



## Environmental Product Declaration

Program Operator: Smart EPD®

[www.smartepd.com](http://www.smartepd.com)

IN ACCORDANCE WITH ISO 14025:2006 AND ISO 21930:2017



**ROPPE.**  
Proven. Flooring. Experiences.

SmartEPD-2025-073-0541-01

## Solid Vinyl & ESD Static Control Vinyl Tile

Date of Issue

Jun 23, 2025

Expiration Date

Jun 23, 2030

Last Updated

Aug 25, 2026



Refer to the EPD Library at [www.smartepd.com](http://www.smartepd.com) for the latest EPD listing information

General Information

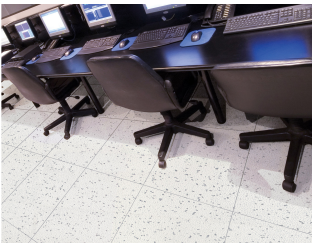
Roppe Corporation, USA

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roppe.com



|                             |                                                      |
|-----------------------------|------------------------------------------------------|
| Product Name:               | Solid Vinyl & ESD Static Control Vinyl Tile          |
| Functional Unit:            | 1 m2 installed flooring                              |
| Declaration Number:         | SmartEPD-2025-073-0541-01                            |
| Date of Issue:              | June 23, 2025                                        |
| Expiration:                 | June 23, 2030                                        |
| Last updated:               | August 25, 2026                                      |
| EPD Scope:                  | Cradle to grave<br>A1 - A3, A4, A5, B1 - B7, C1 - C4 |
| Market(s) of Applicability: | North America                                        |

General Organization Information

Roppe Corporation, the EPD Owner, is a family-owned business headquartered in Fostoria, Ohio, USA. The company operates a manufacturing facility in Tuscumbia, Alabama, where the declared product is produced. Established in 1955, Roppe has a longstanding commitment to delivering high-quality resilient flooring to a diverse range of customers.

The Tuscumbia facility is certified under ISO 14001 for its environmental management system, reflecting Roppe's dedication to minimizing environmental impacts and continually improving environmental performance.

As a family-owned company, Roppe emphasizes responsible manufacturing practices, efficient resource use, and environmentally conscious product design. The organization actively works to reduce waste, optimize material use, and lower emissions across its operations in support of sustainable building practices.

Further information can be found at: <https://roppe.com/>

Limitations, Liability and Ownership

Environmental Product Declarations from different programs (following ISO 14025) may not be comparable. Comparison of the environmental performance of products using EPD information shall be based on the product's use and impacts at the building level. EPDs that do not cover all life cycle stages (e.g., cradle-to-grave) shall not be used to make comparisons without additional context and assumptions.

EPD comparability is only possible when all relevant life cycle stages are included and equivalent data quality, system boundaries, and assessment methods are used.

Variations in results may occur due to differences in background LCI datasets, regional factors, and LCA modeling approaches or software tools.

The EPD Owner has sole ownership, liability, and responsibility for the content of this EPD.

## Reference Standards

|                                |                                                                                                                                               |
|--------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------|
| Standard(s):                   | ISO 14025:2006 and ISO 21930:2017                                                                                                             |
| Core PCR:                      | UL Part A PCR for Building-Related Products and Services v.4<br>Date of issue: March 01, 2022                                                 |
| Sub-category PCR:              | UL Part B: Flooring v.2<br>Date of issue: September 28, 2018<br>Valid until: July 31, 2025                                                    |
| Sub-category PCR review panel: |  Contact Smart EPD for more information.                     |
| General Program Instructions:  |  Smart EPD General Program Instructions v.1.0, November 2022 |

## Verification Information

|                       |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |
|-----------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| LCA Author/Creator:   |  Sevda Alanya Rosenbaum<br> John Beath Environmental<br> sevda.rosenbaum@beath.us                                                                                                                                                                                                                                                                                 |
| EPD Program Operator: |  Smart EPD<br> info@smartepd.com<br> www.smartepd.com<br> 585 Grove St., Ste. 145, Herndon, VA 20170, USA                                                                                                                                                                   |
| Verification:         | Independent critical review of the LCA and data, according to ISO 14044 and ISO 14071:<br> Mari Kirss    mari.kirss@meetripuu.ee<br><br>Independent external verification of EPD, according to ISO 14025 and reference PCR(s):<br> Mari Kirss    mari.kirss@meetripuu.ee |

