

Statement of Verification

BREG EN EPD No.: 000369

Issue 01

This is to verify that the
Environmental Product Declaration
provided by:
W.E. Rawson Ltd



is in accordance with the requirements of:
EN 15804:2012+A1:2013
and
BRE Global Scheme Document SD207

This declaration is for:
Rawsons Fibre Bonded Recover Carpet Tile and Sheet Range

Company Address

Castle Bank Mills
Portobello Road
Wakefield
WF1 5PS



Emma Baker
Operator

17 November 2021
Date of this Issue

17 November 2021
Date of First Issue

16 November 2026
Expiry Date



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BRE Global Ltd., Garston, Watford WD25 9XX.
T: +44 (0)333 321 8811 F: +44 (0)1923 664603 E: Enquiries@breglobal.com



Environmental Product Declaration

EPD Number: 000369

General Information

EPD Programme Operator	Applicable Product Category Rules
BRE Global Watford, Herts WD25 9XX United Kingdom	BRE Environmental Profiles 2013 Product Category Rules for Type III environmental product declaration of construction products to EN 15804:2012+A1:2013
Commissioner of LCA study	LCA consultant/Tool
W.E. Rawson Ltd Castle Bank Mills, Portobello Road, Wakefield WF1 5PS	BRE LINA v2 Pat Hermon
Functional Unit	Applicability/Coverage
1 m ² of carpet weighing 2kg/m ² as installed over 60 year period	Product Average.
EPD Type	Background database
Cradle to Gate with Options	ecoinvent v3.2
Demonstration of Verification	
CEN standard EN 15804 serves as the core PCR ^a	
Independent verification of the declaration and data according to EN ISO 14025:2010 <input type="checkbox"/> Internal <input checked="" type="checkbox"/> External	
(Where appropriate ^b)Third party verifier: Nigel Jones	
a: Product category rules b: Optional for business-to-business communication; mandatory for business-to-consumer communication (see EN ISO 14025:2010, 9.4)	
Comparability	
Environmental product declarations from different programmes may not be comparable if not compliant with EN 15804:2012+A1:2013. Comparability is further dependent on the specific product category rules, system boundaries and allocations, and background data sources. See Clause 5.3 of EN 15804:2012+A1:2013 for further guidance	

Information modules covered

Product			Construction		Use stage							End-of-life				Benefits and loads beyond the system boundary
					Related to the building fabric				Related to the building							
A1	A2	A3	A4	A5	B1	B2	B3	B4	B5	B6	B7	C1	C2	C3	C4	D
Raw materials supply	Transport	Manufacturing	Transport to site	Construction – Installation	Use	Maintenance	Repair	Replacement	Refurbishment	Operational energy use	Operational water use	Deconstruction demolition	Transport	Waste processing	Disposal	Reuse, Recovery and/or Recycling potential
<input checked="" type="checkbox"/>																

Note: Ticks indicate the Information Modules declared.

Manufacturing site

W.E. Rawson Ltd
 Castle Bank Mills, Portobello Road,
 Wakefield
 WF1 5PS

Construction Product

Product Description

This single polymer robust backing for the tile provides a product to the market with potential recyclability back into PET, offering further life uses. Recover is available in sheet and tile. Both are manufactured using 80% recycled material. The standard swatch is available ex stock, with bespoke colours and designs also an option. The benefits include a lightweight box, easy cutting and high acoustic and thermal properties. This is an average EPD covering both backed tile and roll across a multitude of different colour and style options. The results are for the tile version which has backing and could cover a conservative estimate for unbacked sheets as backing would likely double the impacts. There is likely negligible difference in terms of environmental performance of the colour and pattern variations.

