EPD Environmental Product Declaration

6119BCAA

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IVC bv

Perspective

surface pile weight: 380 g/m²

pile material: polyamide 6

backing: EcoFlex™ Statera backing

These EPD data are only valid in combination with

the environmental product declaration EPD-IVC-20220243-CBB1-EN published by Institut Bauen und Umwelt e.V. (IBU) and a GUT/Prodis license

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This data set gives product specific LCA results

based on the calculation procedure described in the above mentioned EPD.

Calculation method for similar Products of the EPD document

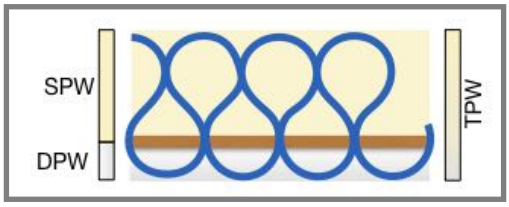
The EPD document is valid for all products with a surface pile weight lower or equal to the declared maximum pile weight of **720** g/m².

The respective declaration number is **EPD-IVC-20220243-CBB1-EN**.

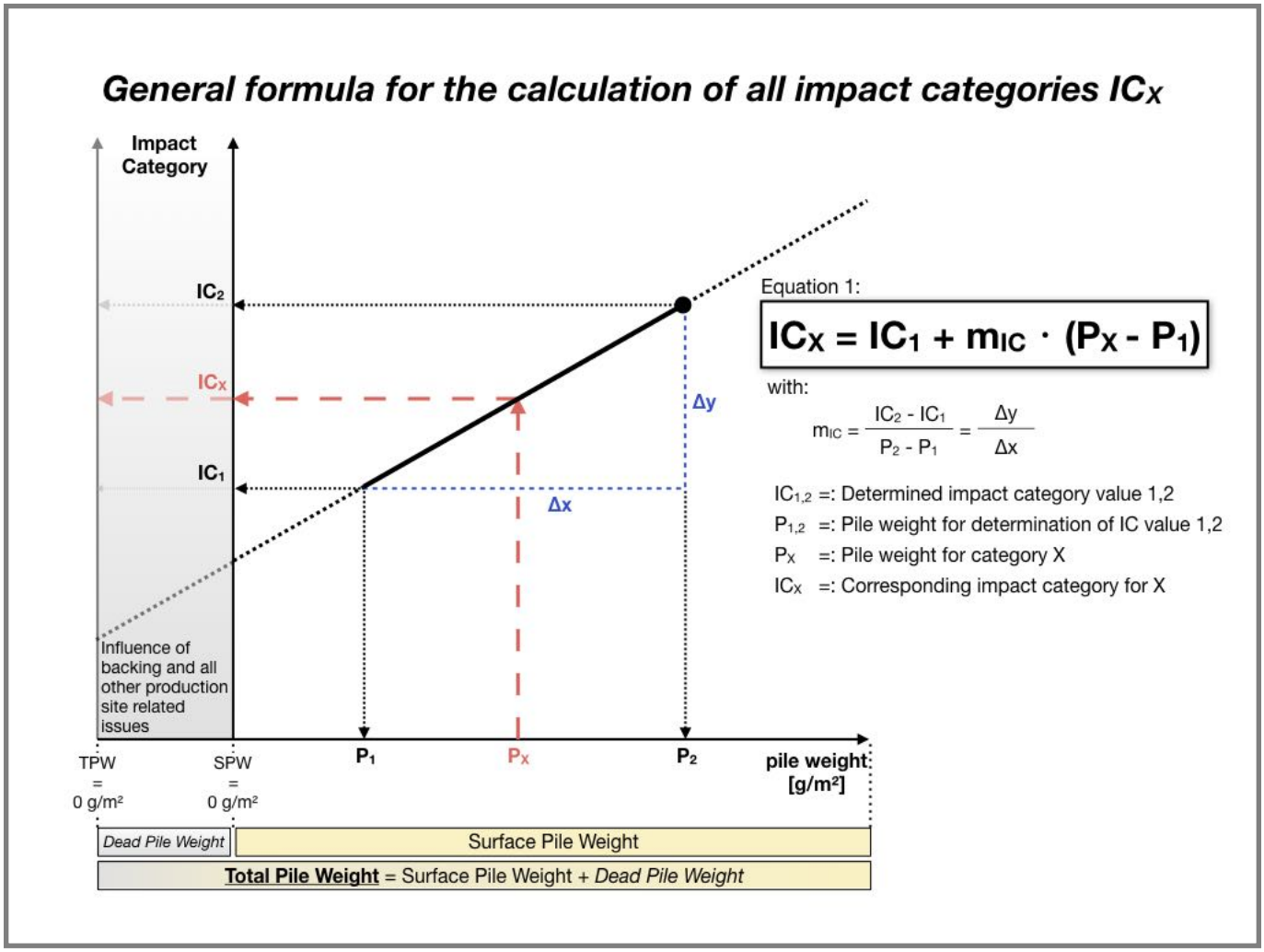
This document indicates more specific LCA results for (a) product(s) with identical material compositions and production parameters. The product(s) belong(s) to the same family of products and only differ in its/their pile weight(s).

