ENVIRONMENTAL PRODUCT DECLARATION

as per ISO 14025 and EN 15804

Owner of the Declaration	**egetaepper a/s**
Programme holder	Institut Bauen und Umwelt e.V. (IBU)
Publisher	Institut Bauen und Umwelt e.V. (IBU)
Declaration number	EPD-EGE-20140220-CBC1-EN
Issue date	08.07.2015
Valid to	07.07.2020

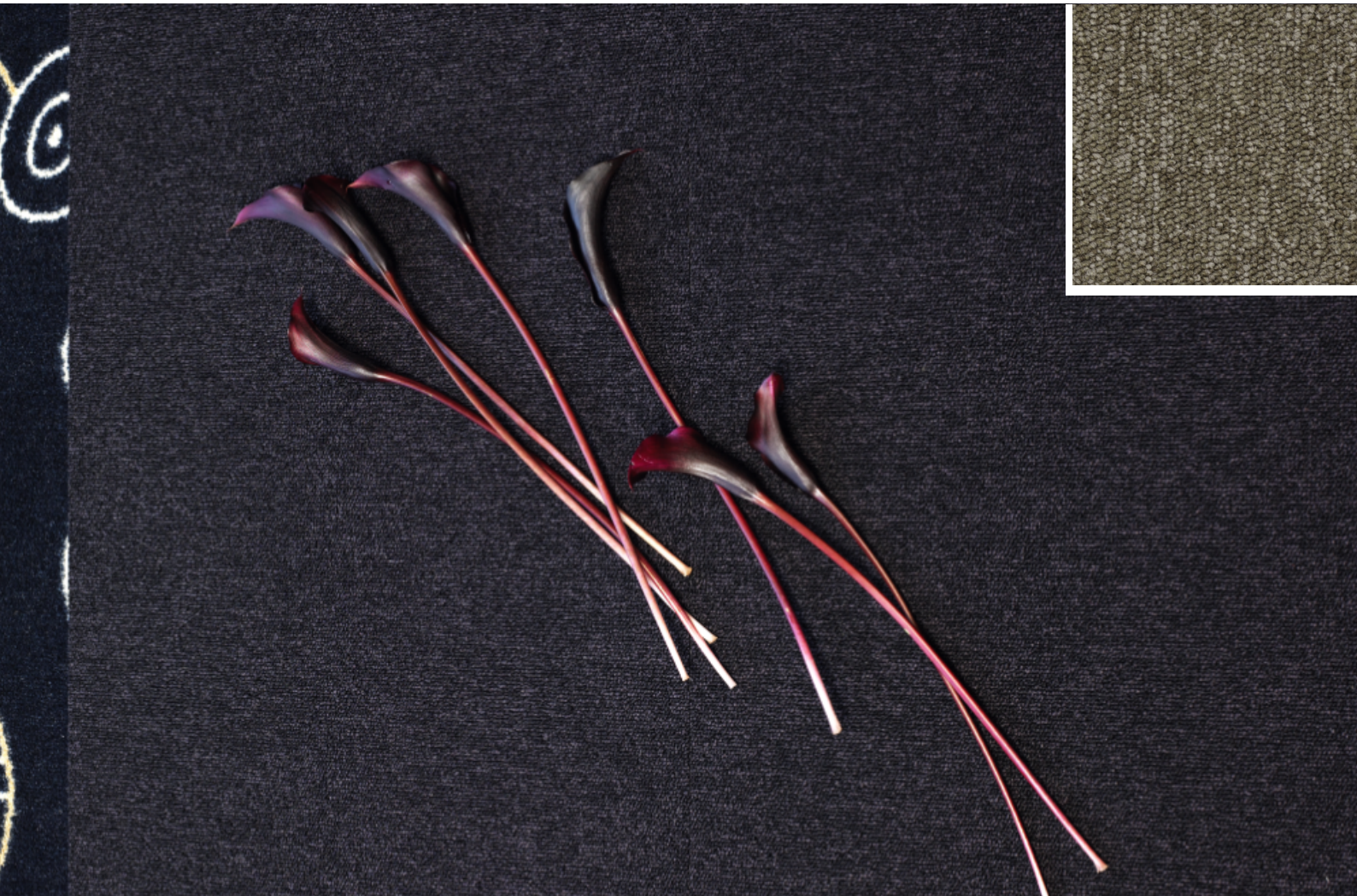
Tufted Loop Pile Ecotrust

Tufted carpet tiles,
pile material 600-700 g/m² polyamide 6,
Ecotrust 350 - felt backing made of recycled material

ege®

Institut Bauen und Umwelt e.V.

