

## ENVIRONMENTAL PRODUCT DECLARATION

# MIPOLAM EVO

GERFLOR MIPOLAM EVO HOMOGENEOUS COMMERCIAL FLOORING



Mipolam EVO – Homogeneous flooring system with Evercare® surface treatment



Because we think actions speak louder than words, Gerflor has always been willing to act and to develop flooring solutions that meet the most challenging requirements in term of design, durability, easy installation, water tightness, ... When it comes to sustainability, we also set ourselves to the highest standards. We believe in developing great products that not only perform, but also contribute to achieving high indoor air quality and top contribution to all green building certification schemes.

Mipolam Evo is :

- 100% Floorscore, Blue Angel certified and M1 certified meaning that our products has been independently third party certified to comply with strict volatile organic compounds (VOC) emissions criteria.
- Free of chlorine and plasticizer
- 100% REACH compliant (voluntarily independently Third Party Verified)



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**MIPOLAM EVO**  
Homogeneous commercial flooring

According to ISO 14025,  
EN 15804, and ISO 21930:2017

|   |  |  |
|---|--|--|
| EPD PROGRAM AND PROGRAM OPERATOR NAME, ADDRESS, LOGO, AND WEBSITE | UL Environment<br>333 Pfingsten Road, Northbrook, IL   | <a href="https://www.ul.com/">https://www.ul.com/</a><br><a href="https://spot.ul.com">https://spot.ul.com</a> |
| GENERAL PROGRAM INSTRUCTIONS AND VERSION NUMBER                   | General Program Instructions v.2.4 July 2018   |  |
| MANUFACTURER NAME AND ADDRESS                                     | GERFLOR<br>50 Cours de la République, 69100 Villeurbanne, France   |  |
| DECLARATION NUMBER  | 4789696077.101.1   |  |
| DECLARED PRODUCT & FUNCTIONAL UNIT OR DECLARED UNIT               | MIPOLAM EVO<br>The functional unit used for this study is 1m <sup>2</sup> of homogeneous commercial flooring, for a 25 years service life.   |  |
| REFERENCE PCR AND VERSION NUMBER                                  | PCR -Part A: Life Cycle Assessment Calculation Rules and Report Requirements. Version 3.2, UL Environment.<br>PCR - Part B: Flooring EPD Requirements, Second Edition, Dated September 28, 2018, UL Environment.           |  |
| DESCRIPTION OF PRODUCT APPLICATION/USE                            | The product is classified in accordance with EN ISO 10874 and in reference to the FCSS (Floor Covering Standard Symbols) to be installed in various areas of application including commercial and industrial applications. |  |
| PRODUCT RSL DESCRIPTION (IF APPL.)                                | The stated RSL is 25 years. The manufacturer has provided this service life on the basis of his experience of flooring manufacture and supply.   |  |
| MARKETS OF APPLICABILITY  | Commercial market  |  |
| DATE OF ISSUE   | January 1, 2021  |  |
| PERIOD OF VALIDITY  | 5 years  |  |
| EPD TYPE  | Product-specific   |  |
| RANGE OF DATASET VARIABILITY                                      | Not concerned  |  |
| EPD SCOPE   | Cradle to Grave  |  |
| YEAR(S) OF REPORTED PRIMARY DATA                                  | 2019   |  |
| LCA SOFTWARE & VERSION NUMBER                                     | Simapro 9  |  |
| LCI DATABASE(S) & VERSION NUMBER                                  | Ecoinvent 3.6 – allocation cut-off by classification   |  |
| LCIA METHODOLOGY & VERSION NUMBER                                 | Methode EN 15804_FR_Ev-DEC 1.18 (EVEA)   |  |

The PCR review was conducted by:

|  |
|--|
| UL Environment   |
| PCR Review Panel   |
| <a href="mailto:epd@ulenvironment.com">epd@ulenvironment.com</a> |
|  |
| María José Monteagudo Arrebola                                   |
|  |
| Thomas P. Gloria, Industrial Ecology Consultants                 |

This declaration was independently verified in accordance with ISO 14025: 2006.  
 INTERNAL       EXTERNAL

This life cycle assessment was conducted in accordance with ISO 14044 and the reference PCR by:

**LIMITATIONS**

**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; the level of accuracy in estimation of effect differs for any particular product line and reported impact.

**Comparability:** EPDs from different programs may not be comparable. Full conformance with a PCR allows EPD comparability only when all stages of a life cycle have been considered. However, variations and deviations are possible". Example of variations: Different LCA software and background LCI datasets may lead to

## 1. Product Definition and Information

### 1.1. Description of Company/Organization

The product is commercialized by Gerflor and made in Troisdorf Manufacturing Plant (Germany). This plant complies with:

- ISO 9001 Quality Management System
- ISO 14001 Environmental Management System
- ISO 45001 Occupational Health and Safety System
- ISO 50001 Energy Management

### 1.2. Product Description

#### Product Identification

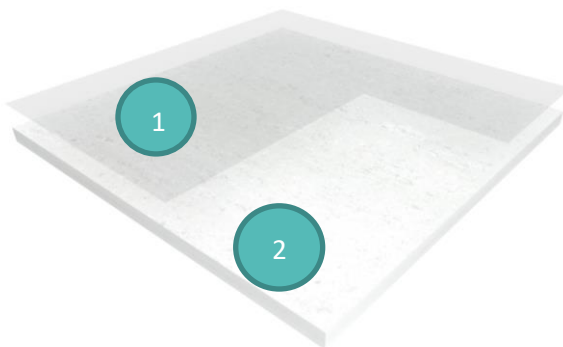
Product Designation: "MIPOLAM EVO"

This environmental product declaration covers Gerflor Mipolam EVO sheet flooring. Mipolam EVO sheet flooring is a 6'6" (2m) wide calendered homogeneous sheet flooring with 2.0mm thickness. The flooring is protected by Evercare® surface treatment that provides easy maintenance, stain resistance and reduces the need to refinish the flooring.

The homogeneous flooring are classified according to the United Nations Standard Products and Service Code (UNSPSC) as "Flooring" : UNSPSC Code 30161700.

And according to Construction Specification Institute (CSI) as "Resilient flooring" : CSI Code 09 65 00.

The following figure show the Mipolam EVO Product:



1. Evercare® Treatment
2. Monolayer homogeneous flooring, calendered and pressed

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### Product Specification

The products considered in this EPD meet or exceed one of the following Technical Specifications:

Meets or exceeds all technical requirements in ASTM F1913 Standard Specification for Vinyl Sheet Floor Covering Without Backing

Meets or exceeds all technical requirements in EN ISO 19322:2018 – Resilient floor coverings – Specification for floor coverings based on thermoplastic polymers.