LCA results show a linear correlation with the total pile weight, for all impact categories (IC) and all modules (A-D). It is possible to calculate specific LCA results (IC_x) for every carpet (x) within the declared group of products in relation to its total pile weight (P_x).
The total pile weight (TPW) is the sum of surface pile weight (SPW) and dead pile weight (DPW):

TPW = SPW + DPW



The surface pile weight is the technical relevant value according to EN 1307 and has to be mentioned in technical specification. As shown in the figure below alternatively to the total pile weight the surface pile weight can be used to calculate LCA results (ICx).



Graph 1: General formula for the calculation of all impact categories IC_X.

1. Information on the product Perspective

Product description

Constructional data according to EN 1307

Name	Value	Unit
Product form	Tiles	-
Type of manufacture	Tufted carpet	-
Yarn type	Polyamide 6	-
Total carpet weight	max. 4400	g/m²
Surface pile weight	max. 380	g/m²
Secondary backing	Bitumen heavy backing	-

Base materials/Ancillary materials

Name	Value	Unit
Polyamide 6	13,7	%
Bitumen	17,3	%
Polymer dispersion (solid content)	3,9	%
Polyester	3,5	%
Polypropylene	0,5	%
Limestone	59,0	%
Additives	2,1	%

LCA: Calculation rules

Declared Unit

Name	Value	Unit
Declared unit	1	m²
Grammage	4,4	kg/m²

LCA: Scenarios and additional technical information

All indicated values refer to the declared functional unit

Characteristic product properties: Information on biogenic Carbon

Name	Value	Unit
Biogenic Carbon Content in accompanying packaging at factory gate	0,050	kg C

1 kg biogenic Carbon is equivalent to 44/12 kg of CO_2

Transport to the construction site (A4)

Name	Value	Unit
Litres of fuel (truck, EURO 0-6 mix)	0,0103	l/100km
Transport distance	700	km
Capacity utilisation (including empty runs)	55	%

Installation in the building (A5)

Name	Value	Unit
Material loss	0,132	kg

Maintenance (B2)

Name	Value	Unit
Maintenance cycle (vacuum cleaning)	208	1/year
Maintenance cycle (wet cleaning)	1,50	1/year
Water consumption (wet cleaning)	0,004	m³
Cleaning agent (wet cleaning)	0,09	kg
Electricity consumption	0,314	kWh

Indication per m² and year

Service life

Name	Value	Unit
Life Span (according to BBSR)	10	year
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 defined by the use class according to EN 1307	-
Maintenance e.g. required frequency, type and quality and replacement of components	According to the manufacturers instructions	-

End of life scenarios (SC1-SC3)

Name	SC1	SC2	SC3	Unit
Collected as mixed construction waste	4,40	4,40	-	kg
Collected separately	-	-	4,40	kg
Landfilling	4,40	-	-	kg
Energy recovery	-	4,40	1,80	kg
Recycling	-	-	2,58	kg

SC1: 100% landfill disposal, **SC2:** 100% municipal waste incineration (MWI) with R1>0.6, **SC3:** 100% recovery in the cement industry

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)