Technical Information

Product	Weight	Thickness	Dimensions
Recover Tile	2000g/m ²	7.8mm	50cm x 50cm
Recover Sheet	1000g/m ²	5.5mm	2 x 30m

For further details see technical sheets on www.rawsoncarpetsolutions.co.uk

Main Product Contents

Material/Chemical Input	%
Polyester fibres	20%
Recycled polyester backing	80%

Average material composition of Rawsons Recover sheet and Tile products

Manufacturing Process

1) On Rawson Site:

a. Surface:

- i. The polyester fibres are blended and then the felt is produced by carding and needling.
- ii. A further needling process generates the surface pattern.
- iii. A thermal bonding process dimensionally stabilises the product without further addition of bonding agents

b. Base:

- i. The polyester fibres are blended and then the felt is produced

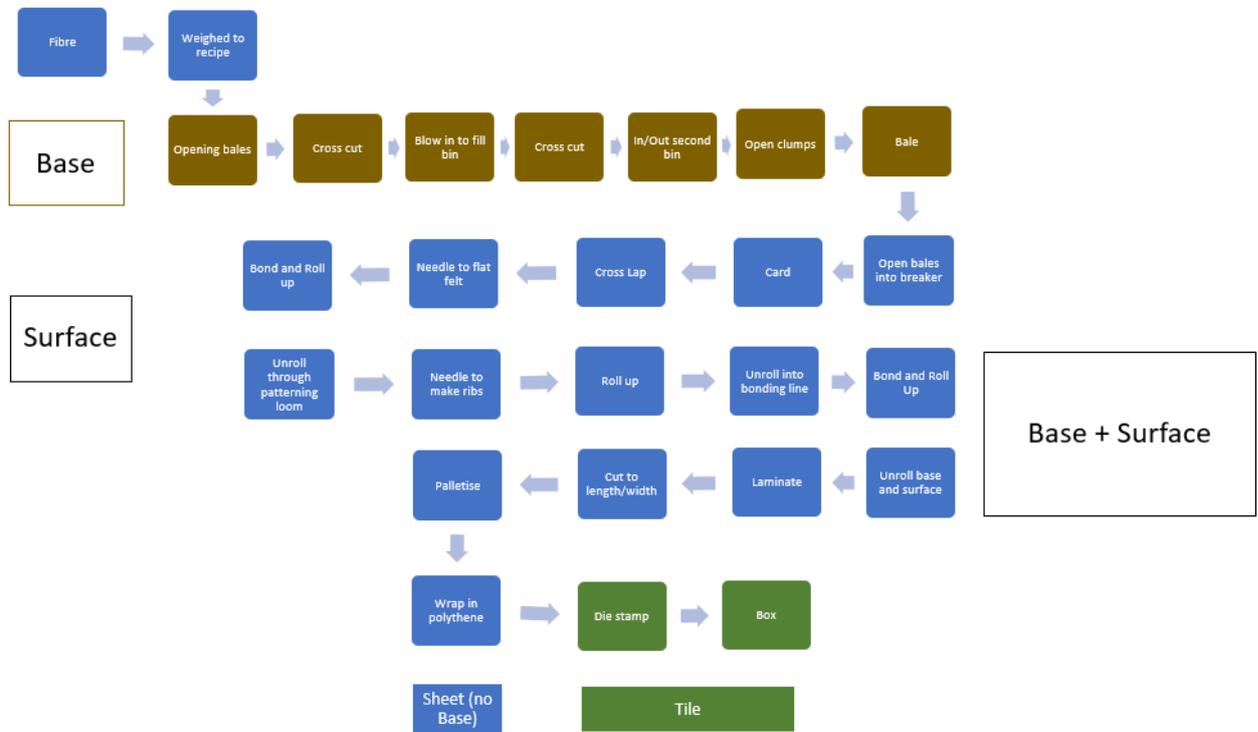
c. Combination:

- i. The two components are laminated together using heat.
- ii. The edges are trimmed and the pieces cut to length – either rolled up or slabbed.
- iii. The product is packaged
 1. Rolls into polythene film
 2. Slabs onto a suitably sized pallet then wrapped in polythene film
- i. Recover product only the polyester is used, in this case it is thermally bonded

c. Tiling

- i. The product is distributed to the tiling subcontractor
- ii. The tile product is die cut to size from either roll or slab
- iii. The tiles are boxed, palletised, wrapped
- iv. The product is transported back to W E Rawson

Process flow diagram



Construction Installation

The sheet carpet is measured and cut to fit the size of the space on the floor. The new carpet is fitted on the floor with adhesive and left to dry naturally.

Use Information

B1 - No impacts have been attributed to the product in use.

B2 - Maintenance activities include a vacuum cleaner hoovering and occasional shampoo clean with unusual soiling. No repairs have been assumed.

