Statement of Verification

BREG EN EPD No.: 000269 Issue 1

This is to verify that the

Environmental Product Declaration

provided by:

Texfelt Ltd

is in accordance with the requirements of:

EN 15804:2012+A1:2013

and

BRE Global Scheme Document SD207

This declaration is for:

Texfelt Springbond Underlay

Company Address

Cutler Hights Business Park
Cutler Hights Lane
Bradford
West Yorkshire
BD4 9AW

Texfelt
Underlay & Fibre Technology

Signed for BRE Global Ltd	Laura Critien Operator	02 October 2019 Date of this Issue
02 October 2019 Date of First Issue		01 October 2023 Expiry Date

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Environmental Product Declaration

EPD Number: 000269

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**
Texfelt Ltd Cutler Heights Business Park Cutler Heights Lane Bradford West Yorkshire BD4 9AW	Andrew Dutfield / BRE LINA v 2.0
Declared Unit	**Applicability/Coverage**
1 m^2 of 11mm thick 1.05 kg/m^2 Texfelt Springbond underlay	Manufacturer specific product.
EPD Type	**Background database**
Cradle to Gate	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 ☐Internal ☒ External
(Where appropriate [b])Third party verifier: Jane Anderson
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
☑	☑	☑	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐		☐

Note: Ticks indicate the Information Modules declared.

Manufacturing site(s)

Texfelt Ltd
Cutler Heights Business Park
Cutler Heights Lane
Bradford
West Yorkshire
BD4 9AW

Construction Product

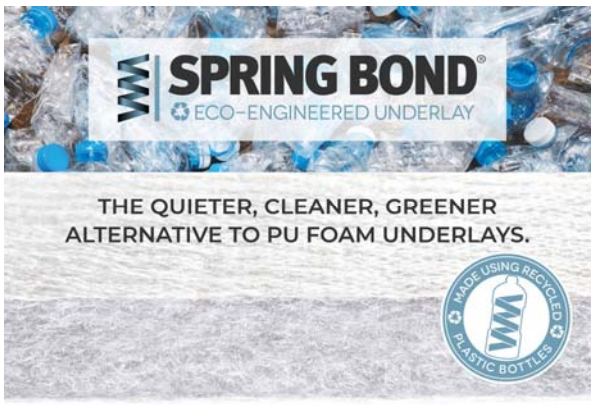
Product Description

Non Woven, Thermo Bonded Carpet Underlay made from recycled and regenerated fibres. For use as support/comfort under and increasing longeivity of carpet life. The product is unique insofar that it is made with recycled polyester fibres, including fibres manufactured from recycled, single use plastic bottles. Each roll of underlay contains a minimum of 150 single use plastic bottles.

Technical Information

Property	Value, Unit
Flammability (BS4790)	Pass – Low Radius
Underlay & Textile Floor Coverings (BS5808:1991 (2011))	11mm Luxury Use L/U, 9mm Heavy Contract HC/U, 7mm Heavy Contract HC/U
Breaking Strength & Elongation (BS2576:1986)	Breaking strength 193N (11mm), 82N (9mm), 293N (7mm), Elongation at 40N 0.643% (11mm), 1.59% (9mm), 0.861% (7mm)
Static Loading (BS4939:1987 (2003))	Thickness loss after 24 hrs recovery 19.7% (11mm), 18.8% (9mm) , 25.9% (7mm)
Dynamic Loading (BS4052:1987)	Thickness loss after 1000 impacts 14.8% (11mm), 9.4% (9mm), 13.7% (7mm)
Work of Compression (BS4098:1975 (2003))	Mean work of compression retained 63.8% (11mm), 82.2% (9mm), 74.4% (7mm)
Resistance to Breaking & Cracking (BS5808 Appendix A:1991 (2011))	Degree of cracking – none

Thermal Insulation (BS4745)	2.1 Tog (11mm), 2.3 Tog (9mm), 1.66 Tog (7mm)
Thermal Conductivity (BS1902-5.8 (1992))	0.0476 W/M^{2}K (11mm), 0.0433 W/M^{2}K (9mm) 0.0603 W/M2 k (7mm)
Impact Sound Reduction (ISO140)	57 dB (11mm), 41 dB (9mm),45 dB (7mm)
TVOC after 3 days	Pass (46.6 µg/m^3 – extremely low)
Sustainability	Fully recyclable at end of serviceable life