State of production			State of construction phase		State of use							End of life state				Credits and loads after life
raw material supply	transport	manufacturing	transport from the gate to the site	assembly	use	maintenance	repair	replacement	refurbishment	energy use	water use	deconstruction / demolition	transport	waste processing	disposal	reuse, recovery and 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: for 1 m² 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_2-Eq.]	8,77E+00	2,70E-01	7,25E-01	0,00E+00	5,49E-01	0,00E+00	1,49E-02	4,42E+00	4,47E+00	3,10E-01	-8,84E-02	0,00E+00	-9,67E-01	-3,41E-01
GWP-fossil	[kg CO_2-Eq.]	8,95E+00	2,65E-01	5,35E-01	0,00E+00	3,48E-01	0,00E+00	1,46E-02	4,42E+00	4,47E+00	3,10E-01	-8,80E-02	0,00E+00	-9,61E-01	-3,41E-01
GWP-biogenic	[kg CO_2-Eq.]	-1,78E-01	3,43E-03	1,90E-01	0,00E+00	4,16E-03	0,00E+00	1,89E-04	6,51E-04	1,32E-03	0,00E+00	-4,47E-04	0,00E+00	-4,79E-03	-9,01E-06
GWP-luluc	[kg CO_2-Eq.]	2,54E-03	1,50E-03	1,33E-04	0,00E+00	1,96E-01	0,00E+00	8,25E-05	2,67E-04	4,78E-04	1,51E-04	-9,59E-06	0,00E+00	-1,03E-04	-1,65E-04
ODP	[kg CFC_{11}-Eq.]	3,40E+00	9,07E-02	1,95E-01	0,00E+00	1,16E-01	0,00E+00	5,00E-03	1,63E+00	1,65E+00	1,06E-01	-3,12E-02	0,00E+00	-3,83E-01	-1,17E-01
AP	[kg H^+-Eq.]	-4,86E-02	2,23E-03	6,37E-02	0,00E+00	1,94E-03	0,00E+00	1,23E-04	2,46E-03	2,87E-03	6,04E-04	-2,33E-04	0,00E+00	-2,67E-03	-6,70E-04
EP-freshwater	[kg P-Eq.]	9,40E-04	5,14E-04	4,77E-05	0,00E+00	6,53E-02	0,00E+00	2,83E-05	9,00E-05	1,62E-04	8,97E-05	-3,48E-06	0,00E+00	-4,21E-05	-5,63E-05
EP-marine	[kg N-Eq.]	4,12E-03	7,85E-04	2,03E-04	0,00E+00	1,97E-04	0,00E+00	4,33E-05	1,71E-03	1,83E-03	2,04E-04	-3,13E-05	0,00E+00	-3,39E-04	-3,48E-04
EP-terrestrial	[kg N-Eq.]	3,94E-02	8,69E-03	2,10E-03	0,00E+00	2,83E-03	0,00E+00	4,79E-04	1,90E-02	6,10E-03	2,23E-03	-3,35E-04	0,00E+00	-3,64E-03	-3,82E-03
POCP	[kg NMVOC-Eq.]	8,87E-03	9,80E-04	3,84E-04	2,79E-04	6,55E-04	0,00E+00	5,38E-05	2,70E-03	2,85E-03	4,30E-04	-5,65E-05	0,00E+00	-5,69E-04	-7,00E-04
ADPE	[kg Sb-Eq.]	5,47E-03	5,47E-04	2,28E-04	0,00E+00	2,77E-04	0,00E+00	3,02E-05	1,39E-03	1,48E-03	3,15E-04	-4,10E-05	0,00E+00	-4,97E-04	-3,43E-04
ADPF	[MJ]	1,31E+02	2,36E+00	4,07E+00	0,00E+00	3,93E+00	0,00E+00	1,30E-01	1,93E+00	2,53E+00	2,89E+00	-9,67E-01	0,00E+00	-9,80E+00	-3,53E+01
WDP	[m^3 world-Eq. deprived]	4,25E-01	2,40E-03	4,38E-02	0,00E+00	9,99E-02	0,00E+00	1,33E-04	6,48E-01	6,54E-01	-3,29E-03	-9,18E-03	0,00E+00	-9,75E-02	-5,38E-02
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: for 1 m² 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
PERE	[MJ]	1,85E+01	2,05E-01	8,26E-01	0,00E+00	3,69E+00	0,00E+00	1,13E-02	5,27E-01	7,81E-01	3,62E-01	-4,07E-01	0,00E+00	-4,32E+00	-4,24E-01
PERM	[MJ]	2,38E-01	0,00E+00	-2,38E-01	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00
PERT	[MJ]	1,87E+01	2,05E-01	5,88E-01	0,00E+00	3,69E+00	0,00E+00	1,13E-02	5,27E-01	7,81E-01	3,62E-01	-4,07E-01	0,00E+00	-4,32E+00	-4,24E-01
PENRE	[MJ]	1,46E+02	3,60E+00	8,18E+00	0,00E+00	5,90E+00	0,00E+00	1,99E-01	6,26E+01	6,35E+01	4,40E+00	-1,50E+00	0,00E+00	-1,63E+01	-5,37E+01
PENRM	[MJ]	6,13E+01	0,00E+00	-1,72E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	-5,96E+01	-5,96E+01	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00
PENRT	[MJ]	2,08E+02	3,60E+00	6,46E+00	0,00E+00	5,90E+00	0,00E+00	1,99E-01	2,99E+00	3,89E+00	4,40E+00	-1,50E+00	0,00E+00	-1,63E+01	-5,37E+01
SM	[kg]	1,06E-01	0,00E+00	3,18E-03	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	1,44E+00
RSF	[MJ]	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00
NRSF	[MJ]	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00
FW	[m^3]	2,94E-02	2,31E-04	1,62E-03	0,00E+00	3,34E-03	0,00E+00	1,27E-05	4,21E-01	1,56E-02	5,15E-05	-3,89E-04	0,00E+00	-4,13E-03	-4,68E-03
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: for 1 m² 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
HWD	[kg]	5,47E-08	1,72E-11	1,66E-09	0,00E+00	4,19E-05	0,00E+00	9,50E-13	4,33E-10	4,70E-10	6,78E-10	-2,03E-10	0,00E+00	-2,24E-09	-9,69E-11
NHWD	[kg]	1,87E-01	5,16E-04	4,65E-02	0,00E+00	7,30E-03	0,00E+00	2,84E-05	1,34E+00	1,34E+00	4,36E+00	-7,52E-04	0,00E+00	-8,10E-03	-1,12E-03
RWD	[kg]	4,17E-03	4,44E-06	1,29E-04	0,00E+00	3,76E-04	0,00E+00	2,44E-07	1,14E-04	1,80E-04	5,40E-05	-1,17E-04	0,00E+00	-1,24E-03	-7,84E-05
CRU	[kg]	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00
MFR	[kg]	1,21E-02	0,00E+00	1,22E-01	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	1,44E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00
MER	[kg]	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00
EEE	[MJ]	0,00E+00	0,00E+00	3,92E-01	0,00E+00	0,00E+00	0,00E+00	0,00E+00	4,15E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00
EET	[MJ]	0,00E+00	0,00E+00	7,16E-01	0,00E+00	0,00E+00	0,00E+00	0,00E+00	8,04E+00	5,53E+01	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+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; EET = Exported thermal energy														