Mipolam EVO homogeneous sheet flooring meets requirements of the standard EN 14041 – Resilient, textile and stratified floor coverings: Essential characteristics.

Specification Fire Testing:

Class 1 when tested in accordance with ASTM E 648, Standard Test Method for Critical Radiant Flux

Flaming & Non-Flaming when tested in accordance with ASTM E 662, Standard Test Method for Specific Optical

Density of Smoke Generated by Solid Materials

The product also possesses the following characteristics:

- EN 13501-1 Fire Behavior B<sub>fl</sub>-s1
- DIN 51130 / BGR 181 Slip Resistance R10
- 100% Floorscore, Blue Angel certified and M1 certified



## Flow Diagram

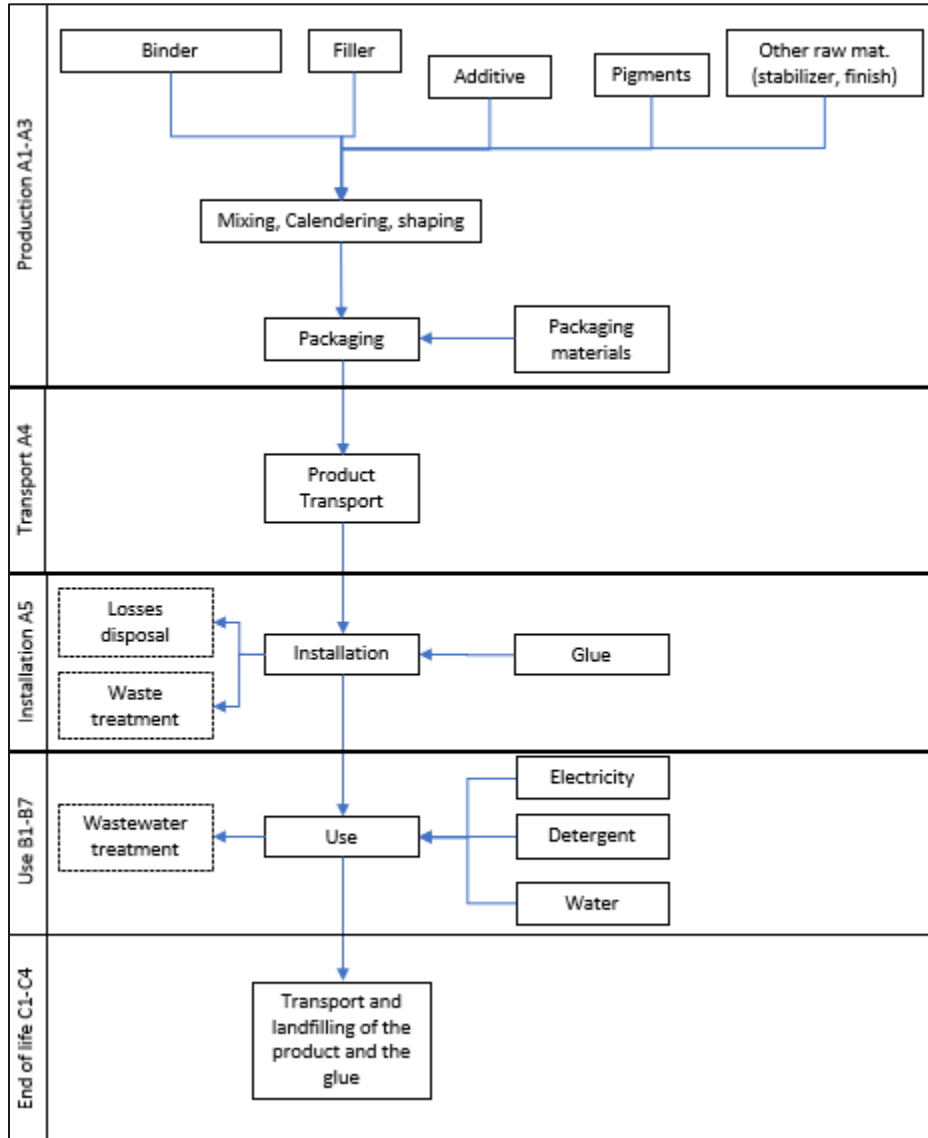


Figure 1 : Flow product diagram

## 1.3. Application

Mipolam Evo classified in accordance with EN ISO 10874 and in reference to the FCSS (Floor Covering Standard Symbols) to be installed in various areas of application including commercial and industrial applications.

## 1.4. Declaration of Methodological Framework

This EPD covers the entire life cycle of the product from cradle to grave (modules A1 to C4) excluding modules for which there are no inputs/outputs. No known flows are deliberately excluded from this EPD.

For this product, the stated RSL is 25 years. It should be noted, however, that the service life of a homogeneous vinyl flooring may vary depending on the amount and nature of floor traffic and the type and frequency of maintenance. The manufacturer has provided this service life on the basis of his experience of flooring manufacture and supply. This RSL is applicable as long as the product use complies with that defined by ISO 14041 and ISO 10 874 in accordance with the product's classification.

## 1.5. Technical Requirements

Table 1: technical data

| Name                     |                     | Value | Unit              |
|--------------------------|---------------------|-------|-------------------|
| <b>Product Thickness</b> |                     | 2.00  | mm                |
| <b>Product Weight</b>    |                     | 2.70  | kg/m <sup>2</sup> |
| <b>Product Form</b>      | <b>Rolls width</b>  | 2.00  | m                 |
|                          | <b>Rolls length</b> | 20.00 | m                 |

## 1.6. Properties of Declared Product as Delivered

The product declared in this document complies with the following codes or regulations:

- ISO 9001 Quality Management System, ISO 14001 Environmental Management System, ISO 45001 Occupational Health and Safety System and ISO 50001 Energy Management
- Blauer Engel – Certificate n°34756

## 1.7. Material Composition

Table 2: Material content

| Component         | Mass % |
|-------------------|--------|
| <b>Binder</b>     | 47.0%  |
| <b>Additive</b>   | 2.6%   |
| <b>Stabilizer</b> | 0.2%   |
| <b>Filler</b>     | 48.1%  |
| <b>Finish</b>     | 0.6%   |
| <b>Pigments</b>   | 1.5%   |

