# **ENVIRONMENTAL PRODUCT DECLARATION**

as per ISO 14025 and EN 15804

Owner of the Declaration	
Programme holder	Institut Bauen und Umwelt e.V. (IBU)
Publisher	Institut Bauen und Umwelt e.V. (IBU)
Declaration number	EPD-DES-20130054-CBD1-EN
Issue date	08/05/2013
Valid to	07/05/2018

# Tufted carpet tiles Pile material 600-700 g/m<sup>2</sup> polyamide 6 with 100 % recycled content and a modified bitumen backing Desso<sup>®</sup>



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





# **General Information**

Desso®

#### Programme holder

IBU - Institut Bauen und Umwelt e.V. Rheinufer 108 D-53639 Königswinter

# Declaration number

EPD-DES-20130054-CBD1-EN

# This Declaration is based on the Product Category Rules:

Floor coverings, 07-2012 (PCR tested and approved by the independent expert committee)

**Issue date** 08/05/2013

Valid to 07/05/2018

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Prof. Dr.-Ing. Horst J. Bossenmayer (President of Institut Bauen und Umwelt e.V.)

Prof. Dr.-Ing. Hans-Wolf Reinhardt (Chairman of SVA)

# Product

#### **Product description**

Tufted carpet tiles with a surface pile of solution-dyed polyamide 6 with 100% recycled content, and a modified bitumen backing.

The declaration applies for a group of products with a total pile-material input of 600-700 g/m<sup>2</sup>.

The calculations refer to the average pile-material input of 650 g.

The recycled content out of total weight amount to 15,5%.

#### Application

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

### Tufted carpet tiles Pile material 600-700 g/m<sup>2</sup> polyamide 6 with 100 % recycled content and a modified bitumen backing

#### Owner of the Declaration

Desso BV Taxandriaweg 15 5142 PA Waalwijk, The Netherlands

#### Declared product / Declared unit

 $1m^2$  tufted carpet tiles with a surface pile of 600-700 g/m² recycled polyamide 6 and a modified bitumen backing.

#### Scope:

The declaration applies for a group of tufted modular carpet tiles.

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

The products are produced in the manufacturing site Dendermonde, Belgium (tufting) and in Waalwijk, The Netherlands (precoating and heavy coating).

The owner of the declaration shall be liable for the underlying information and evidence.

#### Verification

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

internally x externally

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Dr. Eva Schmincke (Independent tester appointed by SVA)

#### **Technical Data**

#### **Constructional data**

Name	Value	Unit
Product Form	Tiles	-
Type of manufacture	Tufted	-
Yarn type	100% recycled PA 6	-
Secondary backing	Heavy backing bitumen based with textile bottom	-
	and reinforcement	
Total pile weight	600-700	g/m²
Total carpet weight	4200	g/m²

Additional product properties 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



#### **Base materials / Ancillary materials**

Name	Value	Unit
Polyamide 6	16,8	%
Polyester	1,3	%
Polypropylene	1,0	%
Limestone	59,0	%
Bitumen	13,6	%
Aluminium hydroxide	1,2	%
Latex	5,8	%
Glass fibre	0,7	%
Additives	0,6	%

# LCA: Calculation rules

#### **Declared Unit**

#### Declared unit

Name	Value	Unit
Declared unit	1	m <sup>2</sup>
Conversion factor to 1 kg (average product)	0.24	-
Mass reference (average product)	4,2	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 incl. its transport to the place of installation.

Credits for electricity and steam from the incineration of 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 floorcovering for a period of 1 year:

- Vacuum cleaning – electricity supply

#### 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.

# - 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 time of the floor covering in the building considered.

#### <u>B3 - B7:</u>

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	l/100km
Transport distance	700	km
Capacity utilisation (including empty runs)	85	%
Gross density of products transported	700	kg/m <sup>3</sup>

#### Installation in the building (A5)

Name	Value	Unit
Auxiliary (Fixing agent)	0.2	kg
Material loss	0.13	kg
Cardboard woote (peakaging motoria		the

Cardboard waste (packaging material) leaves the system for recycling. Installation waste is considered to be incinerated in a municipal waste incineration plant.

#### Maintenance (B2)

Indication per m<sup>2</sup> and year

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 <sup>3</sup>
Cleaning agent (wet cleaning)	0,06	kg
Electricity consumption	0.314	kWh
Further information on algoning and a	naintanar	

Further information on cleaning and maintenance see www.desso.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 (scenario 0 and 1)	4.2	kg
Collected separately (scenario 2)	4.2	kg
Landfilling (scenario 0)	4.2	kg
Energy recovery (scenario 1)	4.2	kg
Energy recovery (scenario 2)	1,6	kg
Recycling (scenario 2)	2.6	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.