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



General Information

ege®

Tufted carpet tiles
pile material 600-700 g/m² PA 6,
Ecotrust 350 - felt backing

Programme holder
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Declaration number
EPD-EGE-20140220-CBC1-EN

Declared product / Declared unit
1 m² tufted carpet tiles with a pile material made of 600-700 g/m² polyamide 6 and an Ecotrust 350-felt backing

This Declaration is based on the Product Category Rules:
Floor coverings, 07.2014
(PCR tested and approved by the independent expert committee)

Scope:
The declaration applies to a group of similar products with a pile material of 600-700 g/m².
It is only valid in conjunction with a valid PRODIS licence.
Tufting and dyeing processes are located in the ege® manufacturing site Gram, Denmark. Back coating and cutting of tiles take place in the ege® manufacturing site Herning, 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.

Issue date
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Valid to
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Verification

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

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

Dr. Burkhart Lehmann
(Managing Director IBU)

Dr. Eva Schmincke
(Independent tester appointed by SVA)

Product

Product description
Tufted carpet tiles having a pile material of polyamide 6 and an Ecotrust 350 - felt backing made of 100% recycled polyester.
The carpet is continuous dyed.
The declaration applies for a group of products with a total pile material weight of 600-700 g/m².
The calculations refer to the average pile material of 650 g/m².
The recycled content out of total weight amount to 17.6%.

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.

Technical Data

of the average product according to EN 1307

Name	Value	Unit
Product Form	Tiles	-
Type of manufacture	Tufted carpet	-
Yarn type	PA 6	-
Secondary backing	100% recycled PES	-
Total pile weight	600-700	g/m²
Total carpet weight	up to 2650	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 manufacturer's technical information section (www.egecarpets.com)

Base materials / Ancillary materials

Name	Value	Unit
Polyamide 6	25.0	%
Polyester	18.1	%
Limestone	21.3	%
Aluminiumhydroxide	17.4	%
SBR-latex	17.6	%
Additives	0.6	%

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 to cleaning and maintenance instructions.
A minimum service life of 10 years can 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)	0.38	-
Mass reference (average product)	2.6	kg/m²

System boundary

Type of EPD: Cradle to grave

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

A1-A3 Production:
Energy supply and production of the basic material, 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). Credits for electricity and steam from the incineration of production waste are aggregated.

A4 Transport:
Transport of the packed textile floorcovering from factory 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 disposal 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 packaging and installation waste leave the product system.

B1 Use:
Indoor emissions during the use stage. After the first year no product related 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 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:
The floorcovering 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, C3-2: Landfill and waste incineration need no waste processing.
C3-3: Collection of the carpet waste, waste processing (granulating).

C4 Disposal
C4-1, C4-2: Impact from landfill or from waste incineration (credits leave the system boundaries),
C4-3: The pre-processed carpet waste leaves the system and needs no disposal.

D Recycling potential:
D-1, D-2: Energy credits from landfill and from waste incineration (processing with < 60% efficiency),
D-3: Transport from the reprocessing plant to the cement plant, substitution of material and fuel input in the cement kiln (energetic and substance related 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 refers to the declared modules and is 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)	0.0079	l/100km
Transport distance	700	km
Capacity utilisation (including empty runs)	85	%
Gross density of products transported	370	kg/m³

Installation in the building (A5)

Name	Value	Unit
Auxiliary (fixing agent)	0.15	kg
Material loss	0.08	kg

Cardboard packaging waste leaves the system for recycling.
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)	0.004	m³
Cleaning agent (wet cleaning)	0.09	kg
Electricity consumption	0.314	kWh

