ENVIRONMENTAL PRODUCT DECLARATION

as per ISO 14025 and EN 15804

Owner of the Declaration Forbo Flooring BV

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

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

Declaration number EPD-FOR-20140225-CAC1-EN

Issue date 12.02.2014 Valid to 11.02.2019

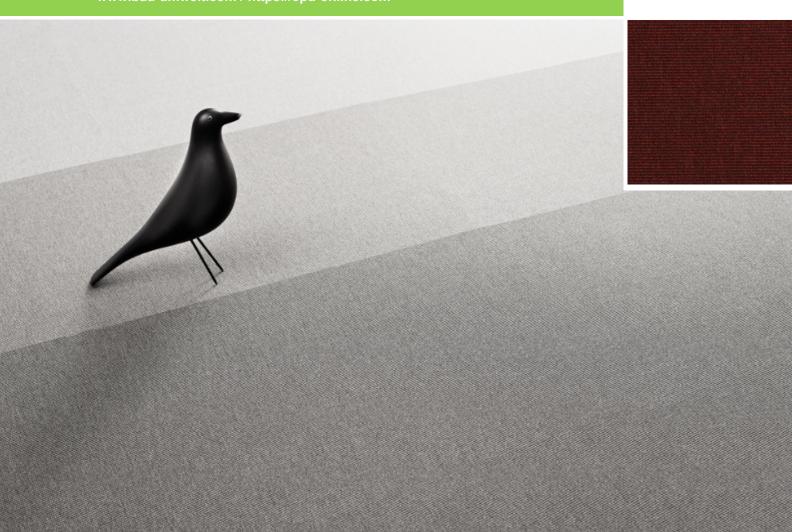
Forbo Peace

Woven broadloom carpet, pile material 500-600 g/m² polyamide 6.6

Forbo Flooring Systems

Institut Bauen und Umwelt e.V.

www.bau-umwelt.com / https://epd-online.com





General Information

Forbo Flooring Systems

Programme holder

IBU - Institut Bauen und Umwelt e.V. Panoramastr. 1 10178 Berlin Germany

Declaration number

EPD-FOR-20140225-CAC1-EN

This Declaration is based on the Product Category Rules:

Floor coverings, 07.2014 (PCR tested and approved by the independent expert committee)

Issue date

12.02.2014

Valid to

11.02.2019

Prof. Dr.-Ing. Horst J. Bossenmayer

(President of Institut Bauen und Umwelt e.V.)

Dr. Burkhart Lehmann (Managing Director IBU)

Forbo Peace

Woven broadloom carpet, Pile material 500-600 g/m² PA 6.6

Owner of the Declaration

Forbo Flooring BV P.O. Box 13 1560 AA Krommenie The Netherlands

Declared product / Declared unit

1 m² woven broadloom carpet Forbo Peace

Scope:

The declaration applies for a group of similar products with a pile material of 500-600 g/m².

It is only valid in conjunction with a valid PRODIS licence.

The carpet is produced in Bording, Denmark.

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.

Verification

The CEN Norm EN 15804 serves as the core PCR Independent verification of the declaration according to ISO 14025

internally

x externally



Dr. Eva Schmincke

(Independent tester appointed by SVA)

Product

Product description

Forbo Peace - woven broadloom carpet with a pile material made of polyamide 6.6 and a woven textile backing made of polypropylene.

The woven upper side is continuous dyed.

The declaration applies for a group of products with a total pile material input of 500-600 g/m2.

The calculations refer to the average pile material of 550 g.

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

of the average product according to /EN 1307/

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Name	Value	Unit
Product Form	broadloom carpet	-
Type of manufacture	Woven loop pile carpet	-
Yarn type	PA 6.6	-
Cocondon (booking	Woven textile backing	
Secondary backing	made of PP	-
Total pile weight	700-800	g/m²
Total carpet weight	2200 - 2300	g/m²

Additional product properties and performance ratings according to /EN 1307/ can be found on the Product Information System (PRODIS) using the PRODIS registration number of the product (www.pro-dis.info) or on the technical information of the declared product by Forbo Flooring Systems (www.forbo-flooring.com)



Base materials / Ancillary materials

Name	Value	Unit
Polyamide 6.6	26.8	%
Polyester	16.6	%
Polypropylene	3.9	%
Limestone	14.4	%
Aluminiumhydroxide	19.0	%
SBR-latex	18.3	%
Additives	1.0	%

Reference service life

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

A minimum service life of 10 years could be assumed, technical service life can be considerably longer.

LCA: Calculation rules

Declared Unit

Name	Value	Unit
Declared unit	1	m ²
Conversion factor to 1 kg (average product)	0.49	-
Mass reference (average product)	2.05	kg/m²

System boundary

Type of the EPD: Cradle-to-grave

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

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 of residual waste (except radioactive waste). Credits for electricity and steam from the incineration of production waste are aggregated.

A4 Transport:

Transport of the packed textile floorcovering from manufacturing gate to the place of installation.

A5 Installation:

Installation of the textile floorcovering, production and transport of auxiliary material, waste processing up to the landfill 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.

Credits for electricity and steam from the incineration of packaging and installation waste leave the product system.

B1 Use:

Indoor emissions during the use stage. Due to known VOC-decay curves of the product after the first year no product related VOC-emissions are relevant.

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 with the assumed service life of the floor covering in the building considered.

B3 - B7:

The modules are not relevant and therefore not declared.