External

External

## Product Information

|                         |                                                                                                                                                                                                             |
|-------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Functional Unit:        | 1 m2 installed flooring                                                                                                                                                                                     |
| Mass:                   | 4.74 kg                                                                                                                                                                                                     |
| Reference Service Life: | 40 Years                                                                                                                                                                                                    |
| Product Specificity:    |  Product Average<br> Product Specific |

## Product Description

Roppe Solid Vinyl Tile (SVT) products are durable, resilient floor coverings designed for permanent indoor installation in a wide range of commercial and institutional applications. These products are manufactured at Roppe Corporation's facility in Tuscumbia, Alabama, USA and include:

- ReNew SVT: Standard solid vinyl tile for general commercial environments

- Static Dissipative SVT: Engineered for environments with electronics or data equipment
- Conductive SVT: Designed for areas requiring fast and direct dissipation of static charges (e.g., cleanrooms, chip manufacturing, explosives handling)

All formats feature a smooth surface with no factory finish and are available in square tiles in the following nominal dimensions:

- 12 in × 12 in × 0.080–0.125 in (2–3.2 mm)
- 24 in × 24 in × 0.080–0.125 in (2–3.2 mm)
- 36 in × 36 in × 0.080–0.125 in (2–3.2 mm)

Pre-grooved options are available in larger tile sizes for heat-welded installations where seamless performance is desired.

All Roppe SVT products are manufactured without recycled content and are Red List Free, containing no substances from the Living Future Institute's Red List, the REACH Candidate List of SVHCs, or REACH Annex XVII. The products are certified under NSF/ANSI 332 (Level 1), FloorScore, and comply with CA Section 01350, CHPS, and LEED v4/4.1 requirements.

Electrical Properties (Static Control SVT Only):

- Conductive SVT: Electrical resistance of  $2.5 \times 10^4$  to  $1 \times 10^6$  ohms (ASTM F150)
- Dissipative SVT: Electrical resistance of  $1 \times 10^6$  to  $1 \times 10^9$  ohms (ASTM F150)
- Both meet ANSI/ESD S20.20, FTMS 101c, and AATCC-134 test criteria
- Lifetime limited electrical resistance warranty

Shared Performance Features:

All product variants conform to ASTM F1700 (Class I, Type A) and meet key industry performance standards including:

- ASTM E648 – Critical Radiant Flux (Class I)
- ASTM E662 – Smoke Density  $\leq 450$
- ASTM D2047 – Static Coefficient of Friction  $\geq 0.50$
- ASTM F970 – Static Load Resistance ( $\leq 0.005$  in at 250 psi and modified at 2,500 psi)
- ASTM F925, F2199, F137, F1914, F1514, F1515 – Chemical resistance, dimensional stability, flexibility, and durability

Roppe SVT products are lot controlled, suitable for use over in-floor radiant heating, and intended for indoor use only. Mass and density are determined per square meter in accordance with the applicable product category rules.

Further information can be found at: <https://roppe.com/>

## Product Specifications

|                               |                                                                                                       |
|-------------------------------|-------------------------------------------------------------------------------------------------------|
| Product Classification Codes: | Masterformat - 09 65 19<br>Masterformat - 09 65 36<br>EC3 - Finishes -> Flooring -> ResilientFlooring |
| Flooring type:                | Tile                                                                                                  |
| Product thickness:            | 2.604 mm                                                                                              |
| Product weight:               | 4740 g/m2                                                                                             |
| Product form:                 | Tiles                                                                                                 |

Product Composition Diagram



Material Composition

| Material/Component Category | Origin        | % Mass |
|-----------------------------|---------------|--------|
| Filler                      | United States | 48-58  |
| Binder                      | United States | 30-36  |
| Bioplasticizer              | United States | 8-12   |
| Additives                   | Various       | 2-4    |
| Pigments                    | Various       | 1-5    |

| Packaging Material   | Origin        | kg Mass |
|----------------------|---------------|---------|
| Corrugated cardboard | United States | 0.258   |
| Polyethylene wrap    | United States | 0.008   |
| Pallet (wood)        | United States | 0.194   |

| Biogenic Carbon Content                           | kg C per m2 installed flooring |
|---------------------------------------------------|--------------------------------|
| Biogenic carbon content in product                | None                           |
| Biogenic carbon content in accompanying packaging | 0.472                          |

| Hazardous Materials                                                          |
|------------------------------------------------------------------------------|
| No regulated hazardous or dangerous substances are included in this product. |

