

Statement of Verification

BREG EN EPD No.: 000414

Issue 02

This is to verify that the
Environmental Product Declaration
provided by:
Heckmondwike FB

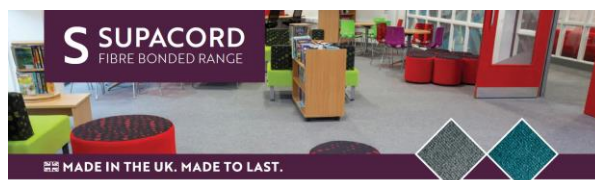


is in accordance with the requirements of:
EN 15804:2012+A1:2013
and
BRE Global Scheme Document SD207

This declaration is for:
1 m² of Supacord Fibrebonded Sheet Carpet

Company Address

Wellington Mills
Liversedge
West Yorkshire
WF15 7FH



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HECKMONDWIKE

MANUFACTURERS OF FIBRE BONDED CARPETS

Emma Baker
Operator

05 October 2023
Date of this Issue

25 March 2022
Date of First Issue

24 March 2027
Expiry Date



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Environmental Product Declaration

EPD Number: 000414

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 |
| Heckmondwike FB, Division of National Floorcoverings Ltd Wellington Mills Liversedge, West Yorkshire, WF15 7FH | Andrew Dutfield/ BRE LINA 2.0 |
| Declared/Functional Unit | Applicability/Coverage |
| 1 m ² of Supacord fibrebonded sheet carpet, product weight 1.02 kg/m ² | Product Average. |
| 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 <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"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |

Note: Ticks indicate the Information Modules declared.

Manufacturing site(s)

Heckmondwike FB, Division of National Floorcoverings Ltd
Wellington Mills
Liversedge, West Yorkshire, WF15 7FH

Construction Product:

Product Description

Heavy contract fibrebonded sheet floorcovering for indoor commercial use. This EPD refers to Supacord fibrebonded sheet only.

Technical Information

| Property | Value, Unit |
|--|----------------------|
| Colour Fastness Light (BS EN ISO 105:B02) | 6 |
| Colour Fastness Wet Rubbing (BS EN ISO 105:BO1) | 4-5 |
| Colour Fastness Dry Rubbing (BS EN ISO 105:X12) | 4-5 |
| Flammability BS5287 Assessment and Labelling of Textile Floorcoverings tested to BS4790 (Hot Metal Nut Test) | Low Radius of Char |
| BS EN 13501 | Class Cfl-s1 (Sheet) |
| Reduction in Impact Noise BS EN ISO 140-8 | 22 dB (Sheet) |
| Sound Absorption - BS EN ISO 11654 tested to BS EN 354 | Class E (aw = 0.20) |



Main Product Contents

| Material/Chemical Input | % |
|--------------------------|-----|
| Polypropylene fibre | 66 |
| Nylon 6 fibre | 8 |
| Recycled polyester fibre | 6 |
| SBR Latex | 20 |
| Total | 100 |

Manufacturing Process

Staple fibres are blended, carded, and layered before being needle-punched by barbed needles to produce a consolidated flat felt. The material is then fed through a structuring loom where forked needles punch through to create a fine ribbed appearance. The final stage is to fully impregnate the material with SBR latex, after which the material can be cut/sold directly from the latex plant as 2m or 4m wide rolls or stored in the warehouse as stock.

Process flow diagram



Construction Installation

The recommended method is to roll the carpet out flat at a minimum room temperature of 18°C for 24 hours to allow acclimatisation. The method follows the stages for bonding the carpet before making the seams and trimming the edges. The subfloor should be clean, dry and flat and prepared in accordance BS5325. Timber floors should be covered with plywood or other appropriate sheet materials.

Use Information

Daily vacuum cleaning with a twin motored upright vacuum cleaner, preferably with an adjustable head, is recommended. Please note that Heckmondwike's fibre bonded carpets can be vacuumed immediately after installation. It is essential to remove all loose soil daily because if left to build up, the particles of dirt are more damaging to the fibre structure, thereby decreasing the life of the carpet. Attention should be given to areas where there is extra traffic and in entrances to buildings where extra vacuuming is necessary.

The carpet should be periodically deep cleaned by hot water extraction using a good quality carpet detergent. It is important that carpet is cleaned at least once a year, depending on traffic levels.

End of Life

At present the most practical, current alternative to landfill is energy recovery where the uplifted product is used as a fuel. Polypropylene carpet has a high calorific value and the energy produced reduces the amount of fossil fuel required thus protecting our natural resources.

Life Cycle Assessment Calculation Rules

Declared unit description

1 m² of Supacord fibrebonded sheet carpet, product weight 1.02 kg/m²

System boundary

This is a cradle-to-gate LCA, reporting all production life cycle stages of modules A1 to A3 in accordance with EN 15804:2012+A1:2013.

Data sources, quality and allocation

Heckmondwike Supacord sheet declared unit is 1 m² of product with a weight of 1.02 kg/m². The data supplied relates to the Liversedge site and covers the working period 2nd January 2019 to 19th December 2019. The site manufactures other products in addition to Supacord. Raw materials have been uplifted by 4.1% to compensate for the mass balance. Allocations have been made according to the provisions of the BRE PCR PN514 and EN 15804 in the following table:

| | |
|-----------------------------------|--|
| Raw materials | Production by mass x % of recipe |
| Packaging | Production by mass x standard quantity per product |
| Energy, water, general waste | % of total production by mass |
| Lubricant, solid production waste | % of fibrebond and tufted production by mass |

Secondary data have been drawn from the BRE LINA database v2.0.82 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 |

The quality level of geographical and technical representativeness is Very Good. The quality level of time representativeness is Fair as the background LCI datasets are based on ecoinvent v3.2 which was compiled in 2015 and so there is less than 10 years between the reference year according to the documentation, and the time period for which data are representative.

Cut-off criteria

All raw materials and energy input to the manufacturing process have been included, except for direct emissions to air, water and soil, which are not measured. The inventory process in this LCA includes all data related to raw material, packaging material, ancillary and consumable items. Process energy, water use, water discharge and waste are included.

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 | 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 | 6.41E+00 | 2.36E-07 | 3.31E-02 | 9.31E-03 | 4.20E-03 | 3.46E-05 | 1.31E+02 |

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 | 6.21E+00 | 1.05E-02 | 6.22E+00 | 9.89E+01 | 3.80E+01 | 1.37E+02 |

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 | 6.60E-02 | 0.00E+00 | 0.00E+00 | 9.32E-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 | 4.61E-02 | 1.72E-01 | 2.34E-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 | 0.00E+00 | 7.23E-02 | 1.08E-01 | 0.00E+00 |

CRU = Components for reuse;
MFR = Materials for recycling

MER = Materials for energy recovery;
EE = Exported Energy

Interpretation

Analysis of the results shows that the following raw materials have the highest and second highest impacts for the selected indicators:

| Indicator | Highest impact | 2nd highest impact |
|-----------|-----------------------|--------------------|
| GWP | Polypropylene (61.7%) | Nylon 6 (18.1%) |
| ODP | Polypropylene (39.8%) | SBR latex (23.7%) |
| AP | Polypropylene (68.3%) | Nylon 6 (15.4%) |
| EP | Polypropylene (66.9%) | Nylon 6 (14.9%) |
| POCP | Polypropylene (63.5%) | SBR latex (15.9%) |
| ADPE | SBR latex (63.6%) | Nylon 6 (20.2%) |
| ADPF | Polypropylene (66.6%) | SBR latex (13.0%) |

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.

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