<u>Recycling in the cement industry (scenario 2)</u> 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 time 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		ED IN	LCA;	MND =	MOD	ULE N	OT DE	ECLAR	ED)	
PROE	DUCT	STAGE	ON PR	TRUCT ROCESS AGE	·	USE STAGE END OF LIFE STAGE BEVEFITS A LOADS BEYOND TI SYSTEM BOUNDAR				END OF LIFE STAGE				ADS ID THE TEM				
Raw material supply	Transport	Manufacturing	Transport	Construction- installation process	Use	Maintenance	Repair	Replacement <sup>1)</sup>	Refurbishment <sup>1)</sup>	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		כ	
Х	Х	X	X	X	X	X	MND	MND	MND	MND	MND	MND	X	X	Х	>	<b>〈</b>	
RESU	ILTS	OF T	HE LC	A - EN	IVIRO	NMENT	TAL IN	IPACT	: 1 m²	floorc	overir	ng						
Param eter	ι	Unit	A1 - A3	3 A4	A5	B1	B2	C2	C3	C3/1	C3/2	C4	C4/1	C4/2	D	D/1	D/2	
GWP	[kg C	CO <sub>2</sub> -Eq.]	7.43	0.176			0.29	0.01	0	0	0.028	9.38	7.93	0	-0.237	-2.44	-0.368	
ODP		C11-Eq.	-	7 3.1E-1					3 0.0E+0							-5.0E-10		
AP EP		3O <sub>2</sub> -Eq.] O₄) <sup>3-</sup> - Eq.	3.77E-2	_					5 0.0E+0 5 0.0E+0			1.15E-3					-2.55E-3 -5.29E-4	
POCP		04)" - Eq. then Ea.1		3 -2.91E					5 0.0E+0			0.39E-3					-3.29E-4	
ADPE		Sb Eq.]		1 6.58E-					0.0E+0			4.35E-8				-1.45E-7		
ADPF	[]	[MJ]	145	2.44	8.41	0	6.55	0.136	0	0	0.495	3.21	6.8	0	-4.17	-40.6	-61.8	
Caption	n Eut	trophica	tion poten	itial; PO	CP = For	P = Deplet mation po ossil resou	tential of urces; Al	tropospl	neric ozor iotic deple	ne photoc etion pote	chemical	oxidants	; ADPE =					
RESU			HE LC	A - KE	-5006		5E: 1 r	n- fioc	rcover	ring	RESULTS OF THE LCA - RESOURCE USE: 1 m <sup>2</sup> floorcovering							
Parame	-tor	Unit	A1 - A3															
				A4	A5	B1	B2	C2	C3	C3/1	C3/2	C4	C4/1	C4/2	D	D/1	D/2	
PERI	E	[MJ]	9.37	0.096	1.79	0	0.5	0.005	0	0	0.083	0.155	0.306	0	-0.696	-1.63	-0.168	
PER	E M	[MJ] [MJ]	9.37 0	0.096	1.79 0	0	0.5	0.005	0	0	0.083	0.155 0	0.306	0	-0.696 0	-1.63 0	-0.168 0	
PERI	E M T	[MJ]	9.37	0.096	1.79	0	0.5	0.005	0	0	0.083	0.155	0.306	0	-0.696	-1.63	-0.168	
PERI PERI PER	E M T RE	[MJ] [MJ] [MJ]	9.37 0 9.37 88.56 56.44	0.096 0 0.096	1.79 0 1.79	0 0 0	0.5 0 0.5	0.005 0 0.005	0 0 0	0 0 0	0.083 0 0.083	0.155 0 0.155	0.306 0 0.306	0 0 0	-0.696 0 -0.696	-1.63 0 -1.63	-0.168 0 -0.168	
PERI PERI PER PENR PENR PENR	E	[MJ] [MJ] [MJ] [MJ] [MJ] [MJ]	9.37 0 9.37 88.56 56.44 145	0.096 0 0.096 2.44 0 2.44	1.79 0 1.79 8.41 0 8.41	0 0 0 0 0 0 0	0.5 0 0.5 6.55 0 6.55	0.005 0 0.005 0.136 0 0.136	0 0 0 0 0 0	0 0 0 0 0 0	0.083 0 0.083 0.496 0 0.496	0.155 0 0.155 3.21 0 3.21	0.306 0 0.306 6.8 0 6.8	0 0 0 0 0 0	-0.696 0 -0.696 -4.18 0 -4.18	-1.63 0 -1.63 -40.6 0 -40.6	-0.168 0 -0.168 -61.8 0 -61.8	