## EPD Data Specificity

|                            |                                                                                                                                 |
|----------------------------|---------------------------------------------------------------------------------------------------------------------------------|
| Primary Data Year:         | 2023                                                                                                                            |
| Manufacturing Specificity: | <div><div>✗</div> Industry Average</div> <div><div>✗</div> Manufacturer Average</div> <div><div>✓</div> Facility Specific</div> |

**Averaging:**  
EPD averaging was not conducted. This EPD represents a specific product manufactured at a single production facility.

## System Boundary

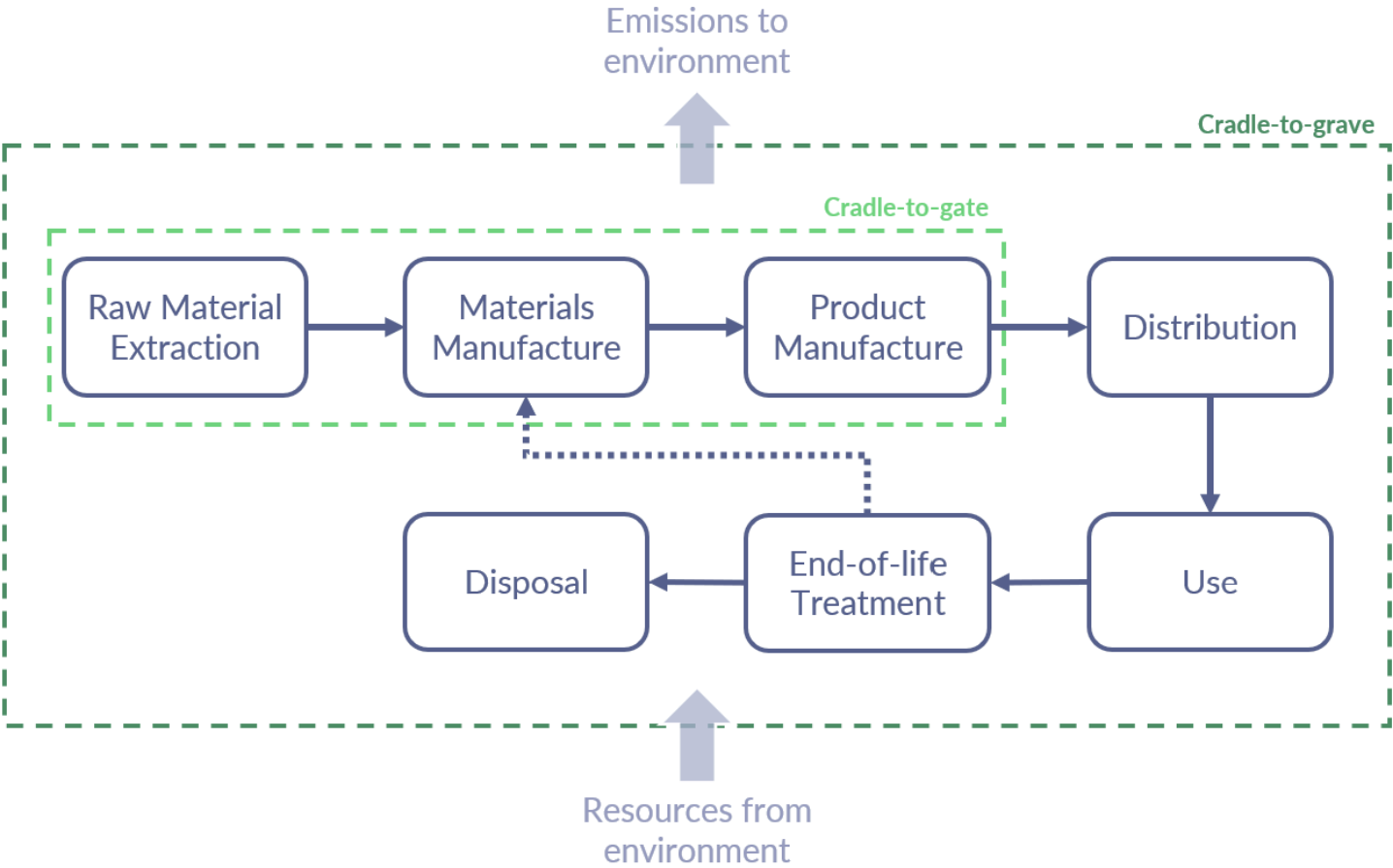
|              |    |                     |   |
|--------------|----|---------------------|---|
| Production   | A1 | Raw material supply | ✓ |
|              | A2 | Transport           | ✓ |
|              | A3 | Manufacturing       | ✓ |
| Construction | A4 | Transport to site   | ✓ |
|              | A5 | Assembly / Install  | ✓ |