C1 De-construction:

De-construction of the floorcovering is made by handcraft and causes no additional impacts.

C2 Transport:

Transport of the carpet waste to landfill, to the municipal waste incineration (MWI) or to the waste collection for recycling.

C3 Waste processing:

C3-0, C3-1: Landfill and waste incineration need no waste processing.

C3-2: Collection of the carpet waste, waste processing (granulating).

C4 Disposal

C4-0, C4-1: Impacts from landfill or from waste incineration (credits leave the system boundaries), C4-2: The processed carpet waste leaves the system and need no disposal.

D Recycling potential:

D-0, D-1: Energy credits from landfill and from waste incineration (processing with < 60% efficiency), D-2: Transport from the reprocessing plant to the cement plant, substitution of material and fuel input in the cement kiln (substantial and energetic credits).

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.



LCA: Scenarios and additional technical information

The following information refer to the declared modules and are the basis for calculations or can be used for further calculations. All indicated values refer to the declared functional unit.

Transport to the construction site (A4)

Name	Value	Unit
Litres of fuel (truck, EURO 0-5 mix)	29.4	I/100km
Transport distance	700	km
Capacity utilisation (including empty runs)	85	%
Gross density of products transported	585	kg/m³

Installation in the building (A5)

Name	Value	Unit
Auxiliary (adhesive)	0.4	kg
Material loss	0.18	kg

Polyethylene packaging waste leaves the system for recycling. Carpet installation waste is considered to be incinerated in a municipal waste incineration plant.

Maintenance (B2)

Name	Value	Unit
Maintenance cycle (wet cleaning)	1,5	1/year
Maintenance cycle (vacuum cleaning)	208	1/year
Water consumption (wet cleaning)	0.003	m ³
Cleaning agent (wet cleaning)	0,06	kg
Electricity consumption	0.314	kWh

Further information on cleaning and maintenance see www.forbo-flooring.com

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

Scenario 1: 100% municipal waste incineration (MWI) Scenario 2: 100% recycling 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 0)

- + y% impact (Scenario 1)
- + z% impact (Scenario 2)

Name	Value	Unit	
Collected as mixed construction waste	2.05	ka	
(scenario 0 and 1)	2.05	kg	
Collected separately (scenario 2)	2.05	kg	
Landfilling (scenario 0)	2.05	kg	
Energy recovery (scenario 1)	2.05	kg	
Energy recovery (scenario 2)	1.35	kg	
Recycling (scenario 2)	0.7	kg	

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

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

Recycling in the cement industry (scenario 2) /VDZ e.V./

The organic material of the carpet is used as secondary fuel in a cement kiln. It substitutes mainly lignite (62,7%), hard coal (27,3%) and petrol coke (10,0%).

The inorganic material is substantially integrated in the cement clinker and substitutes original material input.



LCA: Results

Information on not declared modules:

The modules B3 - B7 are not relevant during the service life of the carpet and are therefore not declared. Module C1 causes no additional impact (see "LCA: Calculation rules", "C1 De-construction") and is therefore not declared.

Module C2 represents the transport for scenario 0, 1 and 2.

