ENVIRONMENTAL PRODUCT DECLARATION
as per /ISO 14025/ and /EN 15804/

Owner of the Declaration
Programme holder: Institut Bauen und Umwelt e.V. (IBU)
Publisher: Institut Bauen und Umwelt e.V. (IBU)
Declaration number: EPD-UOY-200190082-CBC1-EN
Issue date: 17/09/2019
Valid to: 16/09/2024

Zero Sound
Upofloor Oy, Finland

www.ibu-epd.com / https://epd-online.com
General Information

Upofloor
Programme holder
IBU - Institut Bauen und Umwelt e.V.
Panoramastr. 1
10178 Berlin
Germany

Zero Sound
Owner of the declaration
Upofloor Oy
Souranderintie 2
Fl- 37101 Nokia
Finland

Declaration number
EPD-UOY-200190082-CBC1-EN

This declaration is based on the product category rules:
Floor coverings, 02/2018
(PCR checked and approved by the SVR)

Issue date
17/09/2019

Valid to
16/09/2024

Scope:
In this EPD acoustic resilient Enomer floor coverings with sound insulation backing are declared. The application of this EPD is restricted to Zero Sound manufactured by Upofloor Oy.

This thickness of the product is 3.6 mm. Product standard is EN 14565: Resilient floor covering based upon synthetic thermoplastic polymers.

Data is based upon production during 2017 at the manufacturing site in Finland.

The owner of the declaration shall be liable for the underlying information and evidence; the IBU shall not be liable with respect to manufacturer information, life cycle assessment data and evidences.

Verification

The standard /EN 15804/ serves as the core PCR

Independent verification of the declaration and data according to /ISO 14025:2010/

Internally □
Externally X

Product

Product description / Product definition
Resilient floor coverings are an entire product family of flexible flooring solutions available in sheets, tiles and planks. They are classified as having heterogeneous or homogeneous compositions based on vinyl, linoleum, cork, rubber or synthetic thermoplastic polymers. Resilient floor coverings can provide different functionalities (acoustic, static control, slip resistance, easy maintenance, etc.) to match a wide range of domestic, commercial and industrial applications. They are available in a very wide range of patterns and colours fitting with inspiration and decorative needs.

This EPD applies to acoustic Enomer sheet manufactured by Upofloor.

Acoustic Enomer products are based upon synthetic thermoplastic polymers according /EN 14565/ and are supplied in roll form with the product name Zero Sound.

For the placing on the market of the product in the European Union/European Free Trade Association (EU/EFTA) (with the exception of Switzerland) /Regulation (EU) No. 305/2011 (CPR)/ applies. The product needs a declaration of performance taking into consideration /EN 14041:2004: Resilient, textile, laminate and modular multilayer floor coverings - Essential characteristics/ and the CE-marking. For the application and use the respective national provisions apply.

Application
According to /ISO 10874/ (previously EN 685) the area of application for resilient floor coverings is indicated by use classes. The declared product group covers the use classes 23, 34 and 43.

Technical Data

Constructional data

Name | Value | Unit
--- | --- | ---

Environmental Product Declaration Upofloor Oy – Zero Sound
Environmental Product Declaration Upofloor Oy – Zero Sound

<table>
<thead>
<tr>
<th>Product thickness</th>
<th>3.6 mm</th>
</tr>
</thead>
<tbody>
<tr>
<td>Grammage</td>
<td>3850 g/m²</td>
</tr>
<tr>
<td>Product Form</td>
<td>Sheet -</td>
</tr>
<tr>
<td>Width</td>
<td>145 cm</td>
</tr>
</tbody>
</table>

Performance data of the product in accordance with the declaration of performance with respect to its essential characteristics according to /EN 14041:2004, Resilient, textile, laminate and modular multilayer floor coverings - Essential characteristics/.