|                                         |    |                                     |    |
|-----------------------------------------|----|-------------------------------------|----|
| Use                                     | B1 | Use                                 | ✓  |
|                                         | B2 | Maintenance                         | ✓  |
|                                         | B3 | Repair                              | ✓  |
|                                         | B4 | Replacement                         | ✓  |
|                                         | B5 | Refurbishment                       | ✓  |
|                                         | B6 | Operational Energy Use              | ✓  |
|                                         | B7 | Operational Water Use               | ✓  |
| End of Life                             | C1 | Deconstruction                      | ✓  |
|                                         | C2 | Transport                           | ✓  |
|                                         | C3 | Waste Processing                    | ✓  |
|                                         | C4 | Disposal                            | ✓  |
| Benefits & Loads Beyond System Boundary | D  | Recycling, Reuse Recovery Potential | ND |

Note:

ND = Module not declared

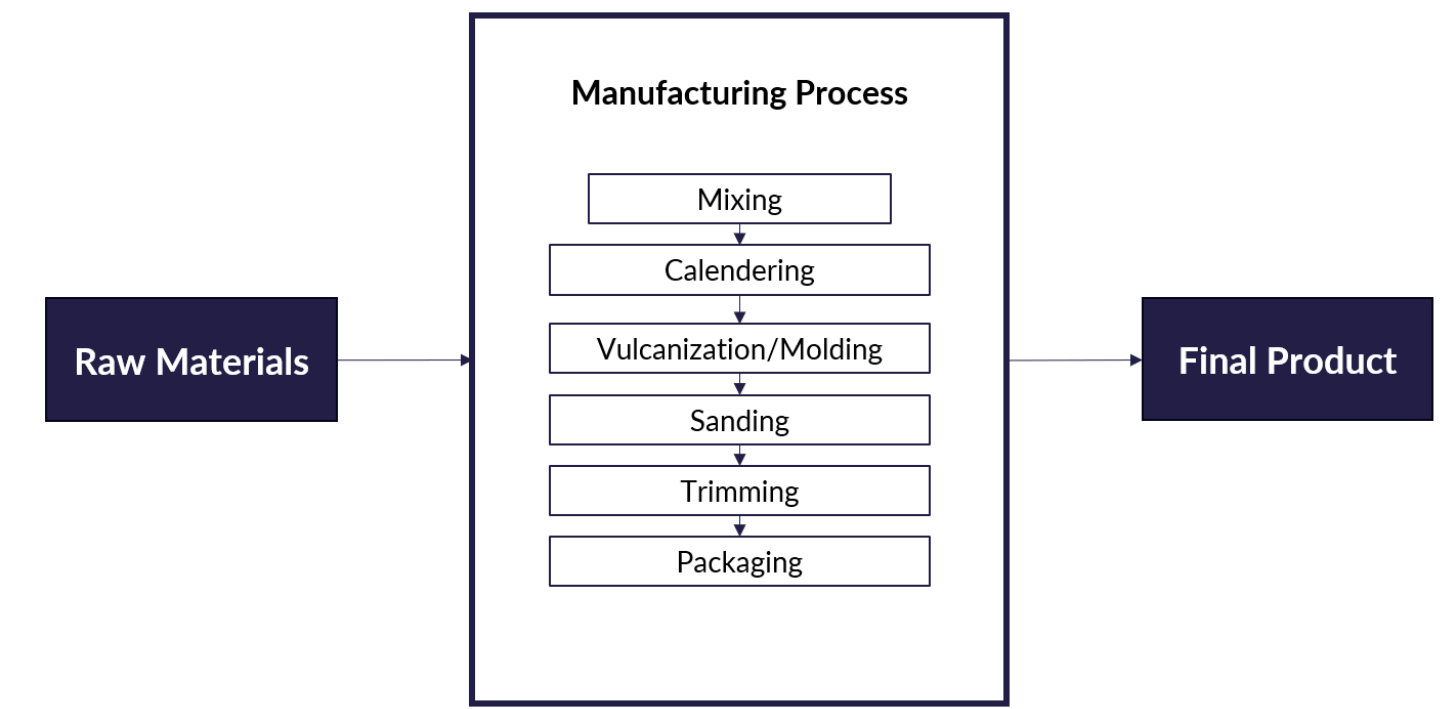
Product Composition Diagram



Plants

 RHC Plant 2 1401 E 6th St, Tuscumbia, AL 35674, USA

Product Flow Diagram



Software And Database

|                             |                                                                                                                                |
|-----------------------------|--------------------------------------------------------------------------------------------------------------------------------|
| LCA Software:               | openLCA v. 2.4                                                                                                                 |
| LCI Foreground Database(s): | Ecoinvent v. 3.10   Global, Rest of World (RoW), and United States  <br>Cut-off approach; no allocation for in-house recycling |
| LCI Background Database(s): | Ecoinvent v. 3.10   Global, Rest of World (RoW), and United States  <br>Cut-off approach; no allocation for in-house recycling |

A foreground LCI database is the database used to model the primary, site-specific data collected for this EPD. A background LCI database is the database used to model generic or non-specific data.

Data Quality