DESC	RIP	TION (OF THE	E SYS	TEM E	BOUND	ARY	(X = IN)	CLUD	ED IN	LCA:	MND =	MOD	ULE N	OT DE	CLAR	(ED)
		STAGE	CONS' ON PR	TRUCT ROCESS AGE	ı	USE STAGE END OF LIFE STAGE BEYON SYS' BOUND				TS AND ADS ND THE TEM							
Raw material supply	Transport	Manufacturing	Transport from the gate to the site	Assembly	Ose	Maintenance	Repair	Replacement ¹⁾	Refurbishment ¹⁾	Operational energy use	Operational water use	De-construction demolition	Transport	Waste processing	Disposal	Reuse- Recovery-	Recycling- potential
A1	A2	А3	A4	A5	B1	B2	В3	B4	B5	В6	B7	C1	C2	СЗ	C4	[ס
Х	Х	Х	Х	Х	Х	Х	MND	MND	MND	MND	MND	MND	Х	Х	Х)	X
RESU	JLTS	OF T	HE LC	A - EN	IVIRO	NMENT	AL IN	IPACT	: 1 m²	floorc	overir	ıg					
Param eter	ι	Jnit	A1-A3	A4	A5	B1	B2	C2	СЗ	C3/1	C3/2	C4	C4/1	C4/2	D	D/1	D/2
GWP ODP	[kg CF	O ₂ -Eq.]	-	12	2.95E-	0.00 8 0.00E+0		13		0.00 0.00E+0	11	4.58 5.60E- 11	3.86 1.90E- 10	0.00 0.00E+0	10	-1.19 -2.50E- 10	-0.28 -6.97E-8
AP EP POCP	[kg (P(SO ₂ -Eq.] O ₄) ³ - Eq.] then Eq.]	3.65E-3 4.31E-3	9.02E- 3 -1.41E-	5 9.63E- 4 5.92E-	3 0.00E+0 4 0.00E+0 4 1.11E-4	1.99E-4 1.79E-4	5.04E-6 4 -7.88E-	0.00E+0	0.00E+0	3.42E-6 3.82E-6	2.63E-3 6.75E-4	6.69E-4 1.81E-4	0.00E+0 0.00E+0	-2.88E-5 -3.23E-5	-1.61E-4 -2.05E-4	-4.11E-4 -2.52E-4
ADPE ADPF		Sb Eq.] MJ]	4.63E-6		9 1.62E-	6 0.00E+0	6.55	10	0.00E+0	0.00E+0	1.89E-9 0.24	2.12E-8 1.57	7.33E-7 3.19	0.00E+0	-1.59E-8 -2.04	-7.05E-8 -19.80	-4.70E-8 -46.10
Captio	GW n Eut	/P = Glol trophicat	tion poten	ng poter tial; PO0	ntial; ODF CP = Fort fc	= Deplet mation po ossil resou	tion pote tential of irces; Al	ntial of the f troposplope = Ab	e stratos neric ozor iotic depl	pheric oz ne photoc etion pot	one laye chemical	r; AP = Ao oxidants;	cidification	n potenti		and wat	er; EP =
IVEOC									rcovar	rina							
Parame									rcover		C3/2	C4	C4/1	C4/2	D	D/1	D/2
Param	eter	Unit	A1-A3	A4	A5	B1	B2	C2	СЗ	C3/1	C3/2	C4	C4/1	C4/2	D -0.34	D/1	D/2
PER PERI	eter E M	Unit [MJ] [MJ]	A1-A3 10.30 0.00	A4 0.05 0.00	A5 3.25 0.00	B1 0.00 0.00	B2 0.50 0.00	0.00 0.00	0.00 0.00	C3/1 0.00 0.00	0.04	0.08	0.16 0.00	0.00	-0.34 0.00	-0.80 0.00	-0.11 0.00
PER	E M	Unit [MJ] [MJ] [MJ]	A1-A3 10.30	A4 0.05	A5 3.25	B1 0.00	B2 0.50	C2	C3	C3/1 0.00	0.04	0.08	0.16	0.00	-0.34	-0.80	-0.11
PER PERI PENF PENF	E M T RE	Unit [MJ] [MJ] [MJ] [MJ] [MJ]	10.30 0.00 10.30 187.02 32.98	0.05 0.00 0.05 1.19 0.00	3.25 0.00 3.25 26.40 0.00	B1 0.00 0.00 0.00 0.00 0.00 0.00	0.50 0.00 0.50 6.55 0.00	0.00 0.00 0.00 0.07 0.00	0.00 0.00 0.00 0.00 0.00 0.00	0.00 0.00 0.00 0.00 0.00 0.00	0.04 0.00 0.04 0.24 0.00	0.08 0.00 0.08 1.57 0.00	0.16 0.00 0.16 3.19 0.00	0.00 0.00 0.00 0.00 0.00	-0.34 0.00 -0.34 -2.04 0.00	-0.80 0.00 -0.80 -19.80 0.00	-0.11 0.00 -0.11 -46.10 0.00
PER PERI PENF PENF PENF	E M T RE RM RT	Unit [MJ] [MJ] [MJ] [MJ] [MJ] [MJ]	A1-A3 10.30 0.00 10.30 187.02 32.98 220.00	0.05 0.00 0.05 1.19 0.00 1.19	3.25 0.00 3.25 26.40 0.00 26.40	B1 0.00 0.00 0.00 0.00 0.00 0.00 0.00	0.50 0.00 0.50 0.50 6.55 0.00 6.55	0.00 0.00 0.00 0.00 0.07 0.00 0.07	0.00 0.00 0.00 0.00 0.00 0.00	0.00 0.00 0.00 0.00 0.00 0.00 0.00	0.04 0.00 0.04 0.24 0.00 0.24	0.08 0.00 0.08 1.57 0.00 1.57	0.16 0.00 0.16 3.19 0.00 3.19	0.00 0.00 0.00 0.00 0.00 0.00	-0.34 0.00 -0.34 -2.04 0.00 -2.04	-0.80 0.00 -0.80 -19.80 0.00 -19.80	-0.11 0.00 -0.11 -46.10 0.00 -46.10
PER PERI PENF PENF PENF SM RSF	E M T RE RM RT	Unit [MJ] [MJ] [MJ] [MJ] [MJ] [kg] [MJ]	10.30 0.00 10.30 187.02 32.98 220.00 0.00 4.54E-3 7	0.05 0.00 0.05 1.19 0.00 1.19 0.00 7.49E-6	3.25 0.00 3.25 26.40 0.00 26.40 0.00 5.02E-4	B1 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00E+0	0.50 0.00 0.50 6.55 0.00 6.55 0.00 2.03E-4	0.00 0.00 0.00 0.07 0.00 0.07 0.00 4.18E-7	0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.0	0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.0	0.04 0.00 0.04 0.24 0.00 0.24 0.00 4.94E-6	0.08 0.00 0.08 1.57 0.00 1.57 0.00 1.25E-3	0.16 0.00 0.16 3.19 0.00 3.19 0.00 9.06E-5	0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.0	-0.34 0.00 -0.34 -2.04 0.00 -2.04 0.00 -4.16E-5	-0.80 0.00 -0.80 -19.80 0.00 -19.80 0.00 -2.30E-4	-0.11 0.00 -0.11 -46.10 0.00 -46.10 0.00 -1.65E-5