B3 - No repair impacts have been attributed to this product over the life cycle.

B4 – Replacement. Although replacement is highly dependent on type of building installed to, traffic and in use conditions, a life expectancy of 10 years the carpet is assumed in line with WRAP and BRE IMPACT industry average values. Therefore the product is replaced 5 times over a 60 year building study period.

B5 - No refurbishment impacts have been attributed to this product over the life cycle.

B6 - No energy impacts have been attributed to this product over the life cycle.

B7 - No water impacts have been attributed to this product over the life cycle.

End of Life

Product is removed by hand from floor during demolition, transported offsite where it can be recycled into PET flake to make an array of alternative products like clothes, carpets, flooring, for moulding polyester products. 100% scenarios have been provided for both recycling and landfill scenarios.

Life Cycle Assessment Calculation Rules

Functional unit description

1 m² of carpet weighing 2kg as installed for a period of 60 years.

System boundary

This is a cradle to gate with options EPD, reporting all production, use and end of life stages modules A1 to D inclusive in accordance with EN 15804:2012+A1:2013.

Data sources, quality and allocation

Data collected by Rawson for the production of Rawson Recover sheet and tile carpets at the Wakefield site for the period 1st January 2019 to 31st December 2019 has been used for this EPD.

The Wakefield site produces other products. Site wide values for energy, water and wastewater have therefore been allocated on a mass basis.

Figures for the raw materials, ancillary materials and packaging were from actual usages. Allocation of energy, water, and waste has been done according to the provisions of the BRE PCR PN514 and EN 15804. Secondary data have been drawn from the BRE LINA database v2.0.79 and the background LCI datasets are based on ecoinvent v3.2 (2015).

Quality Level	Geographical representativeness	Technical representativeness	Time representativeness
Very Good	Data from area under study	Data from processes and products under study. Same state of technology applied as defined in goal and scope (i.e. identical technology)	n/a
Fair	n/a	n/a	Less than 10 years of difference between the reference year according to the documentation, and the time period for which data are representative

Cut-off criteria

All inputs or outputs have been included and all raw materials, packaging, transport, energy, water use and wastes, are included, except for direct emissions to air, water and soil, which are not measured. Upstream extraction and/or processing of inputs are included within the use of the background datasets within LINA.

LCA Results

(MND = module not declared; MNR = module not relevant; INA = indicator not assessed; AGG = aggregated)

Parameters describing environmental impacts			GWP	ODP	AP	EP	POCP	ADPE	ADPF
			kg CO ₂ equiv.	kg CFC 11 equiv.	kg SO ₂ equiv.	kg (PO ₄) ³⁻ equiv.	kg C ₂ H ₄ equiv.	kg Sb equiv.	MJ, net calorific value.
Product stage	Raw material supply	A1	1.49E+00	8.63E-08	6.84E-03	2.38E-03	1.01E-03	1.45E-05	3.54E+01
	Transport	A2	4.95E-01	8.81E-08	4.41E-03	9.70E-04	3.91E-04	9.94E-07	7.37E+00
	Manufacturing	A3	3.79E+00	2.95E-07	2.20E-02	6.05E-03	1.74E-03	1.99E-05	6.47E+01
	Total (of product stage)	A1-3	5.78E+00	4.69E-07	3.33E-02	9.40E-03	3.14E-03	3.54E-05	1.07E+02
Construction process stage	Transport	A4	1.03E-01	1.90E-08	3.44E-04	9.09E-05	6.01E-05	2.71E-07	1.56E+00
	Construction	A5	5.06E+00	1.77E-07	6.81E-03	2.72E-01	1.72E-03	4.60E-06	2.35E+01
Use stage	Use	B1	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
	Maintenance	B2	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
	Repair	B3	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
	Replacement	B4	5.52E+01	3.41E-06	2.15E-01	1.41E+00	2.53E-02	2.01E-04	6.70E+02
	Refurbishment	B5	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
	Operational energy use	B6	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
End of life	Operational water use	B7	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
	Deconstruction, demolition	C1	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
	Transport	C2	4.78E-01	8.92E-08	2.12E-03	5.56E-04	3.51E-04	1.20E-06	7.35E+00