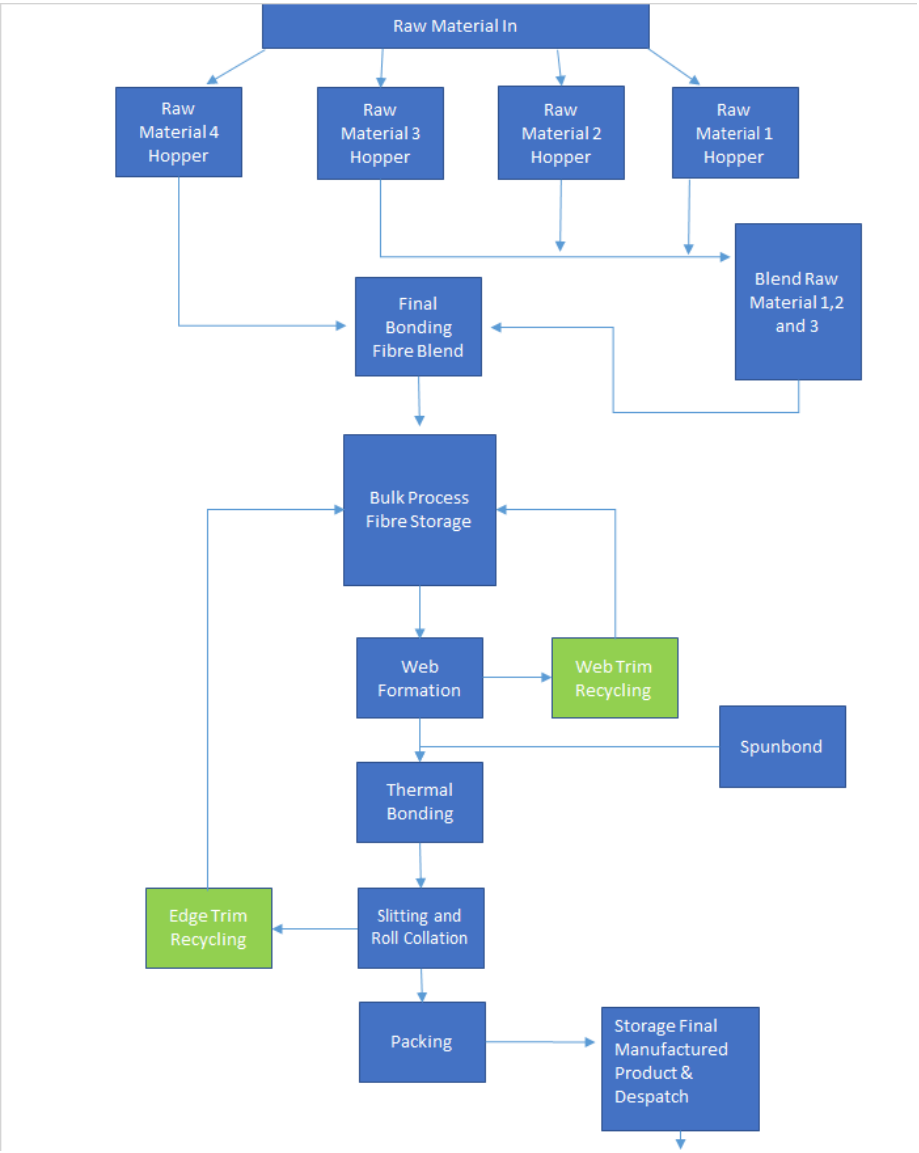
Main Product Contents

Material/Chemical Input	%
Regenerated polyester fibre	76
Low-melt polyester fibre	20
Re-pulled polyester fibre	4

Manufacturing Process

Non Woven Textile Manufacturing Process. A selection of specified fibres are blended by % weight, refined, carded and orientated using air flows. The laid web is then thermobonded prior to cutting to specified roll size. Finished rolls are then bagged and stored.

Process flow diagram



Construction Installation

Subfloors should be dry, clean and free of oil, grease & damp. Fitting should meet the British Standard code of practise BS5325 & be undertaken by experienced fitters.

Use Information

9mm & 11mm thicknesses are recommended for bedrooms, living rooms, hall, landings stairs and corridors. 9mm in addition is recommended for heavy floor, wheel traffic & castor chairs. 7mm rated to heavy contract and suitable for double stick applications in public high wear areas.

End of Life

Fully recyclable at end of serviceable life.

Life Cycle Assessment Calculation Rules

Declared unit description

1 m² of 11mm thick 1.05 kg/m^2 Texfelt Springbond underlay

System boundary

This is a cradle to gate EPD (i.e. processes covered in the extraction and processing in modules A1 to A3).

Data sources, quality and allocation

This EPD is for the 11mm thick product at 1.05 kg/m^2. Texfelt also manufactures Springbond underlay at 9mm (0.85 kg/m^2) and 7mm (0.78kg/m^2). The results for the 11mm Springbond underlay can be used for the 9mm and 7mm product with no further calculation.

Manufacturer-specific data from Texfelt Ltd covering a production period from 1st October 2018 to 29th March 2019 from the Bradford site has been used for this EPD.

No allocation of raw material inputs was required as total raw material usage for all products made over the production period was used. The Springbond product output forms 26% of Texfelt's total production by mass. Water usage and waste creation have been allocated at this percentage.

As Springbond typically runs at a slower speed through the manufacturing plant than other products, the energy consumed per sqm is greater in Springbond than it is in the other products. As lines are not metered, to ensure an appropriate and direct share of energy consumed was allocated, percentage of Springbond manufacturing days in the reference period was used. Electricity and nautal gas were allocated at 29%.