PERI PERI PERI PENR PENR PENR SM	E M T RE RE RT	[MJ] [MJ] [MJ] [MJ] [MJ] [MJ] [Kg]	9.37 0 9.37 88.56 56.44 145 0.696	0.096 0 0.096 2.44 0 2.44 0	1.79 0 1.79 8.41 0 8.41 0.017	0 0 0 0 0 0 0 0 0	0.5 0.5 6.55 0 6.55 0 6.55 0	0.005 0 0.005 0.136 0 0.136 0	0 0 0 0 0 0 0 0	0 0 0 0 0 0 0 0	0.083 0 0.083 0.496 0 0.496 0.496	0.155 0 0.155 3.21 0 3.21 0	0.306 0 0.306 6.8 0 6.8 0 6.8 0	0 0 0 0 0 0 0	-0.696 0 -0.696 -4.18 0 -4.18 0	-1.63 0 -1.63 -40.6 0 -40.6 0	-0.168 0 -0.168 -61.8 0 -61.8 0	
PERI PERI PERI PENR PENR PENR SM RSF		[MJ] [MJ] [MJ] [MJ] [MJ] [MJ] [kg] [MJ]	9.37 0 9.37 88.56 56.44 145 0.696 1.98E-3	0.096 0.096 2.44 0 2.44 0 1.54E-5	1.79 0 1.79 8.41 0 8.41 0.017 1.17E-4	0 0 0 0 0 0 0 0 0 0 0.0E+0	0.5 0 0.5 6.55 0 6.55 0 6.55 0 2.03E-4	0.005 0.005 0.136 0.136 0.136 0.8.57E-7	0 0 0 0 0 0 0 0 0.0E+0	0 0 0 0 0 0 0 0 0.0E+0	0.083 0 0.083 0.496 0 0.496 0 1.01E-5	0.155 0 0.155 3.21 0 3.21 0 2.57E-3	0.306 0 0.306 6.8 0 6.8 0 1.86E-4	0 0 0 0 0 0 0 0.0E+0	-0.696 0 -0.696 -4.18 0 -4.18 0 -8.53E-5	-1.63 0 -1.63 -40.6 0 -40.6 0 -4.7E-4	-0.168 0 -0.168 -61.8 0 -61.8 0 -2.13E-5	
PERI PERI PERI PENR PENR PENR SM	E ////////////////////////////////////	[MJ] [MJ] [MJ] [MJ] [MJ] [MJ] [kg] [MJ] [MJ]	9.37 0 9.37 88.56 56.44 145 0.696 1.98E-3 2.07E-2	0.096 0.096 2.44 0 2.44 0 1.54E-5 1.62E-4	1.79 0 1.79 8.41 0 8.41 0.017 1.17E-4 1.22E-3	0 0 0 0 0 0 0 0 0	0.5 0 0.5 6.55 0 6.55 0 2.03E-4 2.13E-3	0.005 0.005 0.136 0.136 0.136 0.8.57E-7	0 0 0 0 0 0 0 0.0E+0	0 0 0 0 0 0 0 0.0E+0 0.0E+0	0.083 0 0.083 0.496 0 0.496 0 1.01E-5 1.06E-4	0.155 0 0.155 3.21 0 3.21 0 2.57E-3	0.306 0 0.306 6.8 0 6.8 0 1.86E-4 1.93E-3	0 0 0 0 0 0 0.0E+0 0.0E+0	-0.696 0 -0.696 -4.18 0 -4.18 0 -8.53E-5 -8.93E-4	-1.63 0 -1.63 -40.6 0 -40.6 0	-0.168 0 -0.168 -61.8 0 -61.8 0 -2.13E-5 -2.2E-4	
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PERI PERR PENR PENR PENR SM RSF NRSI FW Caption	E M M RE RE RT RT F F F F I T T T S T C T S C S C S C S C S C S C S	MJ MJ MJ MJ MJ MJ MJ MJ MJ MJ MJ MJ m <sup>2</sup> PERE = ewable seconda	9.37 0 9.37 88.56 56.44 145 0.696 1.98E-3 2.07E-2 1.95E+1 9 1.95E+1 1.95E+1 1.95E+1 1.95E+1 1.95E+1 1.95E+1 Primary entries the state of the state primary entries the state of the state of the state primary entries the state of the state of the state primary entries the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state o	0.096 0 0.096 2.44 0 1.54E-5 1.62E-4 9.54E-3 enewab nergy ro