## 1.8. Manufacturing

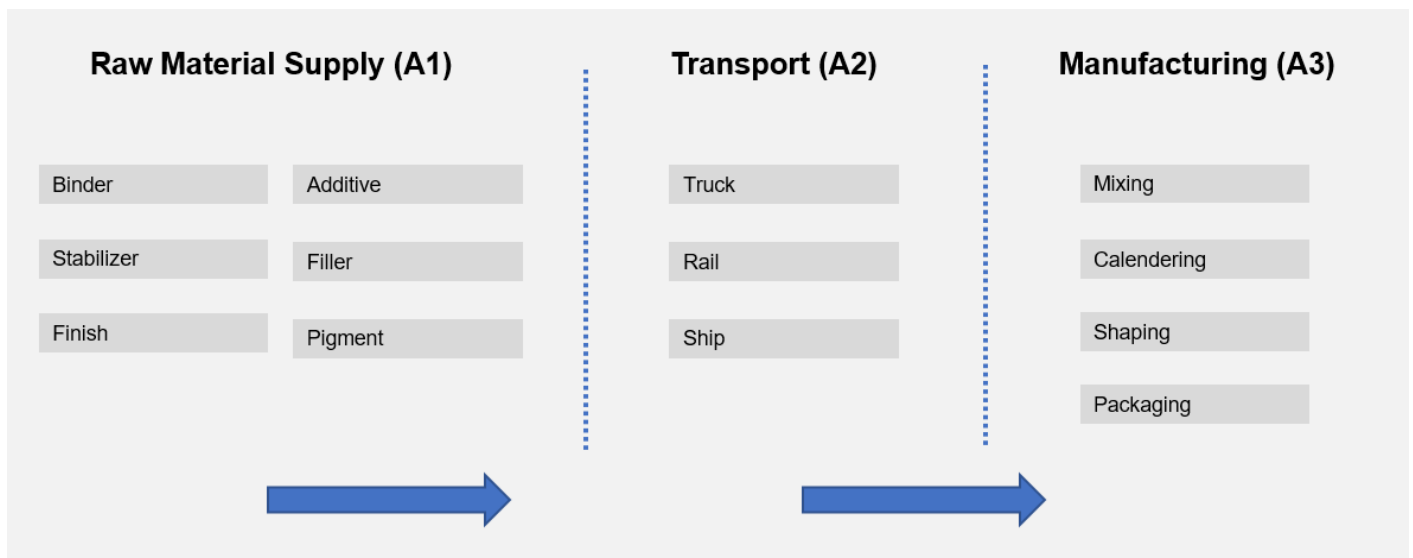
Mipolam EVO is made in the Gerflor manufacturing plant in Troisdorf, Germany.

The production of the homogeneous flooring is divided into the following stages:

- Pellet extrusion
- Mixing: binder, filler, additive, stabiliser, and pigments are mixed together to obtain a mixture.
- Calendering: the mixture are then calendered to get rolls.
- Finish: application of the surface layer
- Shaping: rolls are cut at the desired dimensions.
- Packaging: the final product is packed into kraft paper with protection endcaps. Several rolls are placed into pallet then wrapped with plastic film.

Wastes from manufacturing are recycled back into production when possible. Other wastes products are recycled externally whenever a process exists.

Figure 2: Manufacturing Flow diagram



## 1.9. Packaging

The products are rolled and packed into paper with endcaps. Rolls are placed into pallets wrapped with plastic film.

The packaging waste scenario for paper and cardboard is 75% recycling, 20% landfilling and 5% incineration as describe in ULE Part A Requirements. Other materials are sent to landfill (50%) or incinerated (50%).

## 1.10. Transportation

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Mipolam EVO is made in Germany and is then sent to the US market. Distances taken in account are described below.

- Transport distance 16-32T truck (factory to Belgium port: Antwerp): 226km
- Transport distance transoceanic freight (Antwerp port to Montreal port): 6102km
- Transport distance freight train (Montreal to Chicago): 1357km
- Transport distance 16-32T truck (Chicago to Bensenville warehouse and then to customer in Denver): 1630km

## 1.11. Product Installation

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The product is installed by hand using acrylic glue. 325 g/m<sup>2</sup> of this water-based low emission adhesive is used to fix the flooring in place.

During the installation 7% of the material is lost as off-cuts – this waste is sent to landfill. Waste classification is according to RCRA for North American region (Resource Conservation and Recovery Act (RCRA), Subtitle 3).

## 1.12. Use

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Current cleaning of the installed floor has been included in this study as following:

- Dry vacuum cleaning : three times a week
- Wet cleaning by hand with water and detergent: two times a week

## 1.13. Reference Service Life and Estimated Building Service Life

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For this product, the stated RSL is 25 years and the building estimated service life (ESL) is 75 years. It should be noted however that the service life of a homogeneous flooring may vary depending on the amount and nature of floor traffic and the type and frequency of maintenance. The manufacturer has provided this service life on the basis of his experience of flooring manufacture and supply. This RSL is applicable as long as the product use complies with ISO 14041 and ISO 10874 in accordance with the product's classification. The number of replacements necessary to fulfill the required performance and functionality over the Building Estimated Service Life of 75 years is two

## 1.14. Reuse, Recycling, and Energy Recovery

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A back programm and re-use/recycling/energy recovery possibility are in progress for this product.

## 1.15. Disposal

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For the purpose of this LCA, it has been assumed that 100% of the product is sent to landfill at the end of its useful life, according to the disposal pathway assumption in PCR Part A for non-metal materials in United States. Product is considered as non-hazardous waste according to north america regulation.

The transport between construction site and landfill facility is by truck, with a distance of 161 km.



## 2. Life Cycle Assessment Background Information

### 2.1. Functional or Declared Unit

The functional unit is one square meter of installed product. The reference service life considered is 25 years.

**Table 3: Functional Unit**

|                 | Value | Unit           |
|-----------------|-------|----------------|
| Functional Unit | 1     | m <sup>2</sup> |
| Mass            | 2.70  | kg             |

### 2.2. System Boundary

EPD is declared from cradle to grave, including the following stages:

A1 – A3: includes the provision of all raw materials and their packaging, transport to the production site and energy consumption during the manufacturing of the product, as well as processing of waste generated by the factory.

A4 – A5: includes the transport from the factory to the final customer, packaging of the final product and the installation of the product, as well as all consumables and energy required and processing of waste generated during the installation.

B1 – B7: includes provision and transport of all materials, products and services related to the use phase of the product, as well as their related energy and water consumption, and the processing of any resulting waste.

C1 – C4: includes provision and transport of all materials, products and services related to the end of life phase of the product, including energy and water consumption, as well as the end of life processing of the product.