**Base materials / Ancillary materials**

The product has the following composition:

- Mineral filler from natural source (45-55%)
- Thermoplastic binder (Ethylene Copolymers, 25 - 35%)
- Colour pigments (approx 2%)
- Acrylate polymers (<1%)
- PU foam backing (10 -20%)

This product contains substances listed in the candidate list (15.01.2019) exceeding 0.1 percentage by mass: no

**Reference service life**

This EPD does not indicate RSL. Only module B2 (maintenance) is declared and the use stage scenario is independent on the life time of the product. The declared modules in the table of results (chapter 5) refer to one life cycle of the floor covering with B2 (cleaning) being declared for a time period of one year. For the calculation of the impact of B2 for a different time period the values for B2 should be multiplied by the estimated service life in years.

**LCA: Calculation rules**

**Declared Unit**

1 m² of installed floor covering.

**Declared unit**

<table>
<thead>
<tr>
<th>Name</th>
<th>Value</th>
<th>Unit</th>
</tr>
</thead>
<tbody>
<tr>
<td>Declared unit</td>
<td>1</td>
<td>m²</td>
</tr>
<tr>
<td>Conversion factor to 1 kg</td>
<td>0.263</td>
<td>-</td>
</tr>
</tbody>
</table>

with a grammage of 3850 g/m².

**System boundary**

Type of EPD: cradle to gate with options

Modules A1-A3 cover processes that provide materials and energy input for the system, manufacturing and transport processes up to the factory gate, as well as waste processing.

Module A4 covers transport of the floor covering to the place of installation.

Module A5 covers the production of adhesive for the installation of the floor covering, and incineration of offcuts and packaging material.

Module B2 covers provision of cleaning agent, energy and water consumption for the cleaning of the floor covering incl. waste water treatment. The LCA results in this EPD are declared for a one year usage.

Module C1 considers electricity supply for the deconstruction of the flooring.

Module C2 covers transportation of the postconsumer waste to waste processing.

End of life scenarios are declared for:

1. 100% incineration in a waste incineration plant (WIP)
2. 100% landfilling

Module D accounts for potential benefits from all net flows given in module A5 and C3 that leave the product system boundary after having passed the end-of-waste state in the form of recovery and/or recycling potentials. Module D is declared separately for each scenario.

**Comparability**

Basically, a comparison or an evaluation of EPD data is only possible if all the 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.

LCA: Scenarios and additional technical information

The following technical information is a basis for the declared modules:

**Transport to the construction site (A4)**

<table>
<thead>
<tr>
<th>Name</th>
<th>Value</th>
<th>Unit</th>
</tr>
</thead>
<tbody>
<tr>
<td>Transport distance</td>
<td>2000</td>
<td>km</td>
</tr>
<tr>
<td>Capacity utilisation (including empty runs)</td>
<td>85</td>
<td>%</td>
</tr>
</tbody>
</table>

**Installation in the building (A5)**

<table>
<thead>
<tr>
<th>Name</th>
<th>Value</th>
<th>Unit</th>
</tr>
</thead>
<tbody>
<tr>
<td>Auxiliary</td>
<td>0.3</td>
<td>kg</td>
</tr>
<tr>
<td>Material loss (installation waste)</td>
<td>6</td>
<td>%</td>
</tr>
</tbody>
</table>

**Maintenance (B2)**

<table>
<thead>
<tr>
<th>Name</th>
<th>Value</th>
<th>Unit</th>
</tr>
</thead>
<tbody>
<tr>
<td>Water consumption</td>
<td>0.003</td>
<td>m³</td>
</tr>
<tr>
<td>Auxiliary (detergent)</td>
<td>0.04</td>
<td>kg</td>
</tr>
<tr>
<td>Electricity consumption</td>
<td>0.55</td>
<td>kWh</td>
</tr>
<tr>
<td>Maintenance cycle (vacuum cleaning &amp; wet cleaning)</td>
<td>156</td>
<td>Number/a</td>
</tr>
</tbody>
</table>

**End of Life (C1-C4)**

<table>
<thead>
<tr>
<th>Name</th>
<th>Value</th>
<th>Unit</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>kg</td>
</tr>
<tr>
<td>------------------</td>
<td>-------</td>
<td>----</td>
</tr>
<tr>
<td>Energy recovery</td>
<td>3.85</td>
<td></td>
</tr>
<tr>
<td>Landfilling</td>
<td>3.85</td>
<td></td>
</tr>
</tbody>
</table>