PER PERI PENF PENF PENF SM RSF	E M T RE RM RT	Unit [MJ] [MJ] [MJ] [MJ] [MJ] [MJ] [kg] [MJ] [MJ] [MJ]	A1-A3 10.30 0.00 10.30 187.02 32.98 220.00 0.00 4.54E-3 74.75E-2 7	0.05 0.00 0.05 1.19 0.00 1.19 0.00 7.49E-6 7.85E-5	3.25 0.00 3.25 26.40 0.00 26.40 0.00 5.02E-4 5.24E-3	B1 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00E+0 0.00E+0	82 0.50 0.00 0.50 6.55 0.00 6.55 0.00 2.03E-4 2.13E-3	0.00 0.00 0.00 0.07 0.00 0.07 0.00 4.18E-7 4.38E-6	0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.0	0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.0	0.04 0.00 0.04 0.24 0.00 0.24 0.00 4.94E-6 5.17E-5	0.08 0.00 0.08 1.57 0.00 1.57 0.00 1.25E-3 2.99E-3	0.16 0.00 0.16 3.19 0.00 3.19 0.00 9.06E-5 9.40E-4	0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.0	-0.34 0.00 -0.34 -2.04 0.00 -2.04 0.00 -4.16E-5 -4.36E-4	-0.80 0.00 -0.80 -19.80 0.00 -19.80 0.00 -2.30E-4 -2.41E-3	-0.11 0.00 -0.11 -46.10 0.00 -46.10 0.00 -1.65E-5 -1.73E-4
PER PENF PENF PENF PENF SM RSF NRS FW	E M T RE RM RT F F F rene of s	MJ M	A1-A3 10.30 0.00 10.30 187.02 32.98 220.00 0.00 4.54E-3 7 4.75E-2 7 8.18E+0 4 Use of rorimary e ewable primary e ry materia	0.05 0.00 0.05 1.19 0.00 1.19 0.00 7.49E-6 7.85E-5 4.63E-3 enewab nergy re orimary cenergy re al; RSF	3.25 0.00 3.25 26.40 0.00 26.40 0.00 5.02E-4 5.24E-3 1.55E+0 le prima esources energy e esources = Use o	B1 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.	0.50 0.00 0.50 6.55 0.00 6.55 0.00 2.03E-4 2.13E-3 8.49E-1 r exclud raw manon ren raw mable seco	0.00 0.00 0.00 0.07 0.00 0.07 0.00 4.18E-7 4.38E-6 2.59E-4 ing renerterials; Fewable paterials; Indary furnish	0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.0	0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.0	0.04 0.00 0.04 0.24 0.00 0.24 0.00 4.94E-6 5.17E-5 5.24E-2 ergy resorressorressorressorressorressorressorres	0.08 0.00 0.00 1.57 0.00 1.57 0.00 1.57 0.00 1.25E-3 2.99E-3 5.80E-2 ources uswable pri used as a renewalenewable	0.16 0.00 0.16 3.19 0.00 3.19 0.00 9.06E-5 9.40E-4 1.59E-1 sed as r mary en raw ma	0.00 0.00 0.00 0.00 0.00 0.00 0.00E+0 0.00E+0 0.00E+0 aw mate ergy resterials; Parry ener	-0.34 0.00 -0.34 -2.04 0.00 -2.04 0.00 -4.16E-5 -4.36E-4 -4.42E-1 rials; PE ources; PE ENRM =	-0.80 0.00 -0.80 -19.80 0.00 -19.80 0.00 -2.30E-4 -2.41E-3 -1.03E+0 RM = Us PENRE: = Use of urces; SM	-0.11 -0.00 -0.11 -46.10 0.00 -46.10 0.00 -1.65E-5 -1.73E-4 -2.13E-1 se of = Use of non M = Use
PER PENF PENF PENF PENF SM RSF NRS FW	E M T RE RM RT F rene of s	Unit [MJ] [M] [M	A1-A3 10.30 0.00 187.02 32.98 220.00 0.00 4.54E-3 7 4.75E-2 7 8.18E+0 4 Use of normary enewable perprimary enewable perprimary enewable primary enewable perprimary enewable per	0.05 0.00 0.05 1.19 0.00 1.19 0.00 7.49E-6 7.85E-5 4.63E-3 enewab nergy re orimary cenergy re al; RSF	3.25 0.00 3.25 26.40 0.00 26.40 0.00 5.02E-4 5.24E-3 1.55E+0 le prima esources energy e esources = Use o	B1 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.	