100% Landfill

End of life	Waste processing	C3	0.00E+00						
	Disposal	C4	1.76E-01	5.59E-09	1.62E-04	1.47E-02	5.37E-05	3.12E-08	5.11E-01
Potential benefits and loads beyond the system boundaries	Reuse, recovery, recycling potential	D	1.49E+00	8.63E-08	6.84E-03	2.38E-03	1.01E-03	1.45E-05	3.54E+01

100% Recovered

End of life	Waste processing	C3	3.40E+00	2.20E-07	1.84E-02	4.24E-03	1.05E-03	4.14E-06	5.23E+01
	Disposal	C4	0.00E+00						
Potential benefits and loads beyond the system boundaries	Reuse, recovery, recycling potential	D	-1.49E+00	-8.63E-08	-6.84E-03	-2.38E-03	-1.01E-03	-1.45E-05	-3.54E+01

GWP = Global Warming Potential;
 ODP = Ozone Depletion Potential;
 AP = Acidification Potential for Soil and Water;
 EP = Eutrophication Potential;

POCP = Formation potential of tropospheric Ozone;
 ADPE = Abiotic Depletion Potential – Elements;
 ADPF = Abiotic Depletion Potential – Fossil Fuels;

LCA Results (continued)

Parameters describing resource use, primary energy			PERE	PERM	PERT	PENRE	PENRM	PENRT
			MJ	MJ	MJ	MJ	MJ	MJ
Product stage	Raw material supply	A1	1.39E+00	1.56E-05	1.39E+00	Agg	Agg	Agg
	Transport	A2	1.24E-01	3.22E-07	1.24E-01	Agg	Agg	Agg
	Manufacturing	A3	1.31E+01	1.06E-04	1.31E+01	Agg	Agg	Agg
	Total (of product stage)	A1-3	1.46E+01	1.22E-04	1.46E+01	1.12E+02	1.57E+01	1.28E+02
Construction process stage	Transport	A4	2.07E-02	7.69E-08	2.07E-02	1.55E+00	0.00E+00	1.55E+00
	Construction	A5	2.23E+00	1.22E-05	2.23E+00	2.54E+01	0.00E+00	2.54E+01
Use stage	Use	B1	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
	Maintenance	B2	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
	Repair	B3	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
	Replacement	B4	8.46E+01	6.71E-04	8.46E+01	7.84E+02	0.00E+00	7.84E+02
	Refurbishment	B5	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
	Operational energy use	B6	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
	Operational water use	B7	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
End of life	Deconstruction, demolition	C1	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
	Transport	C2	1.05E-01	3.54E-07	1.05E-01	7.30E+00	0.00E+00	7.30E+00
100% Landfill								
End of life	Waste processing	C3	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
	Disposal	C4	1.86E-02	4.87E-08	1.86E-02	5.27E-01	0.00E+00	5.27E-01
Potential benefits and loads beyond the system boundaries	Reuse, recovery, recycling potential Landfill	D	1.39E+00	1.56E-05	1.39E+00	3.70E+01	0.00E+00	3.70E+01
100% Recovered								
End of life	Waste processing	C3	4.53E+00	8.43E-06	4.53E+00	6.97E+01	0.00E+00	6.97E+01
	Disposal	C4	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Potential benefits and loads beyond the system boundaries	Reuse, recovery, recycling potential Landfill	D	- 1.39E+00	-1.56E- 05	- 1.39E+00	- 3.70E+01	0.00E+00	- 3.70E+01

PERE = Use of renewable primary energy excluding renewable primary energy 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 resource

LCA Results (continued)