**Reuse, recovery and/or recycling potentials (D), relevant scenario information**
For module D the potential benefits given in module A5 and C3 are declared. For waste incineration combustion in a WIP (R1 > 0.6) with energy recuperation is considered.
### RESULTS OF THE LCA - RESOURCE USE:

<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>Assembly</td>
<td>Use</td>
</tr>
<tr>
<td>A1</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
</tr>
</tbody>
</table>

### RESULTS OF THE LCA – ENVIRONMENTAL IMPACT:

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Unit</th>
<th>A1-A3</th>
<th>A4</th>
<th>A5</th>
<th>B1</th>
<th>B2</th>
<th>B3</th>
<th>B4</th>
<th>B5</th>
<th>B6</th>
<th>B7</th>
<th>C1</th>
<th>C2</th>
<th>C3</th>
<th>C4</th>
<th>C5</th>
<th>C6</th>
<th>C7</th>
<th>C8</th>
<th>C9</th>
<th>C10</th>
<th>C11</th>
<th>D1</th>
<th>D2</th>
</tr>
</thead>
<tbody>
<tr>
<td>GWP</td>
<td>[kg CO2-Eq]</td>
<td>17.30</td>
<td>0.36</td>
<td>1.73</td>
<td>0.28</td>
<td>0.01</td>
<td>0.04</td>
<td>5.09</td>
<td>0.00</td>
<td>0.00</td>
<td>0.27</td>
<td>-2.19</td>
<td>-0.14</td>
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<td></td>
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<tr>
<td>AP</td>
<td>[kg SO2-Eq]</td>
<td>3.77E-2</td>
<td>7.87E-4</td>
<td>3.07E-3</td>
<td>7.28E-4</td>
<td>3.53E-5</td>
<td>7.77E-5</td>
<td>7.77E-5</td>
<td>7.77E-5</td>
<td>7.77E-5</td>
<td>3.33E-3</td>
<td>-3.22E-5</td>
<td>-2.15E-4</td>
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<tr>
<td>EP</td>
<td>[kg (PCB28-Eq.)]</td>
<td>4.45E-3</td>
<td>1.39E-4</td>
<td>4.40E-4</td>
<td>9.38E-5</td>
<td>3.31E-5</td>
<td>1.99E-5</td>
<td>1.47E-4</td>
<td>1.47E-4</td>
<td>1.47E-4</td>
<td>3.33E-3</td>
<td>-3.22E-5</td>
<td>-2.15E-4</td>
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<tr>
<td>PCO2</td>
<td>[kg methane-Eq.]</td>
<td>3.78E-3</td>
<td>-2.57E-4</td>
<td>3.15E-4</td>
<td>5.36E-5</td>
<td>2.31E-6</td>
<td>2.31E-6</td>
<td>2.31E-6</td>
<td>2.31E-6</td>
<td>2.31E-6</td>
<td>2.31E-6</td>
<td>-0.09</td>
<td>0.00</td>
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</tr>
<tr>
<td>ADPE</td>
<td>[kg Sb-Eq]</td>
<td>-3.22E-5</td>
<td>9.38E-5</td>
<td>-1.50E-6</td>
<td>1.64E-7</td>
<td>8.61E-9</td>
<td>2.92E-9</td>
<td>2.92E-9</td>
<td>2.92E-9</td>
<td>2.92E-9</td>
<td>2.92E-9</td>
<td>-0.09</td>
<td>0.00</td>
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</tr>
<tr>
<td>ADPE</td>
<td>[MJ]</td>
<td>340.00</td>
<td>4.50</td>
<td>31.80</td>
<td>3.36</td>
<td>0.13</td>
<td>0.48</td>
<td>1.76</td>
<td>0.00</td>
<td>0.00</td>
<td>3.92</td>
<td>-30.80</td>
<td>-1.96</td>
<td></td>
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</tbody>
</table>