0.50 0.00 0.50 6.55 0.00 6.55 0.00 2.03E-4 2.13E-3 8.49E-1 r exclud raw manon ren raw mable seco	0.00 0.00 0.00 0.07 0.00 0.07 0.00 4.18E-7 4.38E-6 2.59E-4 ing renerterials; Fewable paterials; Indary furnish	0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.0	0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.0	0.04 0.00 0.04 0.24 0.00 0.24 0.00 4.94E-6 5.17E-5 5.24E-2 ergy resorressorressorressorressorressorressorres	0.08 0.00 0.00 1.57 0.00 1.57 0.00 1.57 0.00 1.25E-3 2.99E-3 5.80E-2 ources uswable pri used as a renewalenewable	0.16 0.00 0.16 3.19 0.00 3.19 0.00 9.06E-5 9.40E-4 1.59E-1 sed as r mary en raw ma	0.00 0.00 0.00 0.00 0.00 0.00 0.00E+0 0.00E+0 0.00E+0 aw mate ergy resterials; Parry ener	-0.34 0.00 -0.34 -2.04 0.00 -2.04 0.00 -4.16E-5 -4.36E-4 -4.42E-1 rials; PE ources; PE ENRM =	-0.80 0.00 -0.80 -19.80 0.00 -19.80 0.00 -2.30E-4 -2.41E-3 -1.03E+0 RM = Us PENRE: = Use of urces; SM	-0.11 -0.00 -0.11 -46.10 0.00 -46.10 0.00 -1.65E-5 -1.73E-4 -2.13E-1 se of = Use of non M = Use
PER PENF PENF PENF PENF SM RSF NRS FW	E MM T T RE RE PROPERTY OF STATE OF STA	Unit [MJ] [MJ] [MJ] [MJ] [MJ] [MJ] [MJ] [MJ	A1-A3 10.30 0.00 187.02 32.98 220.00 0.00 4.54E-3 7 4.75E-2 7 8.18E+0 4 Use of normary enewable perprimary enewable perprimary enewable primary enewable perprimary enewable per	0.05 0.00 0.05 1.19 0.00 1.19 0.00 7.49E-6 7.85E-5 4.63E-3 enewab nergy re orimary cenergy re al; RSF	3.25 0.00 3.25 26.40 0.00 26.40 0.00 5.02E-4 5.24E-3 1.55E+0 le prima esources energy e esources = Use o	B1 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.	0.50 0.00 0.50 6.55 0.00 6.55 0.00 2.03E-4 2.13E-3 8.49E-1 r exclud raw manon ren raw mable seco	0.00 0.00 0.00 0.07 0.00 0.07 0.00 4.18E-7 4.38E-6 2.59E-4 ing renerterials; Fewable paterials; Indary furnish	0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.0	0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.0	0.04 0.00 0.04 0.24 0.00 0.24 0.00 4.94E-6 5.17E-5 5.24E-2 ergy resorressorressorressorressorressorressorres	0.08 0.00 0.00 1.57 0.00 1.57 0.00 1.57 0.00 1.25E-3 2.99E-3 5.80E-2 ources uswable pri used as a renewalenewable	0.16 0.00 0.16 3.19 0.00 3.19 0.00 9.06E-5 9.40E-4 1.59E-1 sed as r mary en raw ma	0.00 0.00 0.00 0.00 0.00 0.00 0.00E+0 0.00E+0 0.00E+0 aw mate ergy resterials; Parry ener	-0.34 0.00 -0.34 -2.04 0.00 -2.04 0.00 -4.16E-5 -4.36E-4 -4.42E-1 rials; PE ources; PE ENRM =	-0.80 0.00 -0.80 -19.80 0.00 -19.80 0.00 -2.30E-4 -2.41E-3 -1.03E+0 RM = Us PENRE: = Use of urces; SM	-0.11 -0.00 -0.11 -46.10 0.00 -46.10 0.00 -1.65E-5 -1.73E-4 -2.13E-1 se of = Use of non M = Use
PER PERIF PENF PENF PENF SM RSF NRS FW	E M M T T RE RE REPORTED TO THE REPORTED TO TH	Unit [MJ] [MJ] [MJ] [MJ] [MJ] [MJ] [MJ] [MJ	A1-A3 10.30 0.00 10.30 10.30 187.02 32.98 220.00 0.00 4.54E-3 74.75E-2 78.18E+0 4 Use of rivinary elewable primary elewable	0.05 0.00 0.05 0.00 1.19 0.00 1.19 0.00 7.49E-6 4.63E-3 enewab nergy real; RSF	3.25 0.00 3.25 26.40 0.00 26.40 0.00 5.02E-4 5.24E-3 1.55E+0 le prima esources energy e esources = Use o	0.00 0.00	0.50 0.00 0.50 0.50 0.50 6.55 0.00 2.03E-4 2.13E-3 8.49E-1 r exclud raw ma non ren raw ma ble seco	0.00 0.00 0.00 0.07 0.00 0.07 0.00 4.18E-7 4.38E-6 2.59E-4 ing rener terials; F ewable paterials; Indary fu	C3 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00E+0 0.00E+0 PERT = Torimary e PENRT = els; NRS wate STE C.	0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.0	0.04 0.00 0.04 0.24 0.00 0.24 0.00 4.94E-6 5.17E-5 5.24E-2 ergy resources see of nor of non r	0.08 0.00 0.08 1.57 0.00 1.57 0.00 1.25E-3 2.99E-3 5.80E-2 ources used as a renewal enewable	0.16 0.00 0.16 3.19 0.00 3.19 0.00 9.06E-5 9.40E-4 1.59E-1 sed as r mary en raw ma ble prim e second	0.00 0.00 0.00 0.00 0.00 0.00 0.00E+0 0.00E+0 0.00E+0 aw mate ergy res terials; F lary ener dary fuel	-0.34 -0.00 -0.34 -2.04 0.00 -2.04 0.00 -4.16E-5 -4.36E-4 -4.42E-1 rials; PE ources; I PENRM = gy resot s; FW =	-0.80 -0.80 -19.80 0.00 -19.80 0.00 -2.30E-4 -2.41E-3 -1.03E+0 RM = Us PENRE : = Use of n	-0.11 -0.00 -0.11 -46.10 0.00 -46.10 0.00 -1.65E-5 -1.73E-4 -2.13E-1 se of = Use of non M = Use elet fresh
