At KnollTextiles, we advocate for business practices that reduce the use, manufacture, and sale of products that have the potential to cause environmental damage or negatively impact human health and safety. We are dedicated to environmental stewardship and transparency, and as such, we prioritize low-emitting materials, recycled content, natural fibers, and the removal of Chemicals of Concern from our products.

Deepening our commitment to material, production, and operational transparency, we have engaged in Life Cycle Assessments (LCA) for selected products within our line. The LCA is a comprehensive quantitative analysis of the environmental impacts of the entire life cycle of our products. This information will be presented in product-specific Environmental Product Declarations (EPD) that report on the whole-life sustainability impact of operational, embodied, and long-term carbon.

This group of wallcoverings are highly durable and are appropriate for high traffic areas.

An EPD should provide current information, and may be updated if conditions change. The stated validity is therefore subject to the continued registration and publication at www.environdec.com.
Environmental Product Declaration

EPDs rely on Life Cycle Assessment (LCA) to provide information on a number of environmental impacts of products over their life cycle. The EPD owner has the sole ownership, liability and responsibility of the EPD. Exclusions: EPDs do not indicate that any environmental or social performance benchmarks are met, and there may be impacts that they do not encompass. LCAs do not typically address the site-specific environmental impacts of raw material extraction, nor are they meant to assess human health toxicity. EPDs can complement but cannot replace tools and certifications that are designed to address these impacts and/or set performance thresholds — e.g., Type 1 certifications, health assessments and declarations, environmental impact assessments, etc. Accuracy of Results: EPDs regularly rely on estimations of impacts, and the level of accuracy in estimation of effect differs for any particular product line and reported impact. Comparability: EPDs are not comparative assertions and are either not comparable or have limited comparability when they cover different life cycle stages, are based on different product category rules or are missing relevant environmental impacts. EPDs from different programs may not be comparable. The ranges of the LCIA results are less than 10%.

<table>
<thead>
<tr>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>PRODUCT CATEGORY RULES (PCR):</td>
<td>EN 15804 + A2</td>
</tr>
<tr>
<td>INDEPENDENT THIRD-PARTY VERIFICATION OF THE DECLARATION AND DATA, ACCORDING TO ISO 14025:2006</td>
<td>EPD Process Certification</td>
</tr>
<tr>
<td>DECLARATION NUMBER</td>
<td>EPD 10828</td>
</tr>
<tr>
<td>DECLARED PRODUCT &amp; DECLARED UNIT</td>
<td>Fragment, Savvy, Simple, Splendid, Fine Print, Margin, Morgan, Peninsula, Perimeter, Run, Shortwave, Siren, and Vector declared unit = 1 m² of fabric</td>
</tr>
<tr>
<td>REFERENCE PCR AND VERSION NUMBER</td>
<td>EN 15804:2012 + A2:2019: Sustainability of construction works — Environmental Product Declarations — Core rules for the product category of construction product</td>
</tr>
<tr>
<td>DESCRIPTION OF PRODUCT APPLICATION/USE</td>
<td>Knoll products are primarily used in commercial and residential settings.</td>
</tr>
<tr>
<td>MARKETS OF APPLICABILITY</td>
<td>Global</td>
</tr>
<tr>
<td>DATE OF ISSUE</td>
<td>July 1, 2023</td>
</tr>
<tr>
<td>PERIOD OF VALIDITY</td>
<td>5 years</td>
</tr>
<tr>
<td>EPD TYPE</td>
<td>Product Specific</td>
</tr>
<tr>
<td>DATASET VARIABILITY</td>
<td>N/A</td>
</tr>
<tr>
<td>EPD SCOPE</td>
<td>Cradle-to-Gate with Options</td>
</tr>
<tr>
<td>YEAR(S) OF REPORTED PRIMARY DATA</td>
<td>2020</td>
</tr>
<tr>
<td>LCA SOFTWARE &amp; VERSION NUMBER</td>
<td>GaBi 10.6</td>
</tr>
<tr>
<td>LCI DATABASE(S) &amp; VERSION NUMBER</td>
<td>GaBi Sphera database, Service Pack 35</td>
</tr>
<tr>
<td>LCIA METHODOLOGY &amp; VERSION NUMBER</td>
<td>TRACI 2.1; CML 4.1</td>
</tr>
<tr>
<td>PCR REVIEW WAS CONDUCTED BY:</td>
<td>EN 15804 + A2 Core PCR was developed by the European Committee for Standardization (CEN)</td>
</tr>
</tbody>
</table>

This declaration was independently verified in accordance with ISO 14025: 2006. EN 15804 serves as the core PCR.