### 2.3. Estimates and Assumptions

Estimates and assumptions are made for transport, installation and deconstruction procedure. Details are provided in section “LCA: scenarios and additional technical information”.

Transport distances have been calculated from the production site to the geographical center of the destination country (US), which provides an average distance for all possible distribution centers within the country. Additional transport between the distribution center and the construction site is considered with a distance of 800 km, according to PCR, part B.

Transport distance from building site to the landfill treatment center is considered with a distance of 161 km, according to PCR part B.

### 2.4. Cut-off Criteria

The cut-off criteria shall be 1% of renewable and non-renewable primary energy usage and 1% of the total mass of that unit process. The total neglected input flows per module shall be a maximum of 5% of energy usage and mass.

For this study, all input and output flows have been considered except packaging of raw material, Raw materials are included as per the product composition provided by the manufacturer and the packaging of the final product. Energy and water consumptions have also been considered at 100% according to the data provided.

## 2.5. Data Sources

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As a general rule, specific data derived from specific production processes or average data derived from specific production processes have been used as the first choice as a basis for calculating an EPD.

To model the life cycle of the product in question, the software SimaPro 9, developed by PRé, has been used in conjunction with the LCA database ecoinvent v3.6.

## 2.6. Data Quality

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The requirements for data quality and LCA data are in accordance with the specifications of the PCR.

**Temporal Coverage** – producer specific data is averaged over 1 year of production and from within the last 5 years (2019). Generic data is taken from the ecoinvent 3.6 database, the entirety of which was updated in 2019. Inputs to and outputs from the system are accounted for over a period of 100 years from the year for which the data set is deemed relevant.

**Technological Coverage** – the technological coverage of the data reflects the physical reality of the declared product.

**Geographical Coverage** – whenever possible, country specific data reflecting the reality of the Gerflor supply chain has been used. If country specific data is unavailable, European regional data is used in preference to global data sources.

## 2.7. Period under Review

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Data have been reviewed for the production year 2019.

## 2.8. Allocation

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The overall values for the factory's material and energy consumptions during a period of one year have been divided by the annual production of each product to supply a value per square meter of flooring produced. All factory data is measured in square meters, and it is assumed that the process consumptions are governed by area of flooring processed rather than mass.

## 2.9. Comparability (Optional)

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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.

## 3. Life Cycle Assessment Scenarios

Table 4. Transport to the building site (A4)

| NAME   | VALUE                                    | UNIT              |
|--|--|-------------------|
| <b>Truck</b>   |  |                   |
| Fuel type  | Diesel, low sulfur                       |                   |
| Liters of fuel   | 26                                       | l/100km           |
| Vehicle type   | 16-32 metric ton EURO 5                  |                   |
| Transport distance   | 1856                                     | km                |
| Capacity utilization (including empty runs, mass based)  | 36                                       | %                 |
| Gross density of products transported  | 1350                                     | kg/m <sup>3</sup> |
| Weight of products transported (if gross density not reported)   | -  | kg                |
| Volume of products transported (if gross density not reported)   | -  | m <sup>3</sup>    |
| Capacity utilization volume factor (factor: =1 or <1 or ≥ 1 for compressed or nested packaging products) | < 1                                      | -                 |
| <b>Boat</b>  |  |                   |
| Fuel type  | Heavy Fuel Oil                           |                   |
| Liters of fuel   | 0.047                                    | l/100km           |
| Vehicle type   | Transoceanic Ship                        |                   |
| Transport distance   | 6102                                     | km                |
| Capacity utilization (including empty runs, mass based)  | 100                                      | %                 |
| Gross density of products transported  | 1350                                     | kg/m <sup>3</sup> |
| Weight of products transported (if gross density not reported)   | -  | kg                |
| Volume of products transported (if gross density not reported)   | -  | m <sup>3</sup>    |
| Capacity utilization volume factor (factor: =1 or <1 or ≥ 1 for compressed or nested packaging products) | < 1                                      | -                 |
| <b>Rail</b>  |  |                   |
| Energy type  | Diesel and electricity                   |                   |
| Percentage diesel / electricity  | 56.3 / 43.7                              | %                 |
| Vehicle type   | Freight train Europe without Switzerland |                   |
| Transport distance   | 1357                                     | km                |
| Capacity utilization (including empty runs, mass based)  | 100                                      | %                 |
| Gross density of products transported  | 1350                                     | kg/m <sup>3</sup> |
| Weight of products transported (if gross density not reported)   | -  | kg                |
| Volume of products transported (if gross density not reported)   | -  | m <sup>3</sup>    |
| Capacity utilization volume factor (factor: =1 or <1 or ≥ 1 for compressed or nested packaging products) | < 1                                      | -                 |

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**Table 5. Installation into the building (A5)**

| NAME   | VALUE    | UNIT               |
|--|----------|--------------------|
| Ancillary materials  | 3.25E-01 | kg                 |
| Net freshwater consumption specified by water source and fate (amount evaporated, amount disposed to sewer)                        | -        | m <sup>3</sup>     |
| Other resources  | -        | kg                 |
| Electricity consumption  | -        | kWh                |
| Other energy carriers  | -        | MJ                 |
| Product loss per functional unit   | 1.89E-01 | kg                 |
| Waste materials at the construction site before waste processing, generated by product installation                                | 1.71E-01 | kg                 |
| Output materials resulting from on-site waste processing (specified by route; e.g. for recycling, energy recovery and/or disposal) | -        | kg                 |
| Biogenic carbon contained in packaging   | 1,54E-01 | kg CO <sub>2</sub> |
| Direct emissions to ambient air, soil and water  | -        | kg                 |
| VOC emissions  | -        | µg/m <sup>3</sup>  |

**Table 6. Reference Service Life**

| NAME   | VALUE  | UNIT  |
|--|--|-------|
| Reference Service Life   | 25   | years |
| Declared product properties (at the gate) and finishes, etc.   | Declared product properties are described in Declaration of Performance (DOP), in accordance with EN 14041 | -     |
| Design application parameters (if instructed by the manufacturer), including references to the appropriate practices and application codes)                | Products in accordance with EN 14041 and technical prescription of the manufacturer                        | -     |
| An assumed quality of work, when installed in accordance with the manufacturer's instructions  | Assumed to be installed according to the manufacturer's instructions                                       | -     |
| Outdoor environment, (if relevant for outdoor applications), e.g. weathering, pollutants, UV and wind exposure, building orientation, shading, temperature | Assumed to be installed according to the manufacturer's instructions                                       | -     |
| Indoor environment, (if relevant for indoor applications), e.g. temperature, moisture, chemical exposure)  | Use conditions in accordance with manufacturer prescriptions: see technical datasheet                      | -     |
| Use conditions, e.g. frequency of use, mechanical exposure.  | Maintenance scenario is defined in the table above   | -     |
| Maintenance, e.g. required frequency, type and quality of replacement components   | Declared product properties are described in Declaration of Performance (DOP), in accordance with EN 14041 | -     |