Primary data were collected from RHC's manufacturing facility for the 2023 calendar year and represent actual production processes for the declared product. Background data were sourced from the ecoinvent v3.10 database using the cut-off system model. All data meet the data quality requirements of the UL PCR for Flooring and Smart EPD General Program Instructions v2.0. No significant data gaps or representativeness issues were identified; therefore, no data quality disclaimer is required for this EPD.

## Life Cycle Module Description

### Modules A1–A3 (Raw Material Supply, Transport, and Manufacturing):

These modules include the extraction and processing of raw materials used in the product, including polyvinyl chloride, plasticizers, fillers, and other additives. Transport of raw materials to the manufacturing facility is included, along with manufacturing processes such as mixing, molding, and curing. Energy and water use, as well as packaging materials, are included. Manufacturing occurs in Tuscumbia, Alabama, and data are based on annual facility-level consumption values.

**Modules A4 (Transport to Site and Installation):** This module includes shipping of the product from manufacturing site to project site.

**Module A5 (Installation):** This module includes product installation. Impacts from the production, transport and disposal of waste material associated with installation are included in this phase in addition to impacts from packaging disposal.

### Modules B1–B7 (Use Stage):

- **B1 (Use):** No emissions or environmental impacts are associated with passive use of the product.
- **B2 (Maintenance):** Cleaning with detergent and water is assumed weekly over a 75-year building life.
- **B3 (Repair):** No repairs are anticipated.
- **B4 (Replacement):** Product is replaced at the end of its 40-year reference service life. Impacts from replacement are included based on material and energy for a second product.
- **B5 (Refurbishment):** No refurbishment is anticipated.
- **B6–B7 (Operational Energy and Water Use):** No operational energy or water use is required.

### Modules C1–C4 (End-of-Life):

- **C1 (Deconstruction):** Deconstruction is assumed to be manual with negligible environmental impact.
- **C2 (Transport):** Product is transported 161 km by truck to end-of-life treatment.
- **C3 (Waste Processing):** No additional waste processing is required prior to final disposal.
- **C4 (Disposal):** It was assumed that all products are landfilled at the end of their life. Impacts from disposal are modeled accordingly.

## LCA Discussion

### Allocation Procedure

#### Co-product Allocation

No co-product allocation was necessary in the system. During the final stages of manufacturing, sanding operations generate sanding dust. In some cases, this material is reused internally in the production of other product types. However, because the sanding dust has no economic value, no allocation is applied.