primary energy r al; RSF	1.79 0 1.79 8.41 0 1.77E4 1.22E-3 1.05E+0 ble prima esources energy e esources = Use o	0 0 0 0 0 0 0 0 0 0 0 0 0 0	0.5 0 0.5 6.55 0 6.55 0 2.03E-4 2.13E-3 8.49E-1 v exclud raw ma non ren a raw ma ble seco VS AN B2 0	0.005 0 0.005 0.136 0 0.136 0 8.57E-7 8.98E-6 5.3E-4 ng renev terials; F ewable p terials; I ndary fu	0 0 0 0 0.0E+0 0.0E+0 0.0E+0 0.0E+0 0.0E+0 0.0E+0 vable pri PERT = T primary e PENRT = els; NRS wate STE C.	0 0 0 0 0 0 0 0 0 0 0 0 0 0	0.083 0 0.083 0.496 0 1.01E-5 1.06E-4 1.07E-1 1.07E-1 1.07E-1 t.07E-1 ergy res of renew sources se of non of non r	0.155 0 0.155 3.21 0 2.57E-3 6.13E-3 1.19E-1 1.19E-1 sused as n renewable renewable	0.306 0 0.306 6.8 0 1.86E-4 1.93E-3 3.24E-1 imary en a raw ma able prime	0 0 0 0 0.0E+0 0.0E+0 0.0E+0 aw mate ergy res terials; F ary ener dary fuel	-0.696 0 -0.696 -4.18 0 -4.18 0 -8.53E-5 -8.93E-4 -9.05E-1 -9.05E-1 -9.05E-1 -9.05E-1 P2NRM = 29y resou s; FW =	-1.63 0 -1.63 -40.6 0 -4.7E-4 -4.93E-3 -2.12E+0 -2.12E+0 FENRE = Use of n Use of n	-0.168 0 -0.168 -61.8 0 -61.8 0 -2.13E-5 -2.2E-4 -2.29E-1 -2.29E-1 se of = Use of non λ = Use et fresh	
PERI PERR PENR PENR PENR SM RSF NRSI FW Caption 1 m <sup>2</sup> f Parame HWD	E T T RE RE RE RE RE RE RE RE RE RE	[MJ] [MJ] [MJ] [MJ] [MJ] [MJ] [MJ] [MJ]	9.37 0 9.37 88.56 56.44 145 0.696 1.98E-3 2.07E-2 1.95E+1 50.696 1.95E+1	0.096 0 0.096 2.44 0 1.54E-5 1.62E-4 9.54E-3 enewab nergy ro primary energy ro primary energy ro primary energy ro A - O 8.7E-3	1.79 0 1.79 8.41 0 8.41 0.017 1.17E-4 1.22E-3 1.05E+0 ble prima assources energy e esources = Use o UTPUT A5 0.017 3.912E-1	0 0 0 0 0 0 0 0 0 0 0 0 0 0	0.5 0 0.5 6.55 0 6.55 0 2.03E-4 2.13E-3 8.49E-1 / exclud raw ma hon ren s raw ma ble seco VS AN B2 0 6.2E-1	0.005 0 0.005 0.136 0 0.136 0 8.57E-7 8.98E-6 5.3E-4 ng renev terials; F ewable p terials; I ndary fu D WA C2 0 4.83E-4	0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	0 0 0 0 0 0.0E+0 0.0E+0 0.0E+0 mary en fotal use energy re Total us F = Use r ATEG 0 0.0E+0	0.083 0 0.083 0.496 0 0.496 0 1.01E-5 1.06E-4 1.07E-1 ergy res of renew sources se of noi of non r ORIES 0 1.12E-1	0.155 0 0.155 3.21 0 3.21 0 2.57E-3 6.13E-3 1.19E-1 1.19E-1 sused as n renewable ources u wable pri- sused as n renewable <b>C4</b> 0 3.2E+0	0.306 0 0.306 6.8 0 1.86E-4 1.93E-3 3.24E-1 imary en a raw ma able prime e second C4/1 0.56 7.68E-1	0 0 0 0 0 0.0E+0 0.0E+0 0.0E+0 aw mate ergy res terials; F ary ener dary fuel	-0.696 0 -0.696 -4.18 0 -8.53E-5 -8.93E-4 -9.05E-1 rials; PE ources; I PENRM = PENRM = gy resou s; FW = <b>D</b> 0 -9.45E-1	-1.63 0 -1.63 -40.6 0 -4.7E-4 -4.93E-3 -2.12E+0 RM = Use PENRE = Use of n Use of n Use of n	-0.168 0 -0.168 -61.8 0 -2.13E-5 -2.2E-4 -2.96E-1 se of = Use of non A = Use et fresh D/2 0 4.83E+1	