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**Table 7. Maintenance (B2)**

| NAME  | VALUE   | UNIT                 |
|---|---|----------------------|
| Maintenance process information (cite source in report)   | Dry vacuum cleaning:<br>3/week<br>Wet cleaning:<br>2/week | -                    |
| Maintenance cycle   | 6.50E+03  | Number/ RSL          |
| Maintenance cycle   | 1.95E+04  | Number/ ESL          |
| Net freshwater consumption specified by water source and fate (amount evaporated, amount disposed to sewer) | 5.20E+00  | m <sup>3</sup> /year |
| Ancillary materials specified by type (e.g. cleaning agent)   | 5.20E-02  | kg/year              |
| Other resources   | -   | kg                   |
| Energy input, specified by activity, type and amount  | 3.90E-01  | kWh/year             |
| Other energy carriers specified by type   | -   | kWh                  |
| Power output of equipment   | -   | kW                   |
| Waste materials from maintenance (specify materials)  | -   | kg                   |
| Direct emissions to ambient air, soil and water   | -   | kg                   |
| Further assumptions for scenario development (e.g. frequency and time period of use, number of occupants);  | -   |                      |

**Table 8. Repair (B3)**

No data for given table

**Table 9. Replacement (B4)**

| NAME   | VALUE | UNIT           |
|--|-------|----------------|
| Reference Service Life   | 25    | Years          |
| Replacement cycle  | 2     | (ESL-RSL)-1    |
| Energy input, specified by activity, type and amount   | -     | kWh            |
| Net freshwater consumption specified by water source and fate (e.g., X m <sup>3</sup> river water evaporated, X m <sup>3</sup> city water disposed to sewer) | -     | m <sup>3</sup> |
| Ancillary materials specified by type and amount (e.g. cleaning agent)   | -     | kg             |
| Replacement of worn parts, specify parts/materials   | -     | kg             |
| Direct emissions to ambient air, soil and water  | -     | kg             |
| Further assumptions for scenario development, e.g. frequency and time period of use_   | -     | As appropriate |

**Table 10. Refurbishment (B5)**

No data for given table

**Table 11. Operational energy use (B6) and Operational water use (B7)**



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No data for given table

**Table 12. End of life (C1-C4)**

| NAME   |  | VALUE     | UNIT               |
|--|--|-----------|--------------------|
| Assumptions for scenario development (description of deconstruction, collection, recovery, disposal method and transportation) | Product are carried out by hand and sent to landfill. Waste transport is made by truck (16-32 metric ton Euro5). A 161km distance to the landfill treatment center has been considered |           |                    |
| Collection process (specified by type)   | Collected separately   | -         | kg                 |
|  | Collected with mixed construction waste  | 3.025E+00 | kg                 |
| Recovery (specified by type)   | Reuse  | -         | kg                 |
|  | Recycling  | -         | kg                 |
|  | Landfill   | 3.025E+00 | kg                 |
|  | Incineration   | -         | kg                 |
|  | Incineration with energy recovery  | -         | kg                 |
|  | Energy conversion efficiency rate  | -         |                    |
| Disposal (specified by type)   | Product or material for final deposition   | -         | kg                 |
| Removals of biogenic carbon (excluding packaging)  |  | -         | kg CO <sub>2</sub> |

**Table 13. Reuse, recovery and/or recycling potentials (D), relevant scenario information**

No data for given table



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## 4. Life Cycle Assessment Results

Table 14. Description of the system boundary modules

|          | PRODUCT STAGE       |           |               | CONSTRUCTION PROCESS STAGE  |                  | USE STAGE |             |        |             |               |  |   | END OF LIFE STAGE |           |                  |          | BENEFITS AND LOADS BEYOND THE SYSTEM BOUNDARY |
|----------|---------------------|-----------|---------------|-----------------------------|------------------|-----------|-------------|--------|-------------|---------------|--|---|-------------------|-----------|------------------|----------|---|
|          | A1                  | A2        | A3            | A4                          | A5               | B1        | B2          | B3     | B4          | B5            | B6   | B7  | C1                | C2        | C3               | C4       | D   |
|          | Raw material supply | Transport | Manufacturing | Transport from gate to site | Assembly/install | Use       | Maintenance | Repair | Replacement | Refurbishment | Building Operational Energy Use During Product Use | Building Operational Water Use During Product Use | Deconstruction    | Transport | Waste processing | Disposal | Reuse, Recovery, Recycling Potential          |
| EPD Type | X                   | X         | X             | X                           | X                | X*        | X           | X*     | X           | X*            | X*   | X*  | X*                | X         | X*               | X        | NA  |

\*module has been considered but has no associated inputs/outputs, therefore does not appear in the results.

NA: Not Applicability

### 4.1. Life Cycle Impact Assessment Results

Table 15. North American Impact Assessment Results over the ESL of 75 years

| TRACI v2.1                      | A1       | A2       | A3       | A4       | A5       | B2       | B4       | C2       | C4       |
|---------------------------------|----------|----------|----------|----------|----------|----------|----------|----------|----------|
| GWP 100 [kg CO <sub>2</sub> eq] | 3.54E+00 | 1.22E-01 | 2.17E+00 | 1.26E+00 | 1.26E+00 | 2.63E+01 | 1.74E+01 | 8.36E-02 | 2.67E-01 |
| ODP [kg CFC-11 eq]              | 2.33E-07 | 2.15E-08 | 2.01E-07 | 2.77E-07 | 1.12E-07 | 2.63E-06 | 1.75E-06 | 1.94E-08 | 1.06E-08 |
| AP [kg SO <sub>2</sub> eq]      | 1.57E-02 | 8.61E-04 | 7.69E-03 | 9.31E-03 | 5.03E-03 | 1.19E-01 | 7.83E-02 | 3.07E-04 | 2.77E-04 |
| EP [kg N eq]                    | 2.22E-03 | 9.89E-05 | 2.30E-03 | 8.15E-04 | 8.16E-04 | 7.42E-02 | 1.34E-02 | 4.23E-05 | 4.19E-04 |
| SFP [kg O <sub>3</sub> eq]      | 1.70E-01 | 1.69E-02 | 9.05E-02 | 1.90E-01 | 6.58E-02 | 1.10E+00 | 1.09E+00 | 6.48E-03 | 6.06E-03 |
| ADP <sub>fossil</sub> [MJ, LHV] | 1.42E+01 | 1.91E-01 | 2.78E+00 | 2.48E+00 | 2.81E+00 | 3.35E+01 | 4.56E+01 | 1.75E-01 | 1.05E-01 |