PER PERIF PENF PENF PENF SM RSF NRS FW Captio	E M T T RE RE REPORTED TO THE	Unit [MJ] [MJ] [MJ] [MJ] [MJ] [MJ] [MJ] [MJ	A1-A3 10.30 0.00 10.30 10.30 10.30 2.98 220.00 0.00 4.54E-3 74.75E-2 78.18E+0 20 20 20 20 20 20 20 20 20 20 20 20 20	0.05 0.00 0.05 0.00 0.05 1.19 0.00 1.19 0.00 7.49E-6 7.85E-5 4.63E-3 energy real; RSF	3.25 0.00 3.25 26.40 0.00 26.40 0.00 5.02E-4 5.24E-3 1.55E+0 le prima seources energy e esources = Use o	0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.0	0.50 0.00 0.50 0.50 0.50 0.00 6.55 0.00 2.03E-4 2.13E-3 3.49E-1 raw manon ren raw manon raw manon raw manon ren raw manon raw manon r	0.00 0.00 0.00 0.00 0.07 0.00 0.07 0.00 4.18E-7 4.38E-6 2.59E-4 indary fu	0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.0	0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.0	0.04 0.00 0.00 0.04 0.24 0.00 0.24 0.00 4.94E-6 5.17E-5 5.24E-2 ergy res of renews sources se of nor of non r	0.08 0.00 0.00 1.57 0.00 1.57 0.00 1.25E-3 2.99E-3 5.80E-2 ources used as a renewal enewable	0.16 0.00 0.16 3.19 0.00 3.19 0.00 9.06E-5 1.59E-1 sed as r mary en raw ma ble prim e second	0.00 0.00 0.00 0.00 0.00 0.00 0.00E+0 0.00E+0 0.00E+0 aw mate ergy resterials; Faary enerdary fuel	-0.34 -0.00 -0.34 -2.04 0.00 -2.04 0.00 -4.16E-5 -4.36E-4 -4.42E-1 rials; PE ources; I PENRM = gy resou s; FW =	-0.80 -0.80 -19.80 -0.00 -19.80 0.00 -19.80 0.00 -2.30E4 -2.41E-3 -1.03E+0 RM = Use of Irrces; SN Use of n D/1 0.00E+0 -1.08E+0	-0.11 -0.00 -0.11 -46.10 -0.00 -46.10 -0.00 -1.65E-5 -1.73E-4 -2.13E-1 se of = Use of non M = Use et fresh
PER PERIF PENIF PE	E M T T RE REMM RRT PROPERTY OF STATE O	Unit [MJ] [MJ] [MJ] [MJ] [MJ] [MJ] [MJ] [MJ	A1-A3 10.30 0.00 10.30 10.30 10.30 10.30 20.00 10.30 32.98 220.00 0.00 4.54E-3 74.75E-2 78.18E+0 20 20 20 20 20 20 20 20 20 20 20 20 20	0.05 0.00 0.05 0.00 0.05 1.19 0.00 1.19 0.00 7.49E-6 7.85E-5 4.63E-3 energy real; RSF	3.25 0.00 3.25 26.40 0.00 26.40 0.00 5.02E-4 5.24E-3 1.55E+0 le prima seources energy e esources = Use o	0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.0	0.50 0.00 0.50 0.50 0.50 0.50 6.55 0.00 2.03E-4 2.13E-3 8.49E-1 raw manon ren raw manon raw ma	0.00 0.00 0.00 0.07 0.00 0.07 0.00 4.18E-7 4.38E-6 2.59E-4 iterials; fewable aterials; indary fu	0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.0	0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.0	0.04 0.00 0.04 0.24 0.00 0.24 0.00 0.24 0.00 4.94E-6 5.17E-5 5.24E-2 ergy res of renews se of non r	0.08 0.00 0.08 1.57 0.00 1.57 0.00 1.25E-3 2.99E-3 5.80E-2 ources used as a renewable pri used as a renewable pri used as a renewable constant of the constant of th	0.16 0.00 0.16 3.19 0.00 3.19 0.00 9.06E-5 9.40E-4 1.59E-1 sed as r mary en raw ma ble prim e second	0.00 0.00 0.00 0.00 0.00 0.00 0.00E+0 0.00E+0 aw mate ergy resterials; F lary ener dary fuel	0.34 0.00 -0.34 -2.04 0.00 -2.04 0.00 -4.16E-5 -4.36E4 -4.42E-1 rials; PE ources; I PENRM = gy resoo s; FW =	-0.80 -0.80 -19.80 -0.00 -19.80 -0.00 -2.30E-4 -2.41E-3 -1.03E+0 RM = Use of Incres; SN Use of Incres; SN Use of Incres; SN -1.08E+0 -1.08E+0 -7.00E-4	-0.11 0.00 -0.11 -46.10 0.00 -46.10 0.00 -1.65E-5 -1.73E-4 -2.13E-1 se of = Use of non VI = Use et fresh