Results of the LCA - Additional impact categories according to EN 15804+A2: for 1 m² 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
PM	[Disease Incidence]	1,27E-07	9,24E-09	4,85E-09	0,00E+00	6,84E-08	0,00E+00	5,09E-10	2,19E-08	2,35E-08	8,83E-09	-9,55E-10	0,00E+00	0,00E+00	-3,28E-08
IRP	[kBq U235-Eq.]	5,98E-01	6,50E-04	1,87E-02	0,00E+00	6,78E-02	0,00E+00	3,58E-05	1,73E-02	2,84E-02	7,98E-03	-1,98E-02	0,00E+00	0,00E+00	-6,82E-03
ETP-fw	[CTUe]	1,01E+02	2,49E+00	3,18E+00	3,60E-03	2,69E+00	0,00E+00	1,38E-01	1,68E+00	2,20E+00	4,31E+00	-3,26E-01	0,00E+00	0,00E+00	-9,10E+00
HTP-c	[CTUh]	3,02E-09	5,04E-11	9,55E-11	0,00E+00	6,21E-10	0,00E+00	2,78E-12	7,84E-11	9,04E-11	1,94E-10	-1,51E-11	0,00E+00	0,00E+00	-8,27E-11
HTP-nc	[CTUh]	1,14E-07	2,99E-09	3,72E-09	2,60E-11	9,46E-09	0,00E+00	1,64E-10	5,99E-09	6,59E-09	1,62E-08	-5,78E-10	0,00E+00	0,00E+00	-4,32E-09
SQP	[-]	2,15E+03	1,24E+00	6,46E+01	0,00E+00	9,55E-01	0,00E+00	6,81E-02	7,19E-01	1,04E+00	3,16E-01	-2,65E-01	0,00E+00	0,00E+00	-7,11E-01

Caption	PM = Potential incidence of disease due to PM emissions; IRP = 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

No substantiated values can be given for the SQP indicator with the existing database.
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 ionizingradiation 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 undergroundfacilities. 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 experienced with the indicator.

References

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EN 13501-1
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EN 14041
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EN 15804
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EN 16810
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ISO 15686
ISO 15686: Buildings and constructed assets - Service life planning
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PCR Part B
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REACH
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