### RESULTS OF THE LCA – OUTPUT FLOWS AND WASTE CATEGORIES:

| Parameter | Unit | A1-A3 | A4 | A5 | B1 | B2 | B3 | B4 | B5 | B6 | B7 | C1 | C2 | C3 | C4 | C5 | C6 | C7 | C8 | C9 | C10 | C11 | D1 | D2 |
|-----------|------|-------|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|
| HWD       | [kg] | 3.53E-7 | 2.94E-7 | 6.57E-8 | 2.43E-9 | 1.07E-10 | 2.81E-9 | 1.50E-8 | 0.00E+0 | 0.00E+0 | 1.74E-8 | -1.51E-8 | -9.66E-10 |
| NHWD      | [kg] | 1.35E-0 | 4.12E-4 | 1.50E-1 | 3.83E-3 | 1.60E-4 | 4.07E-5 | 9.94E-4 | 0.00E+0 | 0.00E+0 | 3.94E-2 | -1.48E-2 | -9.54E-4 |
| RWD       | [kg] | 1.29E-2 | 6.73E-6 | 9.07E-4 | 7.02E-4 | 3.77E-5 | 6.65E-7 | 1.11E-4 | 0.00E+0 | 0.00E+0 | 5.78E-2 | -2.79E-2 | -1.81E-4 |
| CRU       | [kg] | IND | IND | IND | IND | IND | IND | IND | IND | IND | IND | IND | IND | IND | IND | IND | IND | IND | IND | IND | IND | IND |
| MFR       | [kg] | IND | IND | IND | IND | IND | IND | IND | IND | IND | IND | IND | IND | IND | IND | IND | IND | IND | IND | IND | IND | IND |
| MER       | [kg] | IND | IND | IND | IND | IND | IND | IND | IND | IND | IND | IND | IND | IND | IND | IND | IND | IND | IND | IND | IND | IND |
| EEE       | [kg] | IND | 0.07 | IND | IND | IND | IND | IND | IND | IND | IND | IND | IND | IND | IND | IND | IND | IND | IND | IND | IND | IND |
| EEE       | [kg] | IND | 0.19 | IND | IND | IND | IND | IND | IND | IND | IND | IND | IND | IND | IND | IND | IND | IND | IND | IND | IND | IND |

### Benefits and Loads Beyond the System Boundaries

- **GWP**: Global warming potential
- **ODP**: Depletion potential of the stratospheric ozone layer
- **AP**: Acidification potential of land and water
- **EP**: Eutrophication potential
- **PCO2**: Formation potential of tropospheric ozone photochemical oxidants
- **ADPE**: Abiotic depletion potential for non-fossil resources
- **ADPF**: Abiotic depletion potential for fossil resources

### Results of module B2

The results for module B2 refer to a period of one year. To calculate the impact of B2 for a specific service life the values for B2 should be multiplied by the estimated service life in years.

**Scenario C3/1-C4/1-D1 = 100% Incineration**

**Scenario C3/2-C4/2-D2 = 100% Landfilling**

The evaluation of best End of Life (EoL) scenario requires the consideration of further aspects like avoidance of combustion of fossil fuels when incinerated and demand for landfilling when recycled.
References

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/EN ISO 10874:2009/
EN ISO 10874:2009: Resilient, textile and laminate floor coverings - Classification

/ISO 23997/
ISO 23997:2012-04: Resilient floor coverings - Determination of mass per unit area

/ISO 24346/
ISO 24346:2012-04: Resilient floor coverings - Determination of overall thickness

/EN 14565/
EN 14565:2004: Resilient floor coverings - Floor coverings based upon synthetic thermoplastic polymers - Specification

/DIN EN 14041/
DIN EN 14041:2004: Resilient, textile, laminate and modular multilayer floor coverings - Essential characteristics

/Regulation (EU) No. 305/2011 (CPR)/

/the candidate list (15.01.2019)/

/GaBi ts/
GaBi 8 ts software system and databases (SP 35), LBP, University of Stuttgart and thinkstep, Leinfelden-Echterdingen, 2018