Tony Favilla, NSF Certification, LLC Afavilla@nsf.org
Sustainable Solutions Corporation
Jack Geibig, EcoForm, LLC jgeibig@ecoform.com

Environmental declarations from different programs (ISO 14025) may not be comparable.

Comparison of the environmental performance using EPD information shall consider all relevant information modules over the full life cycle of the products within the building.

This PCR allows EPD comparability only when the same functional requirements between products are ensured and the requirements of EN 15804:2019 §5.5 are met. It should be noted that different LCA software and background LCI datasets may lead to differences results for upstream or downstream of the life cycle stages declared.

2 of 15
Environmental Product Declaration

Fragment, Savvy, Simple, Splendid, Fine Print, Margin, Morgan, Peninsula, Perimeter, Run, Shortwave, Siren, and Vector

EN 15804 + A2

General Information

Description of Company/Organization

We at KnollTextiles use modern design to connect people to their work, their lives, their world. Since 1938, we have been recognized internationally for creating workplace and residential furnishings that inspire, evolve, and endure. Today, our commitment to modern design, our understanding of the nature of work, and our dedication to sustainable design have yielded a unique portfolio of thoughtful products that respond and adapt to changing needs.

Product Description

High Performance Vinyl Wallcoverings are durable and cleanable. They work well in high traffic areas and would be appropriate for Hospitality or Healthcare. The fabrics covered in this EPD are the same across their product lines, where they differ is their final patterns.

Manufacturer Specific EPD

This product-specific EPD was developed based on the cradle-to-grave with options (modules A1-A4 & C1-D) Life Cycle Assessment. The EPD accounts for raw material extraction and processing, transport, product manufacturing, distribution, and end-of-life. Manufacturing data were gathered directly from company personnel. When updated company-specific data were not available, a proxy was used. Product grouping was considered appropriate if the individual product(s) have a similar application and material composition. Any additional contracted facilities names have been withheld due to confidentiality.

Application

The Fragment, Savvy, Simple, Splendid, Fine Print, Margin, Morgan, Peninsula, Perimeter, Run, Shortwave, Siren, and Vector Wallcovering is typically used as a direct glue wallcovering, as well as unbacked for wrapped panel or indoor-outdoor upholstery use.

Material Composition

The primary product components and/or materials must be indicated as a percentage mass to enable the user of the EPD to understand the composition of the product in delivery status. There are no substances in these products listed in the Candidate List of Substances of Very High Concern for authorization. For more information see https://www.knoll.com/shop-textiles.

The average composition of a KnollTextiles Fragment, Savvy, Simple, Splendid, Fine Print, Margin, Morgan, Peninsula, Perimeter, Run, Shortwave, Siren, and Vector Wallcovering is as follows:

<table>
<thead>
<tr>
<th>Material</th>
<th>Percentage in mass (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Vinyl</td>
<td>100.00%</td>
</tr>
<tr>
<td>Total</td>
<td>100.00%</td>
</tr>
<tr>
<td>Total Mass (kg/m2)</td>
<td>0.67</td>
</tr>
</tbody>
</table>

Technical Data

For the declared product, the following technical data in the delivery status must be provided with reference to the test standard:

<table>
<thead>
<tr>
<th>Technical Data</th>
</tr>
</thead>
<tbody>
<tr>
<td>Composition</td>
</tr>
<tr>
<td>Vinyl</td>
</tr>
<tr>
<td>Weave</td>
</tr>
<tr>
<td>Non-Woven</td>
</tr>
<tr>
<td>Color Index</td>
</tr>
<tr>
<td>Neutrals and colors</td>
</tr>
<tr>
<td>Colorfastness Dry</td>
</tr>
<tr>
<td>Meets ACT minimum Guidelines of Grade 3</td>
</tr>
<tr>
<td>Colorfastness Wet</td>
</tr>
<tr>
<td>Meets ACT minimum Guidelines of Grade 3</td>
</tr>
<tr>
<td>ASTM E-84 Adhered</td>
</tr>
<tr>
<td>Meets ACT minimum Guidelines of Class A</td>
</tr>
<tr>
<td>CAN/ULC-S102</td>
</tr>
<tr>
<td>Meets Canadian flammability Standards</td>
</tr>
<tr>
<td>Lightfastness 40 hrs.</td>
</tr>
<tr>
<td>Meets ACT minimum Guidelines of Grade 4 at 200 hours</td>
</tr>
<tr>
<td>Clean Air</td>
</tr>
<tr>
<td>Tested to CDPH/BIFMA guidelines</td>
</tr>
</tbody>
</table>
Environmental Product Declaration

These products can be used for direct glue wallcovering.

Methodological Framework

Declared Unit

The declaration refers to the declared unit of 1 m² (one square meter) of Fragment, Savvy, Simple, Splendid, Fine Print, Margin, Morgan, Peninsula, Perimeter, Run, Shortwave, Siren, and Vector as specified in EN 15804 +A2. The declared unit was chosen to be consistent with the unit defined by IBU Part B: Requirements on the EPD for Wallcoverings which was used to inform the EPD created under EN 15804 +A2 and because the use phase is out of scope.

<table>
<thead>
<tr>
<th>Name</th>
<th>Value</th>
<th>Unit</th>
</tr>
</thead>
<tbody>
<tr>
<td>Declared Unit</td>
<td>1 m²</td>
<td>(one square meter)</td>
</tr>
<tr>
<td>Product Weight</td>
<td>0.67</td>
<td>kg/m²</td>
</tr>
<tr>
<td>Conversion factor</td>
<td>1.48</td>
<td>to 1 kg</td>
</tr>
</tbody>
</table>

System Boundary

This is a cradle-to-gate with options Environmental Product Declaration. The following life cycle phases were considered:

<table>
<thead>
<tr>
<th>Product Stage</th>
<th>Construction Process Stage</th>
<th>Use Stage</th>
<th>End of Life Stage*</th>
<th>Benefits and Loads Beyond the System Boundaries</th>
</tr>
</thead>
<tbody>
<tr>
<td>Raw material supply</td>
<td>Transport</td>
<td>Manufacturing</td>
<td>Transport from gate to the site</td>
<td>Use</td>
</tr>
<tr>
<td>Raw material supply</td>
<td>Transport</td>
<td>Manufacturing</td>
<td>Transport from gate to the site</td>
<td>Use</td>
</tr>
<tr>
<td>A1</td>
<td>A2</td>
<td>A3</td>
<td>A4</td>
<td>A5</td>
</tr>
<tr>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
</tr>
</tbody>
</table>

Description of the System Boundary Stages Corresponding to the PCR

(X = Included; MND = Module Not Declared)

*This includes provision of all materials, products and energy, packaging processing and its transport, as well as waste processing up to the end-of-waste state or disposal of final residues.
Reference Service Life

The reference service life of a properly installed textile is not applicable because the use phase is out of scope. The building estimated service life is 75 years.

Allocation

Allocation was determined on the declared unit for primary data, 1 m^2. For secondary data, cut-off methodology was used.

Cut-off Criteria

Processes whose total contribution to the final result, with respect to their mass and in relation to all considered impact categories, is less than 1% can be neglected. The sum of the neglected processes may not exceed 5% by mass of the considered impact categories.

For Hazardous Substances the following requirements apply:
- The Life Cycle Inventory (LCI) of hazardous substances will be included, if the inventory is available.
- If the LCI for a hazardous substance is not available, the substance will appear as an input in the LCI of the product, if its mass represents more than 0.1% of the product composition.
- If the LCI of a hazardous substance is approximated by modeling another substance, documentation will be provided.

This EPD is in compliance with the cut-off criteria. No known processes were neglected or excluded. Capital items for the production processes (machine, buildings, etc.) were not taken into consideration.