PERI PERN PENR PENR PENR SM SSF NRSI FW Caption <b>RESU</b> <b>1 m<sup>2</sup> f</b> <b>Parame</b> HWD NHW RWU	F In rene of solutions Control to the solution of solutions Control to the solution o	MJ MJ MJ MJ MJ MJ MJ MJ MJ MJ MJ MJ MJ M	9.37 0 9.37 88.56 56.44 145 0.696 1.98E-3 2.07E-2 1.95E+1 2.07E-2 1.95E+1 5 Use of ro primary e rewable p primary e ry material HE LC/ ing A1 - A3 0.009 7.48E+0 3.2E-3	0.096 0 0.096 2.44 0 2.44 0 1.54E-5 1.62E-4 9.54E-3 enewab nergy ro primary energy ro primary energy ro primary energy ro orimary energy ro orimary energy ro orimary energy ro 0 8.7E-3 3.4E-6	1.79 0 1.79 8.41 0 8.41 0.017 1.17E-4 1.22E-3 1.05E+0 ble prima asources energy e esources = Use o UTPUT A5 0.017 3.912E-1 1.73E-4	0 0 0 0 0 0 0 0 0 0 0 0 0 0	0.5 0 0.5 6.55 0 6.55 0 2.03E-4 2.13E-3 8.49E-1 / exclud raw ma hon ren a raw ma ble seco VS AN B2 0 6.2E-1 3.95E-4	0.005 0 0.005 0.136 0 0 0.136 0 0 8.57E-7 8.98E-6 5.3E-4 Ing renewable paterials; F ewable paterials;	0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	0.083 0 0.083 0.496 0 0.496 0 1.01E-5 1.06E-4 1.07E-1 ergy res of reneves se of non r ORIES C3/2 0 1.12E-1 7.28E-5	0.155 0 0.155 3.21 0 3.21 0 2.57E-3 6.13E-3 1.19E-1 ources u wable pri- s used as n renewable renewable c4 0 3.2E+0 5.89E-5	0.306 0.306 6.8 0 6.8 0 1.86E-4 1.93E-3 3.24E-1 sed as r mary en r aw ma able prime e second C4/1 0.56 7.68E-1 2.04E-4	0 0 0 0 0 0.0E+0 0.0E+0 0.0E+0 aw mate ergy res terials; F ary eneu dary fuel C4/2 0 0.0E+0 0.0E+0	-0.696 0 -0.696 -4.18 0 -4.18 0 -8.53E-5 -8.93E-4 -9.05E-1 rials; PE ources; I 2°ENRM = 2°ENRM = 2°ENRM = 0 0 -9.45E-1 -6.14E-4	-1.63 0 -1.63 -40.6 0 -4.7E-4 -4.93E-3 -2.12E+0 RM = Us PENRE = e Use of n Use of n Use of n D/1 0 -2.22E+0 -1.43E-3	-0.168 0 -0.168 -61.8 0 -2.13E-5 -2.2E-4 -2.96E-1 se of = Use of non A = Use et fresh <b>D/2</b> 0 4.83E+1 -1.01E-4	
PERI PERN PERN PENR PENR PENR SM RSF NRSI FW Caption <b>RESU</b> 1 m <sup>2</sup> 1 <b>Parame</b> HWE NHW RWE CRU	F ILTS iloord ster J J J	MJ MJ MJ MJ MJ MJ MJ MJ MJ MJ MJ MJ MJ M	9.37 0 9.37 88.56 56.44 145 0.696 1.98E.3 2.07E-2 1.95E+1 5 Use of normary energy material ry material HE LC/ ing A1 - A3 0.009 7.48E+0 3.2E-3 0	0.096 0 0.096 2.44 0 2.44 0 2.44 0 1.54E-5 1.62E-4 9.54E-3 enewab nergy re orimary