GWP: Global Warming Potential / ODP: Ozone Depletion Potential / AP: Acidification Potential / EP: Eutrophication Potential / SFP: Smog Formation Potential / ADP: Abiotic Depletion Potential



# ENVIRONMENTAL PRODUCT DECLARATION



**MIPOLAM EVO**  
Homogeneous commercial flooring

According to ISO 14025,  
EN 15804 and ISO 21930:2017

**Table 16. EU Impact Assessment Results over the ESL of 75 years**

| CML v4.2                                 | A1       | A2       | A3       | A4       | A5       | B2       | B4       | C2       | C4       |
|--|----------|----------|----------|----------|----------|----------|----------|----------|----------|
| GWP 100 [kg CO <sub>2</sub> eq]          | 3.54E+00 | 1.22E-01 | 2.15E+00 | 1.26E+00 | 1.22E+00 | 2.63E+01 | 1.73E+01 | 8.36E-02 | 2.67E-01 |
| ODP [kg CFC-11 eq]                       | 1.91E-07 | 1.64E-08 | 1.68E-07 | 2.09E-07 | 8.76E-08 | 2.18E-06 | 1.39E-06 | 1.46E-08 | 7.99E-09 |
| AP [kg SO <sub>2</sub> eq]               | 1.61E-02 | 7.89E-04 | 7.58E-03 | 8.47E-03 | 4.92E-03 | 1.17E-01 | 7.67E-02 | 2.74E-04 | 2.24E-04 |
| EP [kg PO <sub>4</sub> <sup>-3</sup> eq] | 1.58E-03 | 1.17E-04 | 1.50E-03 | 1.16E-03 | 6.16E-04 | 3.98E-02 | 1.04E-02 | 4.36E-05 | 2.01E-04 |
| POCP [kg ethene eq]                      | 3.24E-03 | 8.01E-05 | 9.52E-04 | 9.14E-04 | 8.15E-04 | 1.39E-02 | 1.22E-02 | 4.30E-05 | 7.67E-05 |
| ADP <sub>element</sub> [kg Sb-eq]        | 5.24E-05 | 2.02E-06 | 3.57E-05 | 2.71E-05 | 2.06E-05 | 3.75E-04 | 2.81E-04 | 2.22E-06 | 3.48E-07 |
| ADP <sub>fossil</sub> [MJ, LHV]          | 9.86E+01 | 1.59E+00 | 2.92E+01 | 1.78E+01 | 2.17E+01 | 3.45E+02 | 3.42E+02 | 1.23E+00 | 7.54E-01 |

GWP: Global Warming Potential / ODP: Ozone Depletion Potential / AP: Acidification Potential / EP: Eutrophication Potential / POCP: Photochemical Ozone Creation Potential / ADP: Abiotic resource Depletion Potential

## 4.2. Life Cycle Inventory Results

**Table 17. Resource Use over the ESL of 75 years**

| PARAMETER                   | A1       | A2       | A3       | A4       | A5       | B2       | B4       | C2       | C4       |
|-----------------------------|----------|----------|----------|----------|----------|----------|----------|----------|----------|
| RPR <sub>E</sub> [MJ, LHV]  | 3.32E+00 | 8.13E-02 | 2.02E+01 | 4.04E-01 | 2.12E+00 | 1.66E+02 | 5.23E+01 | 1.39E-02 | 1.53E-02 |
| RPR <sub>M</sub> [MJ, LHV]  | -        | -        | 2.88E+00 | -        | 2.02E-01 | -        | 6.17E+00 | -        | -        |
| RPR <sub>T</sub> [MJ, LHV]  | 3.32E+00 | 8.13E-02 | 2.31E+01 | 4.04E-01 | 2.32E+00 | 1.66E+02 | 5.85E+01 | 1.39E-02 | 1.53E-02 |
| NRPR <sub>E</sub> [MJ, LHV] | 5.51E+01 | 1.73E+00 | 3.55E+01 | 1.85E+01 | 7.54E+00 | 3.38E+02 | 2.41E+02 | 1.25E+00 | 7.75E-01 |
| NRPR <sub>M</sub> [MJ, LHV] | 5.04E+01 | -        | 3.31E-01 | -        | 1.58E+01 | 1.04E+02 | 1.33E+02 | -        | -        |
| NRPR <sub>T</sub> [MJ, LHV] | 1.06E+02 | 1.73E+00 | 3.58E+01 | 1.85E+01 | 2.33E+01 | 4.42E+02 | 3.74E+02 | 1.25E+00 | 7.75E-01 |
| SM [kg]                     | -        | -        | -        | -        | -        | -        | -        | -        | -        |
| RSF [MJ, LHV]               | -        | -        | -        | -        | -        | -        | -        | -        | -        |
| NRSF [MJ, LHV]              | -        | -        | -        | -        | -        | -        | -        | -        | -        |
| RE [MJ, LHV]                | -        | -        | -        | -        | -        | -        | -        | -        | -        |
| FW [m <sup>3</sup> ]        | 7.27E-02 | 3.72E-04 | 1.76E-02 | 2.69E-03 | 1.68E-02 | 1.15E+00 | 2.22E-01 | 1.22E-04 | 7.95E-04 |

RPR<sub>E</sub>: Use of renewable primary energy excluding renewable primary energy resources used as raw materials / RPR<sub>M</sub>: Use of renewable primary energy resources used as raw materials / RPR<sub>T</sub>: Total use of renewable primary energy resources (primary energy and primary energy resources used as raw materials) / NRPR<sub>E</sub>: Use of non-renewable primary energy excluding non-renewable primary energy resources used as raw materials / NRPR<sub>M</sub>: Use of non-renewable primary energy resources used as raw materials / NRPR<sub>T</sub>: Total use of non-renewable primary energy resources (primary energy and primary energy resources used as raw materials) / SM: Use of secondary materials / RSF: Use of renewable secondary fuels / NRSF: Use of non-renewable secondary fuels / RE: Recovered energy / FW: Net use of fresh water