#### Allocation of Background Data

Background data sourced from the ecoinvent v3.10 database are modeled using the “cut-off, at classification” system model. Under this method, recycled content carries no upstream environmental burdens, and the burdens of waste treatment are assigned to the original product system.

#### End-of-Life Allocation

At end of life, the product is treated using the same cut-off approach. Any material recovered for recycling is considered to exit the system boundary without further allocation of burdens or credits.

### Cut-off Procedure

No cut-off criteria were defined within the system boundary. All available energy and material flow data were included in the model. Proxy data were used when necessary to ensure comprehensive representation of life cycle impacts.

Renewable Electricity

Energy Attribute Certificates (EACs) such as ✗ No  
Renewable Energy Certificates (RECs) or Power  
Purchase Agreements (PPAs) are included in the  
baseline reported results:

Scenarios

Transport to the building/construction site (A4)

A4 Module

|                                        |                                                                                                  |
|----------------------------------------|--------------------------------------------------------------------------------------------------|
| Fuel Type:                             | Diesel                                                                                           |
| Vehicle Type:                          | Diesel Truck                                                                                     |
| Transport Distance:                    | 800 km                                                                                           |
| Packaging Mass:                        | 0.460 kg                                                                                         |
| Gross density of products transported: | 1820 kg/m3                                                                                       |
| Weight of products transported:        | 4.74 kg                                                                                          |
| Capacity utilization volume factor:    | <1                                                                                               |
| Assumptions for scenario development:  | Transport to the construction site is modeled as 800 km via heavy-duty truck, using diesel fuel. |

Installation in to the building/construction site (A5)

A5 Module

|                                                 |                                                                                                                                                                                                                                                            |
|-------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Installation Scrap Rate Assumed:                | 4.5 %                                                                                                                                                                                                                                                      |
| Ancillary Materials:                            | 0.3 kg                                                                                                                                                                                                                                                     |
| Product Lost per Declared/Functional Unit:      | 0.223 kg                                                                                                                                                                                                                                                   |
| Waste Materials at the Construction Site Before | 0.684 kg                                                                                                                                                                                                                                                   |
| Waste Processing:                               |                                                                                                                                                                                                                                                            |
| Output Materials Resulting from On-site Waste   | n/a kg                                                                                                                                                                                                                                                     |
| Processing:                                     |                                                                                                                                                                                                                                                            |
| Mass of Packaging Waste Specified by Type:      | 0.46 kg                                                                                                                                                                                                                                                    |
| Biogenic Carbon Contained in Packaging (kg C):  | 0.472 kg                                                                                                                                                                                                                                                   |
| Assumptions for scenario development:           | Installation is performed manually without operational energy or water use. Adhesive is applied at a rate of 0.20 kg per m². Installation loss is assumed to be 4.5%. No VOC emissions or direct environmental emissions are reported during installation. |

Use (B1)

B1 Module

Declared Product Properties:  
The declared product consists of resilient vinyl flooring available in homogeneous sheet and tile forms. The average product thickness is approximately 2.54 mm, with a product mass of 4.74 kg/m². The product is ready to install and does not require additional on-site finishing. It complies with applicable ASTM standards for commercial interior flooring.  
Design Application Parameters:

Product is designed for interior use in commercial and institutional applications, including education, healthcare, and public buildings. Installation should follow the manufacturer's guidelines, using appropriate adhesives and surface preparation per ASTM F1344 and ASTM F1861 standards.

**An Assumed Quality of Work, When Installed in Accordance with The Manufacturer's Instructions:**

Installation is assumed to be carried out by professionals in accordance with Roppe's official installation instructions and industry best practices, ensuring proper surface preparation, adhesive use, and acclimation conditions.

**Outdoor Environment:**

Not applicable. Product is intended for indoor use only.

**Indoor Environment:**

Indoor use in temperature-controlled environments (60–85°F). The product is expected to be installed in commercial spaces with controlled humidity and minimal chemical exposure beyond routine maintenance cleaning.

**Use Conditions:**

Designed for moderate to high foot traffic in commercial settings. The surface is textured for slip resistance and can withstand mechanical stress such as rolling loads and static loads without permanent deformation.