Further information on cleaning and maintenance see www.egecarpets.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 1: 100% landfill
Scenario 2: 100% municipal waste incineration (MWI)
Scenario 3: 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 1)
+ y% impact (Scenario 2)
+ z% impact (Scenario 3)

Name	Value	Unit
Collected as mixed construction waste (scenario 1 and 2)	2.6	kg
Collected separately (scenario 3)	2.6	kg
Landfilling (scenario 1)	2.6	kg
Energy recovery (scenario 2)	2.6	kg
Energy recovery (scenario 3)	1.6	kg
Recycling (scenario 3)	1	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 3)
/VDZ e.V./
The organic material of the carpet is used as secondary fuel in a cement kiln. It mainly substitutes for lignite (63.2%), hard coal (27.7%) and petrol coke (9.1%).
The inorganic material is substantially integrated in the cement clinker and substitutes for original material input.

LCA: Results

Information on un-declared modules:
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 scenarios 1, 2 and 3.

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

PRODUCT STAGE			CONSTRUCTION PROCESS STAGE		USE STAGE							END OF LIFE STAGE				BENEFITS AND LOADS BEYOND THE SYSTEM BOUNDARYS
Raw material supply	Transport	Manufacturing	Transport from the gate to the site	Assembly	Use	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**	**A3**	**A4**	**A5**	**B1**	**B2**	**B3**	**B4**	**B5**	**B6**	**B7**	**C1**	**C2**	**C3**	**C4**	**D**
X	X	X	X	X	X	X	MND	MND	MND	MND	MND	MND	X	X	X	X

RESULTS OF THE LCA - ENVIRONMENTAL IMPACT: 1 m² floorcovering

Parameter	Unit	A1-A3	A4	A5	B1	B2	C2	C3/1	C3/2	C3/3	C4/1	C4/2	C4/3	D/1	D/2	D/3
GWP	[kg CO_2-Eq.]	12.00	0.11	0.56	0.00	0.35	0.01	0.00	0.00	0.02	5.80	4.04	0.00	-0.15	-1.86	-0.29
ODP	[kg CFC11-Eq.]	4.13E-8	5.30E-13	1.24E-8	0.00E+0	9.57E-9	2.90E-14	0.00E+0	0.00E+0	1.20E-11	5.00E-12	2.83E-9	0.00E+0	-9.90E-11	-5.20E-10	-4.50E-12
AP	[kg SO_2-Eq.]	2.46E-2	5.13E-4	1.41E-3	0.00E+0	1.67E-3	2.80E-5	0.00E+0	0.00E+0	8.08E-5	7.21E-4	2.80E-3	0.00E+0	-6.82E-4	-4.43E-3	-1.75E-3
EP	[kg $(PO_4)^{3-}$- Eq.]	3.83E-3	1.17E-4	4.33E-4	0.00E+0	2.78E-4	6.40E-6	0.00E+0	0.00E+0	4.55E-6	3.34E-3	7.07E-4	0.00E+0	-3.84E-5	-3.11E-4	-1.31E-4
POCP	[kg Ethen Eq.]	3.26E-3	-1.82E-4	1.73E-4	1.11E-4	2.43E-4	-9.95E-6	0.00E+0	0.00E+0	4.81E-6	8.46E-4	1.79E-4	0.00E+0	-4.05E-5	-3.76E-4	-2.02E-4
ADPE	[kg Sb Eq.]	3.48E-4	4.20E-9	1.05E-5	0.00E+0	8.04E-7	2.30E-10	0.00E+0	0.00E+0	2.37E-9	2.75E-8	-2.61E-7	0.00E+0	-2.00E-8	-1.42E-7	-1.71E-8
ADPF	[MJ]	219.00	1.54	8.84	0.00	7.05	0.08	0.00	0.00	0.20	1.85	1.66	0.00	-1.64	-26.50	-47.90