Data Sources

Primary data were collected for every process in the product system under the control of KnollTextiles. Secondary data from the GaBi Sphera database were utilized. These data were evaluated and have temporal, geographic, and technical coverage appropriate to the scope of the product category rule.
Environmental Product Declaration

According to

ISO 14025 and
EN 15804 + A2

Data Quality

The data sources used are complete and representative of a global system boundary in terms of the geographic and technological coverage and are a recent vintage (i.e., less than ten years old). The data used for primary data are based on direct information sources of the manufacturer. Secondary data sets were used for raw materials extraction and processing, end of life, transportation, and energy production flows. Wherever secondary data is used, the study adopts critically reviewed data for consistency, precision, and reproducibility to limit uncertainty.

Period Under Review

The period under review is the full calendar year of 2020.

Comparability and Benchmarking

A comparison or an evaluation of EPD data is only possible if all 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. Environmental declarations from different programs may not be comparable. Only EPDs that comply with EN 15804 are comparable. Full conformance with the PCR allows EPD comparability only when all stages of the fabric product's life cycle have been considered. However, variations and deviations are possible.

Units

The LCA results within this EPD are reported in SI units.
Manufacturing

The production process for wallcoverings starts with raw materials. Paper is made by debarking a tree and either grinding or chipping the tree into a slurry. The ground slurry is used to make ground-wood sheet which is an inexpensive backing. The chipped slurry is run through a pulp mill and bleached. Then the backing must be coated. Ground wood sheets are coated with colored vinyl (PVC). Wood pulp sheets are coating with one or all of the following: kaolin clay for drapability, titanium dioxide for opacity, and latex for easy handling and color. There are four ways to print the pattern. Surface printing is where metal rollers with a raised rubber pattern are mounted, ink is applied to the roller, and the roller is pressed into the paper. Gravure printing is where each color in the pattern is printed with a single roller- the roller is dipped in color and pressed on the paper, laid out to dry, and then repeated with the other colors of the pattern. Silk screen printing is where stencils are created for each color in the pattern from silk mesh screen, the stencil is laid on top of the paper, painted with the color permitted for that stencil, and then laid to dry before the next color stencil. Rotary printing mixes gravure printing with the stencil printing. Mesh stencils are wrapped around hollow tubes, ink flows through the tubes through the stencil and onto the paper. Printed wallpaper is either rolled with a wet cornstarch or wheat starch coating and then dried. Commercial-use rolls are generally packaged in 30, 45, and 60 yard rolls. They receive a run number, printed label, and hanging instructions before being stored in a warehouse until their final shipment.

For life cycle modeling of the considered products, the GaBi 10.6 Software System for Life Cycle Engineering, developed by Sphera, is used. The GaBi-database contains consistent and documented datasets which are documented in the online GaBi-documentation. To ensure comparability of results in the LCA, the basic data of GaBi database were used for energy, transportation, and auxiliary materials.
Environmental Product Declaration

Packaging

All packaging is fully recyclable. The packaging material is composed by cardboard, HDPE, LDPE, paper, and tape.

<table>
<thead>
<tr>
<th>Material</th>
<th>Quantity (% By Weight)</th>
<th>Mass (g/m²)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cardboard</td>
<td>93.32%</td>
<td>63.3</td>
</tr>
<tr>
<td>HDPE</td>
<td>0.34%</td>
<td>0.23</td>
</tr>
<tr>
<td>LDPE</td>
<td>6.10%</td>
<td>4.14</td>
</tr>
<tr>
<td>Paper</td>
<td>0.13%</td>
<td>0.09</td>
</tr>
<tr>
<td>Tape</td>
<td>0.10%</td>
<td>0.07</td>
</tr>
<tr>
<td>Total</td>
<td>100%</td>
<td>67.83</td>
</tr>
</tbody>
</table>

Transportation

<table>
<thead>
<tr>
<th>Transport to Building Site (A4)</th>
<th>Value</th>
<th>Unit</th>
</tr>
</thead>
<tbody>
<tr>
<td>Fuel type</td>
<td>Diesel</td>
<td></td>
</tr>
<tr>
<td>Liters of fuel</td>
<td>38</td>
<td>l/100km</td>
</tr>
<tr>
<td>Transport distance</td>
<td>800</td>
<td>km</td>
</tr>
<tr>
<td>Capacity utilization (including empty runs)</td>
<td>90</td>
<td>%</td>
</tr>
<tr>
<td>Gross density of products transported</td>
<td>-</td>
<td>kg/m³</td>
</tr>
<tr>
<td>Weight of products transported</td>
<td>-</td>
<td>kg</td>
</tr>
<tr>
<td>Volume of products transported</td>
<td>-</td>
<td>m³</td>
</tr>
<tr>
<td>Capacity utilization volume factor</td>
<td>1.00</td>
<td>-</td>
</tr>
</tbody>
</table>