Manufacturing data covering 1st January 2018 to 1st January 2019 was also sourced from the two suppliers of regenerated polyester fibre in Indonesia and Taiwan respectively because there were no suitable ecoinvent datasets to represent this raw material. Individual datasets for the secondary materials were compiled based on each supplier's data and modelled in LINA. Datasets include energy, water and waste for the production of the regenerated polyester fibres. Impacts associated with the production of the polyester flake and chip raw materials to the fibre production process are excluded as they are beyond the system boundary.

The supporting LCA study was carried out using BRE LINA v2.0. Secondary data is from the BRE LINA database v2.0.53 and the background LCI datasets are based on ecoinvent v3.2 (2015).

Cut-off criteria

Data collected at the Bradford manufacturing site and the two suppliers of recycled polyester fibre in Indonesia and Taiwan respectively was used. The inventory process in this LCA includes all data related to raw material, packaging material and consumable items, and the associated transport to the manufacturing site. Process energy and water use and direct production waste are included.

LCA Results

The results per declared unit (1m² of the 11mm Texfelt Springbond underlay product) for the declared modules can be found in the following tables:

(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_2H_4 equiv.	kg Sb equiv.	MJ, net calorific value.
Product stage	Raw material supply	A1	AGG	AGG	AGG	AGG	AGG	AGG	AGG
	Transport	A2	AGG	AGG	AGG	AGG	AGG	AGG	AGG
	Manufacturing	A3	AGG	AGG	AGG	AGG	AGG	AGG	AGG
	Total (of product stage)	A1-3	3.53E+00	2.06E-07	2.15E-02	5.25E-03	1.85E-03	7.38E-06	5.99E+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;

Parameters describing resource use, primary energy

			PERE	PERM	PERT	PENRE	PENRM	PENRT
			MJ	MJ	MJ	MJ	MJ	MJ
Product stage	Raw material supply	A1	AGG	AGG	AGG	AGG	AGG	AGG
	Transport	A2	AGG	AGG	AGG	AGG	AGG	AGG
	Manufacturing	A3	AGG	AGG	AGG	AGG	AGG	AGG
	Total (of product stage)	A1-3	3.48E+00	1.22E-05	3.48E+00	5.70E+01	6.57E+00	6.36E+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	AGG	AGG	AGG	AGG
	Transport	A2	AGG	AGG	AGG	AGG
	Manufacturing	A3	AGG	AGG	AGG	AGG
	Total (of product stage)	A1-3	8.42E-01	0.00E+00	0.00E+00	5.32E-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

Other environmental information describing waste categories					
			HWD	NHWD	RWD
			kg	kg	kg
Product stage	Raw material supply	A1	AGG	AGG	AGG
	Transport	A2	AGG	AGG	AGG
	Manufacturing	A3	AGG	AGG	AGG
	Total (of product stage)	A1-3	2.56E-02	2.12E-01	1.43E-04

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

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	AGG	AGG	AGG	AGG
	Transport	A2	AGG	AGG	AGG	AGG
	Manufacturing	A3	AGG	AGG	AGG	AGG
	Total (of product stage)	A1-3	4.59E-03	4.28E-02	0.00E+00	0.00E+00

CRU = Components for reuse;
MFR = Materials for recycling
MER = Materials for energy recovery;
EE = Exported Energy

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.

BSI. Environmental labels and declarations – Type III Environmental declarations – Principles and procedures. BS EN ISO 14025:2010 (exactly identical to ISO 14025:2006). London, BSI, 2010.

BSI. Environmental management – Life cycle assessment – Principles and framework. BS EN ISO 14040:2006. London, BSI, 2006.

BSI. Environmental management – Life cycle assessment – requirements and guidelines. BS EN ISO 14044:2006. London, BSI, 2006.

BSI. Method for determination of the effects of a small source of ignition on textile floor coverings (hot metal nut method) BS 5808: 1991(2011) Underlays & Textile Floor Coverings. London. BS 4790:1987

BSI. Method for determination of breaking strength and elongation (strip method) of woven fabrics. London, BS 2576:1986

BSI. Method for determination of thickness loss of textile floor coverings after prolonged heavy static loading. London, BS 4939:1987, ISO 3416-1986

BSI. BS 4052:1987, ISO 2094-1986 Method for determination of thickness loss of textile floor coverings under dynamic loading

BSI. Method for determination of thickness loss of textile floor coverings after prolonged heavy static loading. London, BS 4939:1987, ISO 3416-1986

BSI. Specification for underlays for textile floor coverings. London, BS 5808:1991

BSI. Determination of the thermal resistance of textiles. Two-plate method: fixed pressure procedure, two-plate plate method: fixed opening procedure, and single-plate method. London, BS 4745:2005

BSI. Methods of testing refractory materials. Refractory and thermal properties. Determination of thermal conductivity (split column method) (method 1902-508). London, BS 1902-5.8:1992

BSI. Acoustics. Measurement of sound insulation in buildings and of building elements. London, BS EN ISO 140

BSI BS 5325:2001 Installation of textile floor coverings. Code of practice