Parameters describing resource use, secondary materials and fuels, use of water			SM	RSF	NRSF	FW
			kg	MJ net calorific value	MJ net calorific value	m ³
Product stage	Raw material supply	A1	1.60E+00	0.00E+00	0.00E+00	4.76E-02
	Transport	A2	0.00E+00	0.00E+00	0.00E+00	1.68E-03
	Manufacturing	A3	0.00E+00	0.00E+00	0.00E+00	3.41E-02
	Total (of product stage)	A1-3	1.60E+00	0.00E+00	0.00E+00	8.34E-02
Construction process stage	Transport	A4	0.00E+00	0.00E+00	0.00E+00	3.37E-04
	Construction	A5	1.28E-01	0.00E+00	0.00E+00	2.97E-02
Use stage	Use	B1	0.00E+00	0.00E+00	0.00E+00	0.00E+00
	Maintenance	B2	0.00E+00	0.00E+00	0.00E+00	0.00E+00
	Repair	B3	0.00E+00	0.00E+00	0.00E+00	0.00E+00
	Replacement	B4	8.64E+00	0.00E+00	0.00E+00	5.69E-01
	Refurbishment	B5	0.00E+00	0.00E+00	0.00E+00	0.00E+00
	Operational energy use	B6	0.00E+00	0.00E+00	0.00E+00	0.00E+00
	Operational water use	B7	0.00E+00	0.00E+00	0.00E+00	0.00E+00
End of life	Deconstruction, demolition	C1	0.00E+00	0.00E+00	0.00E+00	0.00E+00
	Transport	C2	0.00E+00	0.00E+00	0.00E+00	1.66E-03
100% Landfill						
End of life	Waste processing	C3	0.00E+00	0.00E+00	0.00E+00	0.00E+00
	Disposal	C4	0.00E+00	0.00E+00	0.00E+00	5.85E-04
Potential benefits and loads beyond the system boundaries	Reuse, recovery, recycling potential Landfill	D	1.60E+00	0.00E+00	0.00E+00	4.76E-02
100% Recovered						
End of life	Waste processing	C3	0.00E+00	0.00E+00	0.00E+00	3.56E-02
	Disposal	C4	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Potential benefits and loads beyond the system boundaries	Reuse, recovery, recycling potential Landfill	D	-1.60E+00	0.00E+00	0.00E+00	-4.76E-02

SM = Use of secondary material;
RSF = Use of renewable secondary fuels;

NRSF = Use of non-renewable secondary fuels;
FW = Net use of fresh water

LCA Results (continued)

Other environmental information describing waste categories					
			HWD	NHWD	RWD
			kg	kg	kg
Product stage	Raw material supply	A1	3.03E-02	1.49E-01	7.06E-05
	Transport	A2	3.22E-03	2.54E-01	5.06E-05
	Manufacturing	A3	3.21E-02	1.60E-01	4.29E-04
	Total (of product stage)	A1-3	6.56E-02	5.63E-01	5.50E-04
Construction process stage	Transport	A4	6.52E-04	7.25E-02	1.07E-05
	Construction	A5	1.73E-02	4.02E+01	1.21E-04
Use stage	Use	B1	0.00E+00	0.00E+00	0.00E+00
	Maintenance	B2	0.00E+00	0.00E+00	0.00E+00
	Repair	B3	0.00E+00	0.00E+00	0.00E+00
	Replacement	B4	4.21E-01	2.04E+02	3.46E-03
	Refurbishment	B5	0.00E+00	0.00E+00	0.00E+00
	Operational energy use	B6	0.00E+00	0.00E+00	0.00E+00
	Operational water use	B7	0.00E+00	0.00E+00	0.00E+00
End of life	Deconstruction, demolition	C1	0.00E+00	0.00E+00	0.00E+00
	Transport	C2	3.10E-03	4.45E-01	5.06E-05
100% Landfill					
End of life	Waste processing	C3	0.00E+00	0.00E+00	0.00E+00
	Disposal	C4	3.93E-04	2.00E+00	3.34E-06
Potential benefits and loads beyond the system boundaries	Reuse, recovery, recycling potential Landfill	D	3.03E-02	1.49E-01	7.06E-05
100% Recovered					
End of life	Waste processing	C3	8.18E-03	8.54E-02	3.84E-04
	Disposal	C4	0.00E+00	0.00E+00	0.00E+00
Potential benefits and loads beyond the system boundaries	Reuse, recovery, recycling potential Landfill	D	-3.03E-02	-1.49E-01	-7.06E-05

HWD = Hazardous waste disposed;
 NHWD = Non-hazardous waste disposed;
 RWD = Radioactive waste disposed

LCA Results (continued)