PER PERIF PENF PENF PENF SM RSF NRS FW Captio	E E T T T T T T T T T T T T T T T T T T	Unit [MJ] [MJ] [MJ] [MJ] [MJ] [MJ] [MJ] [MJ	A1-A3 10.30 0.00 10.30 10.30 10.30 2.98 220.00 0.00 4.54E-3 74.75E-2 78.18E+0 20 20 20 20 20 20 20 20 20 20 20 20 20	0.05 0.00 0.05 0.00 0.05 1.19 0.00 1.19 0.00 7.49E-6 7.85E-5 4.63E-3 energy real; RSF	3.25 0.00 3.25 26.40 0.00 26.40 0.00 5.02E-4 5.24E-3 1.55E+0 le prima seources energy e esources = Use o	0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.0	0.50 0.00 0.50 0.50 0.50 0.00 6.55 0.00 2.03E-4 2.13E-3 3.49E-1 raw manon ren raw manon raw manon raw manon ren raw manon raw manon r	0.00 0.00 0.00 0.00 0.07 0.00 0.07 0.00 4.18E-7 4.38E-6 2.59E-4 indary fu	0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.0	0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.0	0.04 0.00 0.00 0.04 0.24 0.00 0.24 0.00 4.94E-6 5.17E-5 5.24E-2 ergy res of renews sources se of nor of non r	0.08 0.00 0.00 1.57 0.00 1.57 0.00 1.25E-3 2.99E-3 5.80E-2 ources used as a renewal enewable	0.16 0.00 0.16 3.19 0.00 3.19 0.00 9.06E-5 1.59E-1 sed as r mary en raw ma ble prim e second	0.00 0.00 0.00 0.00 0.00 0.00 0.00E+0 0.00E+0 0.00E+0 aw mate ergy resterials; Faary enerdary fuel	-0.34 -0.00 -0.34 -2.04 0.00 -2.04 0.00 -4.16E-5 -4.36E-4 -4.42E-1 rials; PE ources; I PENRM = gy resou s; FW =	-0.80 -0.80 -19.80 -0.00 -19.80 0.00 -19.80 0.00 -2.30E4 -2.41E-3 -1.03E+0 RM = Use of Irrces; SN Use of n D/1 0.00E+0 -1.08E+0	-0.11 -0.00 -0.11 -46.10 -0.00 -46.10 -0.00 -1.65E-5 -1.73E-4 -2.13E-1 se of = Use of non M = Use et fresh
PER PENF PENF PENF SM RSF NRS FW Captio	E M M T T RE RE REPORTED TO THE REPORTED TO TH	Unit [MJ] [MJ]	A1-A3 10.30 0.00 10.30 187.02 32.98 220.00 0.00 4.5454-3 7.475E-2 7.8.18E+01 Use of reprimary expenses of the primary expenses of the prima	A4 0.05 0.00 0.00 1.19 0.00 1.19 0.00 7.49E-6 7.85E-5 4.63E-3 enewab nergy reprimary of the command	A5 3.25 0.00 3.25 0.00 26.40 0.00 26.40 0.00 5.02E-3 1.55E+0 le prima esources energy e esources = Use or JTPUT A5 5.98E-7 1.23E+0 4.45E-4 0.00 0.05 0.00	B1 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.	B2 0.50 0.00 0.00 0.50 0.50 0.00 6.55 0.00 2.03E-4 2.13E-3 8.49E-1 7 excludir aw manon ren raw male secon VS AN B2 0.00E+0 6.20E-1 3.95E-4 0.00 0.00 0.00	0.00 0.00 0.00 0.00 0.07 0.00 0.07 0.00 4.18E-7 4.38E-6 2.59E-4 ing rener terials; Indary fu D WA C2 0.00E+0 2.36E-4 9.21E-8 0.00 0.00 0.00	C3 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00E+0 0.00	C3/1 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00E+0 0.00E+0 Total use energy resorted use energy res	0.04 0.00 0.00 0.04 0.24 0.00 0.24 0.00 5.24E-2 ergy resorresse of renewsources see of nor of non resources.	0.08 0.00 0.00 0.08 1.57 0.00 1.57 0.00 1.25E-3 2.99E-3 5.80E-2 ources uswable pri used as a renewalenewable C4 0.00E+0 1.56E+0 2.87E-5 0.00 0.00	0.16 0.00 0.16 3.19 0.00 3.19 0.00 3.19 0.00 3.19 0.00 4.05 9.40E-4 1.59E-1 sed as r mary en raw ma ble prime e second 7.12E-1 9.87E-5 0.00	0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.0	-0.34 -0.00 -0.34 -2.04 -0.00 -2.04 -0.00 -2.04 -4.16E-5 -4.36E-4 -4.42E-1 rials; PE ources; I PENRM = 29y resous; FW =	-0.80 -0.80 -0.80 -19.80 -0.00 -19.80 -0.00 -19.80 -19.80 -1.03E+0 -2.30E-4 -2.41E-3 -1.03E+0 -1.08E+0 -1.08E+0 -7.00E-4 -0.00 -0.00	-0.11 -0.00 -0.11 -46.10 -0.00 -46.10 -0.00 -1.65E-5 -1.73E-4 -2.13E-1 se of = Use of non M = Use tet fresh D/2 0.00E+0 -3.57E+1 -7.02E-5 0.000 0.00
PER PERIF PENF PENF PENF PENF PENF PENF PENF PEN	E M T T REE REMAINS TO THE REPORT OF STATE OF ST	Unit [MJ] PERE = ewable percondare OF TI COVERT Unit [kg]	A1-A3 10.30 .000 187.02 32.98 220.00 0.00 4.54E-3 74.75E-2 78.18E+0 4-75E-2 10.00	A4 0.05 0.00 0.05 0.00 1.19 0.00 1.19 0.00 7.49E-6 7.85E-5 4.63E-3 enewab nergy re orimary conergy re orimary 4 2.00E+0 4.22E-3 1.65E-6 0.00 0.00 0.00	A5 3.25 0.00 3.25 0.00 26.40 0.00 26.40 0.00 5.02E-4 5.24E-3 1.55E+0 le prima ssources energy e esources = Use o JTPU A5 5.98E-7 1.23E+0 4.45E-4 0.00 0.05 0.00 0.17	B1 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.	