021

**PCR Part B**

Product Category Rules for Building-Related Products  
and Services

Part B: Requirements on the EPD for floor coverings,  
V1.2, Berlin: Institut Bauen und Umwelt e.V. (IBU),  
February 2018

**PRODIS**

Product Information System (PRODIS) of the  
European Carpet Industry, Gemeinschaft  
umweltfreundlicher Teppichboden e.V (GUT) and  
European Carpet and Rug Association  
(ECRA), <http://www.pro-dis.info>

**REACH**

Regulation (EC) No 1907/2006 of the European  
Parliament and of the Council of 18 December 2006  
concerning the Registration, Evaluation, Authorisation  
and Restriction of Chemicals (REACH), June 2017,  
last update: 10.06.2022

**VDZ e.V.**

Association of German Cement Works, Ed. Environ-  
mental Data of the German Cement Industry 2020



**Publisher**

Institut Bauen und Umwelt e.V.  
Hegelplatz 1  
10117 Berlin  
Germany

Tel +49 (0)30 3087748- 0  
Fax +49 (0)30 3087748- 29  
Mail [info@ibu-epd.com](mailto:info@ibu-epd.com)  
Web [www.ibu-epd.com](http://www.ibu-epd.com)

**Programme holder**

Institut Bauen und Umwelt e.V.  
Hegelplatz 1  
10117 Berlin  
Germany

Tel +49 (0)30 - 3087748- 0  
Fax +49 (0)30 - 3087748 - 29  
Mail [info@ibu-epd.com](mailto:info@ibu-epd.com)  
Web [www.ibu-epd.com](http://www.ibu-epd.com)

**Author of the Life Cycle Assessment**

Gemeinschaft umweltfreundlicher  
Teppichboden (GUT) e.V.  
Schönebergstraße 2  
52068 Aachen  
Germany

Tel +49 (0)241 96843 410  
Fax +49 (0)241 96843 400  
Mail [mail@gut-ev.de](mailto:mail@gut-ev.de)  
Web [www.gut-ev.org](http://www.gut-ev.org)

**Owner of the Declaration**

Balsan Moquette  
Corbilly 2  
36330 Arthon  
France

Tel +33 (0) 254 2916 00  
Fax +33 (0) 254 3679 08  
Mail [cedric.charton@balsan.com](mailto:cedric.charton@balsan.com)  
Web [www.balsan.com](http://www.balsan.com)