# ENVIRONMENTAL PRODUCT DECLARATION



**MIPOLAM EVO**  
Homogeneous commercial flooring

According to ISO 14025,  
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**Table 18. Output Flows and Waste Categories over the ESL of 75 years**

| PARAMETER                       | A1       | A2       | A3       | A4       | A5       | B2       | B4       | C2       | C4       |
|---------------------------------|----------|----------|----------|----------|----------|----------|----------|----------|----------|
| HWD [kg]                        | 1.31E-01 | 2.13E-03 | 5.66E-02 | 2.04E-02 | 4.00E-02 | 9.10E-01 | 5.05E-01 | 1.11E-03 | 1.02E-03 |
| NHWD [kg]                       | 9.06E-01 | 6.66E-02 | 7.90E-01 | 8.16E-01 | 6.94E-01 | 1.31E+01 | 1.28E+01 | 6.65E-02 | 3.04E+00 |
| HLRW [kg] or [m <sup>3</sup> ]  | 1.01E-04 | 9.74E-06 | 9.62E-05 | 1.19E-04 | 4.57E-05 | 1.22E-03 | 7.68E-04 | 8.12E-06 | 4.48E-06 |
| ILLRW [kg] or [m <sup>3</sup> ] | 1.65E-05 | 4.67E-07 | 2.11E-05 | 2.51E-06 | 4.85E-06 | 3.09E-04 | 9.10E-05 | 6.69E-08 | 8.11E-08 |
| CRU [kg]                        | -        | -        | -        | -        | -        | -        | -        | -        | -        |
| MFR [kg]                        | -        | -        | 9.00E-02 | -        | 1.14E-01 | -        | 4.07E-01 | -        | -        |
| MER [kg]                        | -        | -        | -        | -        | -        | -        | -        | -        | -        |
| EE [MJ, LHV]                    | -        | -        | -        | -        | -        | -        | -        | -        | -        |

HWD: Disposed-of-hazardous waste / NHWD: Disposed-of non-hazardous waste / HLRW: High Level Radioactive Waste / ILLRW: Intermediate and Low-Level Radioactive Waste / CRU: Components for reuse / MFR: Material for recycling / MER: Materials for energy recovery / EE: Exported energy

**Table 19. Carbon Emissions and Removals over the ESL of 75 years**

| PARAMETER                  | A1 | A2 | A3       | A4 | A5       | B2 | B4       | C2 | C4 |
|----------------------------|----|----|----------|----|----------|----|----------|----|----|
| BCRP [kg CO <sub>2</sub> ] | -  | -  | -        | -  | -        | -  | -        | -  | -  |
| BCEP [kg CO <sub>2</sub> ] | -  | -  | -        | -  | -        | -  | -        | -  | -  |
| BCRK [kg CO <sub>2</sub> ] | -  | -  | 2.19E-01 | -  | -        | -  | 4.38E-01 | -  | -  |
| BCEK [kg CO <sub>2</sub> ] | -  | -  | -        | -  | 2.19E-01 | -  | 4.38E-01 | -  | -  |
| BCEW [kg CO <sub>2</sub> ] | -  | -  | -        | -  | -        | -  | -        | -  | -  |
| CCE [kg CO <sub>2</sub> ]  | -  | -  | -        | -  | -        | -  | -        | -  | -  |
| CCR [kg CO <sub>2</sub> ]  | -  | -  | -        | -  | -        | -  | -        | -  | -  |
| CWNR [kg CO <sub>2</sub> ] | -  | -  | -        | -  | -        | -  | -        | -  | -  |

BCRP: Biogenic Carbon Removal from Product / BCEP: Biogenic Carbon Emission from Product / BCRK: Biogenic Carbon Removal from Packaging / BCEK: Biogenic Carbon Emission from Packaging / BCEW: Biogenic Carbon Emission from Combustion of Waste from Renewable Sources Used in Production Processes / CCE: Calcination Carbon Emissions / CCR: Carbonation Carbon Removals / CWNR: Carbon Emissions from Combustion of Waste from Non-Renewable Sources used in Production Processes



## 5. LCA Interpretation

Figure 3: Graph depicting the impact indicators as calculated by the TRACI method