energy re energy re orimary energy re energy re energ	1.79 0 1.79 8.41 0 8.41 0.017 1.17E-4 1.22E-3 1.05E+0 ble prima esources energy e esources = Use o UTPUT A5 0.017 3.912E-1 1.73E-4 0	0 0 0 0 0 0 0 0 0 0 0 0 0 0	0.5 0 0.5 6.55 0 6.55 0 2.03E-4 2.13E-3 8.49E-1 / exclud raw ma ble seco VS AN B2 0 6.2E-1 3.95E-4 0	0.005 0 0.005 0.136 0 0.136 0 0 8.57E-7 8.98E-6 5.3E-4 Ing renew terials; F ewable terials; I terials; I terials; I 0 0 0 0 0 0 0 0 0 0 0 0 0	0 0 0 0 0 0 0 0 0 0 0 0 0 0	0 0 0 0 0 0 0 0 0 0 0 0 0 0	0.083 0.083 0.496 0 0.496 0 0.496 0 1.01E-5 1.06E-4 1.07E-1 ergy res of renew sources se of non of non 1.12E-1 7.28E-5 0	0.155 0 0.155 3.21 0 3.21 0 2.57E-3 6.13E-3 1.19E-1 0 used as n renewable ce	0.306 0 0.306 6.8 0 6.8 0 0 1.86E-4 1.93E-3 3.24E-1 sed as r mary en r aw ma able prim e second C4/1 0.566 7.68E-1 2.04E-4 0	0 0 0 0 0 0.0E+0 0.0E+0 0.0E+0 aw mate ergy res terials; F ary ener dary fuel dary fuel 0 0.0E+0 0.0E+0 0.0E+0 0.0E+0 0	-0.696 0 -0.696 -4.18 0 -4.18 0 -8.53E-5 -8.93E-4 -9.05E-1 rials; PE ources; I PENRM = gy resou gy resou s; FW = <b>D</b> 0 -9.45E-1 -6.14E-4 0	-1.63 0 -1.63 -40.6 0 -4.7E-4 -4.93E-3 -2.12E+0 RM = Us PENRE = Use of n Use of n Use of n Use of n -2.22E+0 -1.43E-3 0	-0.168 0 -0.168 -61.8 0 -2.13E-5 -2.2E-4 -2.96E-1 se of = Use of non <i>A</i> = Use et fresh <b>D/2</b> 0 4.83E+1 -1.01E-4 0	
PERI PERN PERN PENN PENN PENN PENN SM RSS FW Caption <b>RESU</b> 1 m <sup>2</sup> f <b>Parame</b> HWE NHW RWE RWE	F F F F F F F F F F F F F F	MJ MJ MJ MJ MJ MJ MJ MJ MJ MJ MJ m <sup>3</sup> PERE = ewable seconda OF T cover Unit kg kg kg kg kg	9.37 0 9.37 88.56 56.44 145 0.696 1.98E-3 2.07E-2 1.95E+1 5 Use of rommary energy materia HE LC/ ing A1 - A3 0.009 7.48E+0 3.2E-3 0 0.067	0.096 0 0.096 2.44 0 2.44 0 1.54E-5 1.62E-4 9.54E-3 enewab energy re orimary energy ral; RSF A - O A4 0 8.7E-3 3.4E-6 0 0	1.79 0 1.79 8.41 0 8.41 0.017 1.17E-4 1.17E-4 1.17E-4 esources energy e esources energy e esources energy e 0 0 0 0 0 0 0 0 0 0 0 0 0	0 0 0 0 0 0 0 0.0E+0 0.0E+0 0.0E+0 0.0E+0 0 0.0E+0 1 FLOV B1 0 0.0E+0 0 0 0 0 0 0 0 0 0 0 0 0 0	0.5 0 0.5 6.55 0 6.55 0 2.03E-4 2.13E-3 8.49E-1 / exclud raw ma pole seco VS AN B2 0 6.2E-1 3.95E-4 0 0 0 0 0 0 0 0 0 0 0 0 0	0.005 0 0.005 0.136 0 0.136 0 0 8.57E-7 8.98E-6 5.3E-4 Ing reney terials; F ewable p aterials; I ndary fu D WA C2 0 4.83E-4 1.89E-7 0 0 0	0 0 0 0 0 0 0 0 0 0 0 0 0 0	0 0 0 0 0 0 0 0.0E+0 0.0E+0 0.0E+0 0.0E+0 0.0E+0 <b>C3/1</b> 0 0.0E+0 0.0E+0 0.0E+0 0 0 0 0 0 0 0 0 0 0 0 0 0	0.083 0 0.083 0.496 0 0.496 