B2 0.50 0.00 0.50 0.00 0.50 0.00 6.55 0.00 2.03E-4 2.13E-3 8.49E-1 7 exclud raw manon ren raw mable seco VS AN B2 0.00E+0 6.20E-1 3.95E-4 0.00 0.00 0.00	0.00 0.00 0.00 0.00 0.07 0.00 0.07 0.00 4.18E-7 4.38E-6 2.59E-4 ing rener terials; Fewable paterials; Indary fur the second seco	C3 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00E+0 0.00E+0	C3/1 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0	0.04 0.00 0.00 0.24 0.00 0.24 0.00 4.94E-6 5.17E-5 5.24E-2 ergy resorressources see of nor of non r	0.08 0.00 0.00 0.08 1.57 0.00 1.57 0.00 1.25E-3 2.99E-3 5.80E-2 ources uswable pri used as a renewal enewable C4 0.00E+0 1.56E+0 2.87E-5 0.00 0.00 0.86	0.16 0.00 0.16 3.19 0.00 3.19 0.00 9.06E-5 9.40E-4 1.59E-1 sed as r mary en raw ma ble prime e second C4/1 0.00E+0 7.12E-1 9.87E-5 0.00 0.00 1.83	0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.0	-0.34 -0.00 -0.34 -2.04 -0.00 -2.04 -0.00 -4.16E-5 -4.36E-4 -4.42E-1 rials; PEources; IPENRM = gy resot s; FW =	-0.80 -0.80 -0.80 -19.80 -0.00 -19.80 -0.00 -19.80 -19.80 -10.00 -1.03E+0 -1.03E+0 -1.03E+0 -1.08E+0 -1.08E+0 -1.08E+0 -0.00 -0.00 -0.00	-0.11 -0.00 -0.11 -46.10 -0.00 -46.10 -0.00 -1.65E-5 -1.73E-4 -2.13E-1 se of = Use of non M = Use let fresh D/2 -0.00E+0 -3.57E+1 -7.02E-5 -0.00 -0.00 -0.00
PER PENF PENF PENF SM RSF NRS FW Captio	E M T T REE REMAINS TO SERVICE TRANSPORT TRAN	Unit [MJ] PERE = ewable percondare OF TI COVERT Unit [kg]	A1-A3 10.30 0.00 10.30 10.30 187.02 32.98 220.00 0.00 4.54E-3 74.75E-2 78.818E+0 4 Use of rimary e ewable primary e ewable primary e for the company of the	A4 0.05 0.00 0.05 0.00 1.19 0.00 1.19 0.00 7.49E-6 7.85E-5 4.63E-3 enewab nergy re orimary cenergy re al; RSF A — OI A4 0.00E+0 4.22E-3 1.65E-6 0.00 0.00 0.00 0.00	A5 3.25 0.00 3.25 0.00 26.40 0.00 26.40 0.00 5.02E-4 5.24E-3 1.155E+0 4.45E-4 0.00 4.45E-4 0.00 0.05 0.00 0.17 1.13	B1 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.	B2 0.50 0.00 0.50 0.00 0.50 0.00 6.55 0.00 2.03E-4 2.13E-3 8.49E-1 7 exclud raw manon ren raw mable seco VS AN B2 0.00E+0 6.20E-1 0.00 0.00 0.00 0.00	0.00 0.00 0.00 0.00 0.07 0.00 0.07 0.00 4.18E-7 4.38E-6 2.59E-4 ing rener terials; Fewable paterials; Indary fur the second of t	C3 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00E+0 0.00E+0	C3/1 0.00 0.00 0.00 0.00 0.00 0.00 0.00E+0 0.	0.04 0.00 0.00 0.24 0.00 0.24 0.00 4.94E-6 5.17E-5 5.24E-2 ergy resorressources see of nor of non r	0.08 0.00 0.00 0.08 1.57 0.00 1.57 0.00 1.57 0.00 1.25E-3 2.99E-3 5.80E-2 0urces uswable pri used as a renewalenewable C4 0.00E+0 1.56E+0 2.87E-5 0.00 0.00 0.00 0.86 0.00	0.16 0.00 0.16 3.19 0.00 3.19 0.00 9.06E-5 9.40E-4 1.59E-1 sed as r mary en raw ma ble prim e secon C4/1 0.00E+0 7.12E-1 9.87E-5 0.00 0.00 1.83 12.50	0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.0	-0.34 -0.00 -0.34 -2.04 -0.00 -2.04 -0.00 -4.16E-5 -4.36E-4 -4.42E-1 rials; PEources; IPENRM = gy resot s; FW =	-0.80 -0.80 -0.80 -19.80 -0.00 -19.80 -0.00 -19.80 -19.80 -19.80 -10.00	-0.11 -0.00 -0.11 -46.10 -0.00 -46.10 -0.00 -1.65E-5 -1.73E-4 -2.13E-1 Se of = Use of non M = Use it fresh D/2 -0.00E+0 -3.57E+1 -7.02E-5 -0.00 -0.00 -0.00 -0.00 -0.00

The declared values in module B2 have to be multiplied with the assumed service time (in years) of the floor covering in the building considered.

thermal energy



References

Institut Bauen und Umwelt

Institut Bauen und Umwelt e.V., Berlin (pub.): Generation of Environmental Product Declarations (EPDs);

ISO 14025

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General Principles

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PCR Part A

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Publisher

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