**Maintenance:**

Routine maintenance includes dust mopping or vacuuming and damp mopping with a pH-neutral cleaner. No waxes or finishes are needed. Cleaning frequency depends on traffic volume but typically ranges from daily to weekly. Product does not require material replacement under normal use within its RSL.

Maintenance (B2)

B2 Module

|                                                                 |                                                                                                                                                                                                                                                  |
|-----------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Maintenance Cycle:                                              | 2080 Cycles/RSL<br>3900 Cycles/ESL                                                                                                                                                                                                               |
| Net Fresh Water Consumption Specified by Water Source and Fate: | 0.0058 m3 tap water evaporated m3                                                                                                                                                                                                                |
| Ancillary Materials Specified by Type:                          | 0.119 kg of detergent kg                                                                                                                                                                                                                         |
| Energy Input:                                                   | 0.022 kWh                                                                                                                                                                                                                                        |
| Maintenance Process Information:                                | Maintenance modeled as daily dust mopping, weekly wet mopping using detergent, and monthly spray buffing and finishing. Cleaning frequency and material quantities based on RFI industry average data. Maintenance modeled over ESL of 75 years. |

Repair (B3)

B3 Module

|                                               |                                                                                                                                                                                                 |
|-----------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Repair Process Information:                   | No repair of the product is anticipated under normal conditions of use. Flooring is assumed to remain fully functional for the duration of its reference service life without requiring repair. |
| Inspection Process Information:               | Inspections are assumed to be visual and part of regular maintenance; no separate inspection-related energy or material inputs are modeled.                                                     |
| Further assumptions for scenario development: | Due to the durability and resistance to wear of the rubber tile flooring product, and based on industry standard performance data, no repair is needed over the RSL or ESL.                     |

Replacement (B4)

B4 Module

|                         |                 |
|-------------------------|-----------------|
| Reference Service Life: | 40 Years        |
| Replacement Cycle:      | 0.9 (ESL/RSL)-1 |
| Energy Input:           | 0 kWh           |

|                                                                 |                                                                                                                                                                                                                                                  |
|-----------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Net Fresh Water Consumption Specified by Water Source and Fate: | 0 m3                                                                                                                                                                                                                                             |
| Direct Emissions to Ambient Air, Soil and Water:                | 0 kg                                                                                                                                                                                                                                             |
| Further assumptions for scenario development:                   | The product is assumed to be replaced once during the 75-year ESL based on its 40-year RSL. Environmental impacts for B4 include the same processes as modules A1–A5 to represent the manufacture, transport, and installation of a new product. |

Refurbishment (B5)

B5 Module

|                                               |                                                                                    |
|-----------------------------------------------|------------------------------------------------------------------------------------|
| Refurbishment Process Description:            | No refurbishment is anticipated for the product during its reference service life. |
| Further assumptions for scenario development: | The product is not refurbished during the reference or estimated service life.     |

Operational Energy Use (B6) & Operational Water Use (B7)

B6 & B7 Modules

|                                                                                                                                |  |
|--------------------------------------------------------------------------------------------------------------------------------|--|
| Characteristic Performance:                                                                                                    |  |
| Not applicable. The product does not consume energy or water during use.                                                       |  |
| Further assumptions for scenario development:                                                                                  |  |
| No operational energy or water is required for this product. These modules are declared not relevant, consistent with the LCA. |  |

End of Life (C1 - C4)

C1 - C4 Modules

Collection Process

|                       |         |
|-----------------------|---------|
| Collected Separately: | 4.74 kg |
|-----------------------|---------|

Recovery

|           |         |
|-----------|---------|
| Landfill: | 4.74 kg |
|-----------|---------|

Disposal

|                                         |         |
|-----------------------------------------|---------|
| Product or Material for Final Disposal: | 4.74 kg |
|-----------------------------------------|---------|

|                                                                                                                                                                                                                                                                                                                                                                            |  |
|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--|
| Assumptions for scenario development:                                                                                                                                                                                                                                                                                                                                      |  |
| At end of life, 100% of the product mass (4.74 kg/m²) is assumed to be removed manually and sent to a municipal landfill. No reuse, recycling, or energy recovery is modeled. No direct emissions to air, soil, or water are associated with the disposal process. This scenario reflects a conservative baseline consistent with the UL Part B PCR and industry practice. |  |

## Results

### Environmental Impact Assessment Results

IPCC AR5 GWP 100, TRACI 2.1, CML 2016 v4.8

per 1 m2 installed flooring of product.