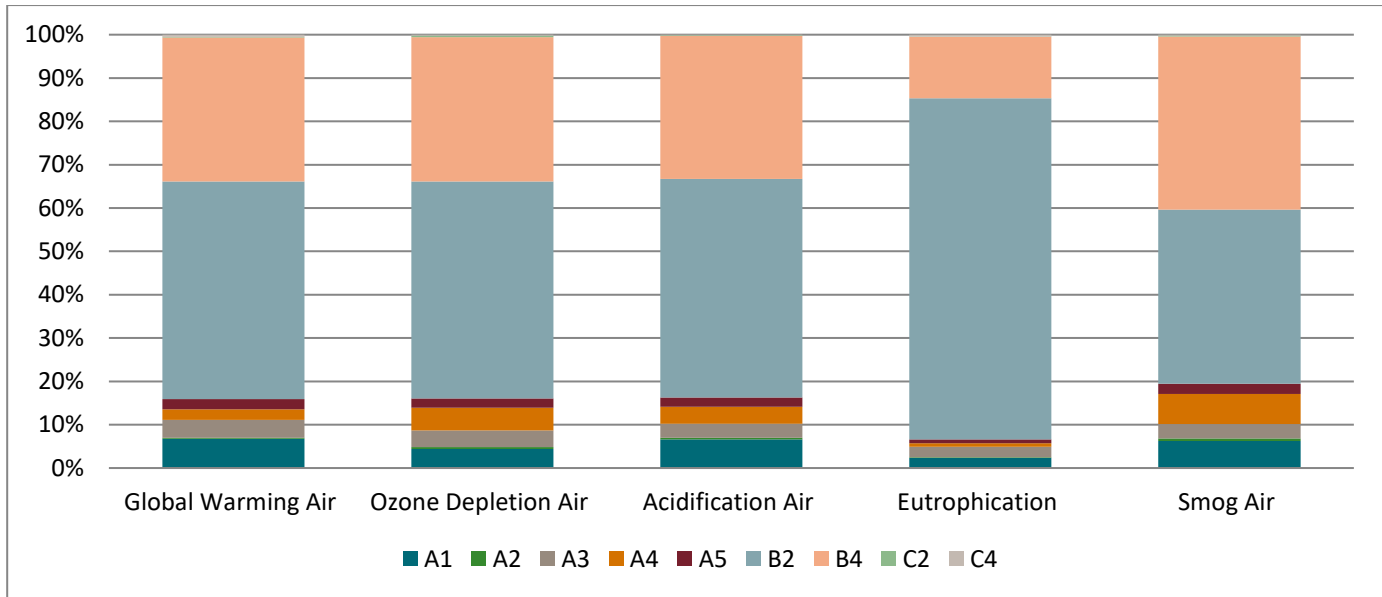
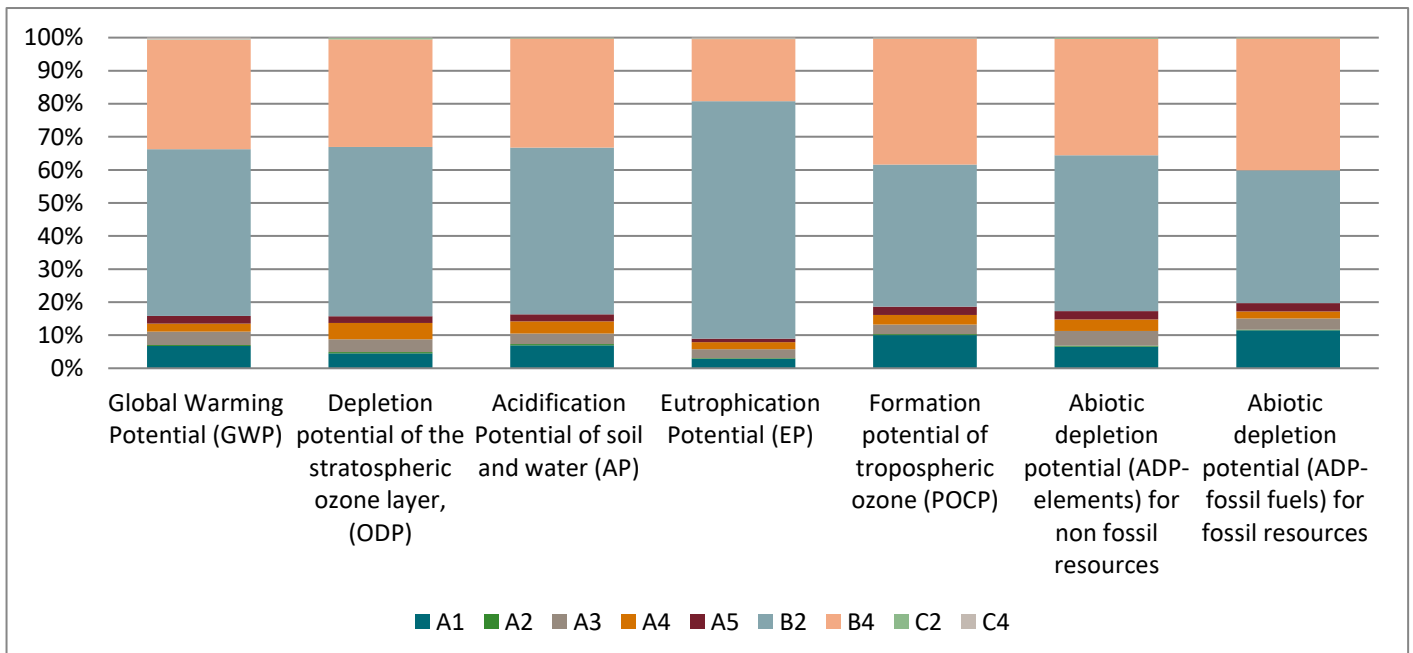


Figure 4: Graph depicting selection of impact indicator results calculated according to EN 15804



The primary contributor to the environmental impacts of the product is B2 – Maintenance stage because of the scenario of both long reference service life (RSL) of 75 years and the assumption of a weekly cleaning by using a machine and detergent. Then comes B4 – Replacement, which requires the production of two additional products. Then A1 – Extraction and transformation of the raw materials. Stage A3 – Manufacturing has the fourth greatest impact on average across the indicators, primarily due to the electricity consumption during the production process.

## 6. Additional Environmental Information

### 6.1. Environment and Health During Manufacturing

Gerflor's factory conforms to the ISO 14001 Environmental Management System, the ISO 45001 Occupational Health and Safety System and the ISO 50001 Energy Management System.

### 6.2. Environment and Health During Installation

The manufacturer's guidelines should be adhered to during the installation of this product.

### 6.3. Extraordinary Effects

#### Fire

Fire behaviour have been tested according to EN 13501-1. Product is classified Bfl-S1.  
There's no test available for possible environmental impacts during fire.  
Class 1 when tested in accordance with ASTM E 648, Standard Test Method for Critical Radiant Flux  
Flaming & Non-Flaming when tested in accordance with ASTM E 662, Standard Test Method for Specific Optical Density of Smoke Generated by Solid Materials

#### Water

There's no test available for possible impacts following unforeseeable influence of water.

#### Mechanical Destruction

Mechanical damage does not chemically alter the product.

### 6.4. Delayed Emissions

No delayed emissions are taken into account.

# ENVIRONMENTAL PRODUCT DECLARATION



MIPOLAM EVO  
Homogeneous commercial flooring



According to ISO 14025,  
EN 15804 and ISO 21930:2017

## 6.5. Environmental Activities and Certifications



Certificate n°34756



Approved by Foundation  
RTS sr



**FloorScore®**  
Indoor Air Quality Certified to SCS-EC10.3-2014 v4.0  
Registration # SCS-FS-02145

## 6.6. Further Information

Additional information can be found in <https://www.gerflor.com/>

## 7. Supporting Documentation

All documentation necessary to confirm the data provided in this EPD has been submitted to the critical reviewer.

## 8. References

### ISO 14025

ISO 14025:2006 : Environmental labels and declarations — Type III environmental declarations — Principles and procedures

### ISO 21930

ISO 21930 :2017 : Sustainability in buildings and civil engineering works -- Core rules for environmental product declarations of construction products and services

### EN 15804

EN 15804:2012-04+A1 2013: Sustainability of construction works — Environmental Product Declarations — Core rules for the product category of construction products

### UL Environment

UL Environment General Program Instructions July 2018, version 2.4

### UL Standard 10010, PCR Part A

PCR -Part A: Life Cycle Assessment Calculation Rules and Report Requirements. Version 3.2, UL Environment. <https://industries.ul.com/environment>

### UL 10010-7, PCR Part B

PCR - Part B: Flooring EPD Requirements, Second Edition, Dated September 28, 2018. UL Environment. <https://www.ul.com/>

### Ecoinvent V3.6

ecoinvent Life Cycle Inventory database Version 3.6 <http://www.ecoinvent.org>



# ENVIRONMENTAL PRODUCT DECLARATION



MIPOLAM EVO  
Homogeneous commercial flooring



According to ISO 14025,  
EN 15804 and ISO 21930:2017

## 9. Contact information

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