Other environmental information describing output flows – at end of life			CRU	MFR	MER	EE
			kg	kg	kg	MJ per energy carrier
Product stage	Raw material supply	A1	0.00E+00	0.00E+00	0.00E+00	0.00E+00
	Transport	A2	0.00E+00	0.00E+00	0.00E+00	0.00E+00
	Manufacturing	A3	0.00E+00	0.00E+00	0.00E+00	0.00E+00
	Total (of product stage)	A1-3	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Construction process stage	Transport	A4	0.00E+00	0.00E+00	0.00E+00	0.00E+00
	Construction	A5	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Use stage	Use	B1	0.00E+00	0.00E+00	0.00E+00	0.00E+00
	Maintenance	B2	0.00E+00	0.00E+00	0.00E+00	0.00E+00
	Repair	B3	0.00E+00	0.00E+00	0.00E+00	0.00E+00
	Replacement	B4	0.00E+00	0.00E+00	0.00E+00	0.00E+00
	Refurbishment	B5	0.00E+00	0.00E+00	0.00E+00	0.00E+00
	Operational energy use	B6	0.00E+00	0.00E+00	0.00E+00	0.00E+00
	Operational water use	B7	0.00E+00	0.00E+00	0.00E+00	0.00E+00
End of life	Deconstruction, demolition	C1	0.00E+00	0.00E+00	0.00E+00	0.00E+00
	Transport	C2	0.00E+00	0.00E+00	0.00E+00	0.00E+00
100% Landfill						
End of life	Waste processing	C3	0.00E+00	0.00E+00	0.00E+00	0.00E+00
	Disposal	C4	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Potential benefits and loads beyond the system boundaries	Reuse, recovery, recycling potential Landfill	D	0.00E+00	0.00E+00	0.00E+00	0.00E+00
100% Recovered						
End of life	Waste processing	C3	0.00E+00	0.00E+00	0.00E+00	0.00E+00
	Disposal	C4	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Potential benefits and loads beyond the system boundaries	Reuse, recovery, recycling potential Landfill	D	0.00E+02	2.50E+00	0.00E+00	0.00E+00

CRU = Components for reuse;
MFR = Materials for recycling

MER = Materials for energy recovery;
EE = Exported Energy

Scenarios and additional technical information

Scenarios and additional technical information			
Scenario	Parameter	Units	Results
A4 – Transport to the building site	Carpets are delivered anywhere from Rawsons or subcontractor to construction sites in the UK. A weighted average distance has been derived.		
	Distance Lorry diesel 16-32 ton Euro 5	km	308
	Capacity Utilisation	%	65
	Bulk density of transported products	kg/m ³	0.0156
A5 – Installation in the building	The sheet carpet is measured and cut to fit the size of the space on the floor. The old carpet is removed (if applicable), and the new carpet is fit on the floor with adhesive and left to dry naturally.		
	Installation Wastage (8%)	m ²	20
	Adhesive	kg	0.1
B1 - Use	Carpets do not report any emissions to air during use.		
B2 – Maintenance	Vacuum cleaning and shampoo clean only with unusual soiling.		
	Frequency	Cycles per year	100
	Shampoo detergent	Kg/cycle/m ² carpet	0.008
	Vacuum cleaner electricity consumption	kWh/cycle/m ²	0.00667
	Tap water for shampooing	M3/cycle/m ²	0.00005
B3 – Repair	No repair expected during life cycle of the product		
B4 – Replacement	Replacement of carpets assumed every 10 years (BRE IMPACT)		
	Number of replacements over life cycle	#	5
B5 – Refurbishment	No refurbishment expected over life cycle		
Reference service life	10 years reference service life		
B6 – Use of energy; B7 – Use of water	No energy or water consumption associated with this product		
C1 to C4 End of life,	Carpets are deconstructed by hand with no ancillary materials, energy or water inputs required. Material can be fully recycled by processing into PET flakes used in alternative products such as clothing, carpets, flooring and polyester moulding.		
	Transport weighted average distance by road UK/USA	km	1810
	Electricity required for cleaning and processing into PET flakes	kWh	5.6436
	Water required for cleaning and processing into PET flakes	m ³	0.021448

Scenarios and additional technical information

Scenario	Parameter	Units	Results
Module D	Product is 100% recyclable, 100% scenarios provided for landfill and recycling.		

References

BSI. Sustainability of construction works – Environmental product declarations – Core rules for the product category of construction products. BS EN 15804:2012+A1:2013. London, BSI, 2013.

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