0 0.496 0 1.10E-5 1.06E-4 1.07E-1 ergy res of renewsources se of non of non r ORIES 0 1.12E-1 7.28E-5 0 0	0.155 0 0.155 3.21 0 3.21 0 2.57E-3 6.13E-3 1.19E-1 0 urces u wable pri- used as n renewable cen	0.306 0 0.306 6.8 0 6.8 0 1.86E-4 1.93E-3 3.24E-1 sed as r. imary en r aw maa able prim e second C4/1 0.566 7.68E-1 2.04E-4 0 0 0	0 0 0 0 0.0E+0 0.0E+0 0.0E+0 aw mate ergy res terials; F ary ener dary fuel c4/2 0 0.0E+0 0.0E+0 0 0 0.2.59	-0.696 0 -0.696 -4.18 0 -4.18 0 -8.53E-5 -8.93E-4 -9.05E-1 rials; PE ources; I PENRM = gy resol s; FW = <b>D</b> 0 -9.45E-1 -6.14E-4 0 0	-1.63 0 -1.63 -40.6 0 -4.7E-4 -4.93E-3 -2.12E+0 RM = Us PENRE = Use of n Use of n Use of n -2.22E+0 -1.43E-3 0 0	-0.168 0 -0.168 -61.8 0 -61.8 0 -2.13E-5 -2.2E-4 -2.96E-1 = Use of = Use of et fresh Δ = Use et fresh <b>D/2</b> 0 -4.83E+1 -1.01E-4 0 0 0	
PERI PERR PERR PENR PENR PENR SM RSF NRSI FW Caption <b>RESU</b> 1 m <sup>2</sup> 1 Parame HWL NHW RWL CRU NHW	F F F C C C C C C C C C C C C C C C C C	MJ MJ MJ MJ MJ MJ MJ MJ MJ MJ MJ m <sup>3</sup> PERE = ewable seconda OF T cover Unit kg kg kg kg kg	9.37 0 9.37 88.56 56.44 145 0.696 1.98E-3 2.07E-2 1.95E+1 5 Use of romary e rewable p primary e ry materia HE LC/ ing A1 - A3 0.009 7.48E+0 3.2E-3 0 0.067 0	0.096 0 0.096 2.44 0 2.44 0 1.54E-5 1.62E-4 9.54E-3 enewather energy ra- primary energy ra- al; RSF A - O 8.7E-3 3.4E-6 0 0 0 0 0 0 0 0 0 0 0 0 0	1.79 0 1.79 8.41 0 8.41 0.07 1.17E-4 1.22E-3 1.05E+0 ble prima esources energy e esources energy e esources energy e 0 0 0 0 0 0 1.79 0 0 0 0 0 0 0 0 0 0 0 0 0	0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	0.5 0 0.5 6.55 0 6.55 0 2.03E-4 2.13E-3 8.49E-1 7 exclud raw ma pole seco VS AN B2 0 6.2E-1 3.95E-4 0 0 0 0 0 0 0 0 0 0 0 0 0	0.005 0 0.005 0.136 0 0.136 0 8.57E-7 5.3E-4 ng reney terials; F ewable p aterials; I ndary fu D WA C2 0 4.83E-4 1.89E-7 0 0 0 0 0 0 0 0 0 0 0 0 0	0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	0 0 0 0 0 0 0 0 0 0 0 0 0 0	0.083 0.083 0.496 0 0.496 0 0.496 0 1.10E-5 1.06E-4 1.07E-1 ergy res of renew sources se of non of non r ORIES 0 1.12E-1 7.28E-5 0 0 0 0 0 0 0 0 0 0 0 0 0	0.155 0 0.155 3.21 0 3.21 0 2.57E-3 6.13E-3 1.19E-1 0 used as n renewable ce	0.306 0.306 6.8 0 1.86E-4 1.93E-3 3.224E-1 sed as r. imary en 5 raw maa able prime e second C4/1 0.566 7.68E-1 2.04E-4 0 0 0 0	0 0 0 0 0 0.0E+0 0.0E+0 0.0E+0 aw mate ergy res terials; F ary ener dary fuel dary fuel 0 0.0E+0 0.0E+0 0.0E+0 0.0E+0 0	-0.696 0 -0.696 -4.18 0 -4.18 0 -8.53E-5 -8.93E-4 -9.05E-1 rials; PE ources; I PENRM = gy resou gy resou s; FW = <b>D</b> 0 -9.45E-1 -6.14E-4 0	-1.63 0 -1.63 -40.6 0 -4.7E-4 -4.93E-3 -2.12E+0 RM = Us PENRE = Use of n Use of n Use of n Use of n -2.22E+0 -1.43E-3 0	-0.168 0 -0.168 -61.8 0 -61.8 0 -2.13E-5 -2.2E-4 -2.96E-1 = Use of non <i>λ</i> = Use of et fresh <i>λ</i> = Use et fresh 0 -0.168 -2.13E-5 -2.2E-4 -2.96E-1	