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

RESULTS OF THE LCA - RESOURCE USE: 1 m² floorcovering

Parameter	Unit	A1-A3	A4	A5	B1	B2	C2	C3/1	C3/2	C3/3	C4/1	C4/2	C4/3	D/1	D/2	D/3
PERE	[MJ]	16.10	0.06	1.62	0.00	0.56	0.00	0.00	0.00	0.06	0.10	0.04	0.00	-0.47	-2.47	-0.13
PERM	[MJ]	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	0.00	0.00
PERT	[MJ]	16.10	0.06	1.62	0.00	0.56	0.00	0.00	0.00	0.06	0.10	0.04	0.00	-0.47	-2.47	-0.13
PENRE	[MJ]	183.96	1.54	9.67	0.00	8.34	0.08	0.00	0.00	0.31	1.94	1.91	0.00	-2.57	-31.40	-48.10
PENRM	[MJ]	49.04	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	0.00
PENRT	[MJ]	233.00	1.54	9.67	0.00	8.34	0.08	0.00	0.00	0.31	1.94	1.91	0.00	-2.57	-31.40	-48.10
SM	[kg]	0.69	0.00	0.02	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
RSF	[MJ]	3.32E-3	9.89E-6	1.31E-4	0.00E+0	8.37E-5	5.39E-7	0.00E+0	0.00E+0	6.37E-6	1.56E-3	1.76E-5	0.00E+0	-5.37E-5	-4.32E-4	-4.52E-5
NRSF	[MJ]	3.47E-2	1.04E-4	1.37E-3	0.00E+0	8.60E-4	5.65E-6	0.00E+0	0.00E+0	6.67E-5	3.45E-3	1.73E-4	0.00E+0	-5.62E-4	-4.53E-3	-4.75E-4
FW	[m³]	1.39E+1	5.76E-3	7.57E-1	0.00E+0	9.80E-1	3.14E-4	0.00E+0	0.00E+0	6.64E-2	7.33E-2	8.62E-2	0.00E+0	-5.60E-1	-2.93E+0	-1.53E-1

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 – OUTPUT FLOWS AND WASTE CATEGORIES: 1 m² floorcovering

Parameter	Unit	A1-A3	A4	A5	B1	B2	C2	C3/1	C3/2	C3/3	C4/1	C4/2	C4/3	D/1	D/2	D/3
HWD	[kg]	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	0.00	0.00
NHWD	[kg]	1.49E-1	5.43E-3	3.65E-1	0.00E+0	5.95E-1	2.96E-4	0.00E+0	0.00E+0	6.76E-2	1.98E+0	6.82E-1	0.00E+0	-5.70E-1	-3.00E+0	-4.05E+1
RWD	[kg]	5.56E-3	2.02E-6	2.16E-4	0.00E+0	3.83E-4	1.10E-7	0.00E+0	0.00E+0	4.40E-5	3.51E-5	8.46E-5	0.00E+0	-3.71E-4	-1.94E-3	-8.69E-5
CRU	[kg]	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	0.00	0.00
MFR	[kg]	0.07	0.00	0.12	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
MER	[kg]	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	0.00	0.00
EEE	[MJ]	0.00	0.00	0.17	0.00	0.00	0.00	0.00	0.00	0.00	1.10	5.53	0.00	0.00	0.00	0.00
EET	[MJ]	0.02	0.00	0.45	0.00	0.00	0.00	0.00	0.00	0.00	0.00	15.00	0.00	0.00	0.00	0.00

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; EEE = Exported thermal energy

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

References

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

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

EN 15804
EN 15804:2012-04+A1 2013: Sustainability of construction works — Environmental Product Declarations — Core rules for the product category of construction products

General Principles
for the EPD range of Institut Bauen und Umwelt e.V. (IBU), 2013-04
www.bau-umwelt.de

PCR Part A
Institut Bauen und Umwelt e.V., Königswinter (pub.): Product Category Rules for Construction Products from the range of Environmental Product Declarations of Institut Bauen und Umwelt (IBU),
Part A: Calculation Rules for the Life Cycle Assessment and Requirements on the Background Report, April 2013
www.bau-umwelt.de

PCR Part B
Institut Bauen und Umwelt e.V., Königswinter (pub.): Product Category Rules for Construction Products from the range of Environmental Product Declarations of Institut Bauen und Umwelt (IBU),
Part B: Requirements on the EPD for floor coverings, V1.6, July 2014
www.bau-umwelt.de

EN 1307
DIN EN 1307: 2014-07:Textile floor coverings - Classification

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

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

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