Disposal

<table>
<thead>
<tr>
<th>End of life (C1-C4)</th>
<th>Value</th>
<th>Unit</th>
</tr>
</thead>
<tbody>
<tr>
<td>Collected separately</td>
<td>0.13</td>
<td>kg</td>
</tr>
<tr>
<td>Collected as mixed construction waste</td>
<td>0.54</td>
<td>kg</td>
</tr>
<tr>
<td>Reuse</td>
<td>0.00</td>
<td>kg</td>
</tr>
<tr>
<td>Recycling</td>
<td>0.00</td>
<td>kg</td>
</tr>
<tr>
<td>Landfilling</td>
<td>0.54</td>
<td>kg</td>
</tr>
<tr>
<td>Incineration with energy recovery</td>
<td>0.13</td>
<td>kg</td>
</tr>
<tr>
<td>Energy conversion</td>
<td>44%</td>
<td>%</td>
</tr>
<tr>
<td>Material for final deposition</td>
<td>0.67</td>
<td>kg</td>
</tr>
<tr>
<td>Removals of biogenic carbon</td>
<td>0.00</td>
<td>kg</td>
</tr>
</tbody>
</table>

Re-use Phase

<table>
<thead>
<tr>
<th>Re-Use, recovery, And/Or Recycling Potential (D)</th>
<th>Value</th>
<th>Unit</th>
</tr>
</thead>
<tbody>
<tr>
<td>Net energy benefit from energy recovery from waste treatment declared as exported energy in C3 (R&gt;0.6)</td>
<td>0.00</td>
<td>MJ</td>
</tr>
<tr>
<td>Net energy benefit from thermal energy due to treatment of waste declared as exported energy in C4 (R&lt;0.6)</td>
<td>0.00</td>
<td>MJ</td>
</tr>
<tr>
<td>Net energy benefit from material flow declared in C3 for energy recovery</td>
<td>0.00</td>
<td>MJ</td>
</tr>
<tr>
<td>Process and conversion efficiencies</td>
<td>--</td>
<td>--</td>
</tr>
<tr>
<td>Further assumptions for scenario development (e.g. further processing technologies, assumptions on correction factors)</td>
<td>--</td>
<td>--</td>
</tr>
</tbody>
</table>

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**Environmental Product Declaration**

Fragment, Savvy, Simple, Splendid, Fine Print, Margin, Morgan, Peninsula, Perimeter, Run, Shortwave, Siren, and Vector