PERI PERN PENR PENR PENR SM RSF FW Caption <b>RESU</b> 1 m <sup>2</sup> f <b>Parame</b> HWE NHW RWE	F F F F f f f f f f f f f f f f f f f f	MJ MJ MJ MJ MJ MJ MJ MJ MJ MJ MJ m <sup>3</sup> PERE = ewable seconda OF T cover Unit kg kg kg kg kg	9.37 0 9.37 88.56 56.44 145 0.696 1.98E-3 2.07E-2 1.95E+1 5 Use of rommary energy materia HE LC/ ing A1 - A3 0.009 7.48E+0 3.2E-3 0 0.067	0.096 0 0.096 2.44 0 2.44 0 1.54E-5 1.62E-4 9.54E-3 enewab energy re orimary energy ral; RSF A - O A4 0 8.7E-3 3.4E-6 0 0	1.79 0 1.79 8.41 0 8.41 0.017 1.17E-4 1.17E-4 1.17E-4 esources energy e esources energy e esources energy e 0 0 0 0 0 0 0 0 0 0 0 0 0	0 0 0 0 0 0 0 0.0E+0 0.0E+0 0.0E+0 0.0E+0 0 0.0E+0 1 FLOV B1 0 0.0E+0 0 0 0 0 0 0 0 0 0 0 0 0 0	0.5 0 0.5 6.55 0 6.55 0 2.03E-4 2.13E-3 8.49E-1 / exclud raw ma pole seco VS AN B2 0 6.2E-1 3.95E-4 0 0 0 0 0 0 0 0 0 0 0 0 0	0.005 0 0.005 0.136 0 0.136 0 0 8.57E-7 8.98E-6 5.3E-4 Ing reney terials; F ewable p aterials; I ndary fu D WA C2 0 4.83E-4 1.89E-7 0 0 0	0 0 0 0 0 0 0 0 0 0 0 0 0 0	0 0 0 0 0 0 0 0.0E+0 0.0E+0 0.0E+0 0.0E+0 0.0E+0 <b>C3/1</b> 0 0.0E+0 0.0E+0 0.0E+0 0 0 0 0 0 0 0 0 0 0 0 0 0	0.083 0 0.083 0.496 0 0.496 0 0.496 0 1.10E-5 1.06E-4 1.07E-1 ergy res of renewsources se of non of non r ORIES 0 1.12E-1 7.28E-5 0 0	0.155 0 0.155 3.21 0 2.57E-3 6.13E-3 1.19E-1 0 0 Jack et al. 0 0 Jack et al. 0 0 Jack et al. 0 0 0 3.2E+0 5.89E-5 0 0 0 0	0.306 0 0.306 6.8 0 6.8 0 1.86E-4 1.93E-3 3.24E-1 sed as r. imary en r aw maa able prim e second C4/1 0.566 7.68E-1 2.04E-4 0 0 0	0 0 0 0 0.0E+0 0.0E+0 0.0E+0 0.0E+0 aw mate ergy res terials; F ary enerd dary fuel <b>C4/2</b> 0 0.0E+0 0.0E+0 0 0.0E+0 0 0.0E+0	-0.696 0 -0.696 -4.18 0 -4.18 0 -8.53E-5 -8.93E-4 -9.05E-1 rials; PE ources; I PENRM = 7gy resou s; FW = <b>D</b> 0 -9.45E-1 -6.14E-4 0 0	-1.63 0 -1.63 -40.6 0 -4.7E-4 -4.93E-3 -2.12E+0 RM = Us PENRE = Use of n Use of n Use of n 0 -2.22E+0 -1.43E-3 0 0	-0.168 0 -0.168 -61.8 0 -61.8 0 -2.13E-5 -2.2E-4 -2.96E-1 = Use of = Use of et fresh Δ = Use et fresh <b>D/2</b> 0 -4.83E+1 -1.01E-4 0 0 0	

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.



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