EN 15804 +A2

## LCA Results per Declared Unit

### EN15804 + A2 Impact Assessment

| Parameter                                                      | Unit       | Parameter | Unit       | A1         | A2         | A3         | A4         | C1         | C2         | C3         | C4         | D         |
|-------|---------------|-----------|-----------|------------|------------|------------|------------|------------|------------|------------|------------|-----------|-----------|
| **Climate Change**                                            |            |           |            |            |            |            |            |            |            |            |            |           |
| Total                                         | kg CO2 eq  |            |           |            | 9.73E+00   | 5.74E-02   | 1.19E+01   | 1.06E-01   | 0.00E+00   | 6.41E-03   | 0.00E+00   | 4.50E-01  | 0.00E+00  |
| Fossil                                        | kg CO2 eq  |            |           |            | 9.83E+00   | 5.74E-02   | 1.18E+01   | 1.06E-01   | 0.00E+00   | 6.41E-03   | 0.00E+00   | 1.07E-01  | 0.00E+00  |
| Biogenic                                      | kg CO2 eq  |            |           |            | -1.06E-01  | 0.00E+00   | 1.32E-01   | 0.00E+00   | 0.00E+00   | 0.00E+00   | 0.00E+00   | 3.43E-01  | 0.00E+00  |
| Land use and land use change                  | kg CO2 eq  |            |           |            | 7.69E-04   | 0.00E+00   | 3.62E-04   | 0.00E+00   | 0.00E+00   | 0.00E+00   | 0.00E+00   | 6.04E-06  | 0.00E+00  |
| Ozone Depletion                               | kg CFC-11 eq |            |           |            | 4.14E-10   | 1.46E-12   | 1.34E-12   | 2.70E-12   | 0.00E+00   | 1.63E-13   | 0.00E+00   | 3.63E-14  | 0.00E+00  |
| Acidiﬁcation                                   | Mole of H+ eq |            |           |            | 1.55E-02   | 3.73E-04   | 5.00E-03   | 6.91E-04   | 0.00E+00   | 4.17E-05   | 0.00E+00   | 6.68E-04  | 0.00E+00  |
| Eutrophication                                 | kg P eq    |            |           |            | 2.02E-05   | 1.60E-08   | 2.43E-06   | 2.97E-08   | 0.00E+00   | 1.79E-09   | 0.00E+00   | 2.12E-05  | 0.00E+00  |
| Marine                                         | kg N eq    |            |           |            | 3.99E-03   | 1.44E-04   | 2.13E-03   | 2.66E-04   | 0.00E+00   | 1.60E-05   | 0.00E+00   | 3.42E-04  | 0.00E+00  |
| Terrestrial                                    | Mole of N eq |            |           |            | 3.80E-02   | 1.57E-03   | 2.26E-02   | 2.80E-03   | 0.00E+00   | 1.75E-04   | 0.00E+00   | 2.91E-03  | 0.00E+00  |
| Photochemical ozone formation                  | kg NMVOC eq |            |           |            | 1.08E-02   | 4.23E-04   | 6.82E-03   | 7.83E-04   | 0.00E+00   | 4.72E-05   | 0.00E+00   | 3.76E-04  | 0.00E+00  |
| Depletion of abiotic resources                | kg Sb eq   |            |           |            | 6.73E-07   | 0.00E+00   | 7.06E-07   | 0.00E+00   | 0.00E+00   | 0.00E+00   | 6.60E-10  | 0.00E+00  |
| Fossil fuels                                   | MJ         |            |           |            | 1.80E+02   | 7.22E-01   | 1.76E+02   | 1.34E+00   | 0.00E+00   | 8.06E-02   | 0.00E+00   | 2.59E-01  | 0.00E+00  |
| Water Use                                      | m³ world eq |            |           |            | 2.74E+00   | 0.00E+00   | 3.23E-01   | 0.00E+00   | 0.00E+00   | 0.00E+00   | 1.75E-02  | 0.00E+00  |
| Particulate matter                            |            | Disease incidences |            |            | 1.74E-07   | 1.47E-09   | 6.54E-08   | 2.73E-09   | 0.00E+00   | 1.64E-10   | 0.00E+00   | 5.01E-09  | 0.00E+00  |
| Ionizing Radiation¹                            | Mole of U235 eq |            |           |            | 1.26E+00   | 1.27E-20   | 9.31E-03   | 2.35E-20   | 0.00E+00   | 1.42E-21   | 0.00E+00   | 3.90E-04  | 0.00E+00  |
| Ecotoxicity²                                   | Freshwater | CTU eq     |            |            | 4.64E+01   | 3.04E+00   | 1.55E+01   | 5.64E+00   | 0.00E+00   | 3.40E-01   | 0.00E+00   | 5.01E+00  | 0.00E+00  |
| Human Toxicity²                               | Cancer     | CTUh       |            |            | 4.51E-07   | 1.52E-11   | 1.48E-09   | 2.81E-11   | 0.00E+00   | 1.69E-12   | 0.00E+00   | 5.62E-11  | 0.00E+00  |
| Non-cancer                                    | CTUh       |            |            |            | 6.56E-08   | 1.43E-09   | 3.25E-08   | 2.65E-09   | 0.00E+00   | 1.60E-10   | 0.00E+00   | 6.50E-09  | 0.00E+00  |
| Land Use²                                      | Pl         |            |            |            | 5.96E+01   | 0.00E+00   | 8.31E-01   | 0.00E+00   | 0.00E+00   | 0.00E+00   | 2.59E-02  | 0.00E+00  |

Disclaimer 1 - This impact category deals mainly with the eventual impact of low dose ionizing radiation 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 underground facilities. Potential ionizing radiation from the soil, from radon, and from some construction materials is also not measured by this indicator.

Disclaimer 2 - The results of this environmental impact indicator shall be used with case as the uncertainties on these results are high, or as there is limited experienced with the indicator.
## TRACI 2.1 Impact Assessment

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Parameter</th>
<th>Unit</th>
<th>A1</th>
<th>A2</th>
<th>A3</th>
<th>A4</th>
<th>C1</th>
<th>C2</th>
<th>C3</th>
<th>C4</th>
<th>D</th>
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<tbody>
<tr>
<td>GWP</td>
<td>Fossil</td>
<td>kg CO$_2$-Eq.</td>
<td>9.76E+00</td>
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<tr>
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<td>Land Use and Land Transformation</td>
<td>kg CO$_2$-Eq.</td>
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<td>1.08E+01</td>
<td>1.01E+01</td>
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<td>6.12E-03</td>
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<td>Total</td>
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<tr>
<td>ODP</td>
<td>Depletion potential of the stratospheric ozone layer</td>
<td>kg CFC-11 Eq.</td>
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<tr>
<td>AP Air</td>
<td>Acidification potential for air emissions</td>
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<td>Eutrophication potential</td>
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<td>Fossil Fuel Depletion</td>
<td>MJ surplus</td>
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</tbody>
</table>

*All disposal stages have been considered and only those with non-zero values have been reported.

## CML 4.1 Impact Assessment

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Parameter</th>
<th>Unit</th>
<th>A1</th>
<th>A2</th>
<th>A3</th>
<th>A4</th>
<th>C1</th>
<th>C2</th>
<th>C3</th>
<th>C4</th>
<th>D</th>
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<tbody>
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<td>Global warming potential</td>
<td>kg CO$_2$-Eq.</td>
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<td>kg ethane-Eq.</td>
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<td>Abiotic depletion potential for non-fossil resources</td>
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</tbody>
</table>

*All disposal stages have been considered and only those with non-zero values have been reported.
## Environmental Product Declaration

Fragment, Savvy, Simple, Splendid, Fine Print, Margin, Morgan, Peninsula, Perimeter, Run, Shortwave, Siren, and Vector

EN 15804 + A2

Results below contain the resource use throughout the life cycle of the product.

### Resource Use

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Parameter</th>
<th>Unit</th>
<th>A1</th>
<th>A2</th>
<th>A3</th>
<th>A4</th>
<th>C1</th>
<th>C2</th>
<th>C3</th>
<th>C4</th>
<th>D</th>
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<tbody>
<tr>
<td>SM</td>
<td>Use of secondary material</td>
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<td>0.0E+00</td>
<td>0.0E+00</td>
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<td>0.0E+00</td>
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<td>0.0E+00</td>
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<tr>
<td>RSF</td>
<td>Use of renewable secondary fuels</td>
<td>MU</td>
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<td>0.0E+00</td>
<td>0.0E+00</td>
<td>0.0E+00</td>
<td>0.0E+00</td>
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<tr>
<td>NRSF</td>
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<td>MU</td>
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<td>0.0E+00</td>
<td>0.0E+00</td>
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<tr>
<td>FW</td>
<td>Use of net fresh water</td>
<td>m³</td>
<td>6.8E-02</td>
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<td>PERE</td>
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<tr>
<td>PERM</td>
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<td>0.00E+00</td>
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<td>2.62E-01</td>
<td>0.00E+00</td>
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</tbody>
</table>

*All disposal stages have been considered and only those with non-zero values have been reported*

Results below contain the output flows and wastes throughout the life cycle of the product.

### Output Flows and Waste Categories

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Parameter</th>
<th>Unit</th>
<th>A1</th>
<th>A2</th>
<th>A3</th>
<th>A4</th>
<th>C1</th>
<th>C2</th>
<th>C3</th>
<th>C4</th>
<th>D</th>
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</thead>
<tbody>
<tr>
<td>HWD</td>
<td>Hazardous waste disposed</td>
<td>kg</td>
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<td>1.29E-08</td>
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<td>0.00E+00</td>
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<td>Non-hazardous waste disposed</td>
<td>kg</td>
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<td>0.00E+00</td>
<td>0.00E+00</td>
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<tr>
<td>HLRW</td>
<td>High-level radioactive waste</td>
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<td>0.00E+00</td>
</tr>
</tbody>
</table>

*All disposal stages have been considered and only those with non-zero values have been reported*
Environmental Product Declaration

According to

EN 15804 + A2

ISO 14025 and
EN 15804 + A2

Fragment, Savvy, Simple, Splendid, Fine Print, Margin, Morgan, Peninsula, Perimeter, Run, Shortwave, Siren, and Vector

Results below contain direct greenhouse gas emissions and removals throughout the life cycle of the product.

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Parameter Description</th>
<th>Unit</th>
<th>A1</th>
<th>A2</th>
<th>A3</th>
<th>A4</th>
<th>C1</th>
<th>C2</th>
<th>C3</th>
<th>C4</th>
<th>D</th>
</tr>
</thead>
<tbody>
<tr>
<td>BCRP</td>
<td>Biogenic Carbon Removal from Product</td>
<td>kg CO₂</td>
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<td>Biogenic Carbon Emissions from Combustion of Waste from Renewable Sources Used in Production Process</td>
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<td>kg CO₂</td>
<td>0.00E+00</td>
<td>0.00E+00</td>
<td>0.00E+00</td>
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<td>0.00E+00</td>
<td>0.00E+00</td>
<td>0.00E+00</td>
</tr>
<tr>
<td>CWNW</td>
<td>Carbon Emissions from Combustion of Waste from Non-renewable Sources Used in Production Process</td>
<td>kg CO₂</td>
<td>0.00E+00</td>
<td>0.00E+00</td>
<td>0.00E+00</td>
<td>0.00E+00</td>
<td>0.00E+00</td>
<td>0.00E+00</td>
<td>0.00E+00</td>
<td>0.00E+00</td>
<td>0.00E+00</td>
</tr>
</tbody>
</table>

*All disposal stages have been considered and only those with non-zero values have been reported

LCA Interpretation

The raw materials life cycle stage (A1) dominates the impacts across half of the impact categories. This includes acidification, eutrophication, and smog. Raw material transportation and final product distribution life cycle stages dominated the ozone depletion category. The production process dominates the impacts in the global warming and fossil fuel categories.
Additional Environmental Information

Environmental and Health During Manufacturing

There are no known health and safety concerns when manufacturing the fabrics in this group. There are no emissions to indoor air after or during installation.

Environmental and Health During Installation

There is no impact on health with these fabrics when being applied to furniture. Most of the products in this grouping are certified as Clean Air Gold for their low VOC emissions.

Extraordinary Effects

Fire
No danger to the environment can be anticipated.

Water
Contain no known substances that have any impact on water in case of flood.

Mechanical Destruction
No danger to the environment can be anticipated during mechanical destruction.

Delayed Emissions

Global warming potential is calculated using the TRACI 2.1 and CML 4.1 impact assessment methodologies. Delayed emissions are not considered.

Environmental Activities and Certifications

Globally recognized for pioneering modern fabrics using advanced materials and techniques, KnollTextiles is proud to offer a wide selection of sustainably designed products. Dedicated to environmental stewardship and transparency, we strive to meet our customers’ needs for sustainability, healthier materials and third-party certification.

Further Information

KnollTextiles 1235 Water Street East Greenville, PA 18041
Environmental Product Declaration

According to
ISO 14025 and
EN 15804 + A2

Contact Information

Study Commissioner

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www.sustainablesolutionscorporation.com
## References

- **PCR Part A**  

- **PCR Part B**  
  IBU Part B: Requirements on the EPD for Wallcoverings, Institut Bauen und Umwelt e.V., Published July 2017.

- **GaBi 10.6**  
  thinkstep.one. GaBi Life Cycle Assessment version 10.6 (software).

- **ISO 14025**  
  ISO 14025:2011-10, Environmental labels and declarations — Type III environmental declarations — Principles and procedures.

- **ISO 14040**  

- **ISO 14044**  

- **EN 15804 + A2**  

- **NSF 2015**  

- **Characterization Method**  

- **Characterization Method**  

- **Characterization Method**  

- **Characterization Method**  

- **Characterization Method**  

- **Characterization Method**  

- **Characterization Method**  
  Intertek Clean Air Gold Certification, ISO 17065 accredited