LCIA results are relative expressions and do not predict impacts on category endpoints, the exceeding of thresholds, safety margins or risks.

| Impact Category | Unit         | Method              | A1 - A3 | A4      | A5      | B1 | B2      | B3 | B4      | B5 | B6 | B7 | C1 | C2      | C3 | C4      |
|-----------------|--------------|---------------------|---------|---------|---------|----|---------|----|---------|----|----|----|----|---------|----|---------|
| GWP-total       | kg CO2 eq    | IPCC AR5<br>GWP 100 | 1.01e+1 | 6.23e-1 | 2.73e+0 | 0  | 2.49e+0 | 0  | 1.47e+1 | 0  | 0  | 0  | 0  | 1.07e+0 | 0  | 3.33e+0 |
| ODP             | kg CFC 11 eq | TRACI 2.1           | 1.53e-6 | 9.49e-9 | 6.34e-8 | 0  | 4.13e-8 | 0  | 1.43e-6 | 0  | 0  | 0  | 0  | 1.72e-8 | 0  | 1.71e-9 |
| AP              | kg SO2 eq    | TRACI 2.1           | 3.57e-2 | 2.54e-3 | 8.06e-3 | 0  | 1.32e-2 | 0  | 4.65e-2 | 0  | 0  | 0  | 0  | 5.10e-3 | 0  | 7.91e-4 |
| EP              | kg N eq      | TRACI 2.1           | 2.86e-1 | 7.03e-4 | 2.14e-2 | 0  | 1.12e-2 | 0  | 3.67e-1 | 0  | 0  | 0  | 0  | 5.40e-4 | 0  | 1.03e-1 |
| POCP            | kg O3 eq     | TRACI 2.1           | 5.62e-1 | 7.06e-2 | 1.25e-1 | 0  | 1.13e-1 | 0  | 8.39e-1 | 0  | 0  | 0  | 0  | 1.69e-1 | 0  | 1.34e-2 |
| ADP-fossil      | MJ           | CML 2016<br>v4.8    | 1.63e+2 | 8.63e+0 | 2.81e+1 | 0  | 2.64e+1 | 0  | 1.91e+2 | 0  | 0  | 0  | 0  | 1.36e+1 | 0  | 1.45e+0 |

**Note:**

Not all abbreviated indicators listed below may be present in the results above. The inclusion of indicators varies based on PCR requirements.

**Abbreviations:**

GWP = Global Warming Potential, 100 years (may also be denoted as GWP-total, GWP-fossil (fossil fuels), GWP-biogenic (biogenic sources), GWP-luluc (land use and land use change)), ODP = Ozone Depletion Potential, AP = Acidification Potential, EP = Eutrophication Potential, SFP = Smog Formation Potential, POCP = Photochemical oxidant creation potential, ADP-Fossil = Abiotic depletion potential for fossil resources, ADP-Minerals&Metals = Abiotic depletion potential for non-fossil resources, WDP = Water deprivation potential, PM = Particulate Matter Emissions, IRP = Ionizing radiation, human health, ETP-fw = Eco-toxicity (freshwater), HTP-c = Human toxicity (cancer), HTP-nc = Human toxicity (non-cancer), SQP = Soil quality index.

Comparisons cannot be made between product-specific or industry average EPDs at the design stage of a project, before a building has been specified. Comparisons may be made between product-specific or industry average EPDs at the time of product purchase when product performance and specifications have been established and serve as a functional unit for comparison. Environmental impact results shall be converted to a functional unit basis before any comparison is attempted. Any comparison of EPDs shall be subject to the requirements of ISO 21930 or EN 15804. EPDs are not comparative assertions and are either not comparable or have limited comparability when they have different system boundaries. EPDs are not comparative assertions and are either not comparable or have limited comparability when they have different system boundaries, are based on different product category rules or are missing relevant environmental impacts. Such comparison can be inaccurate, and could lead to erroneous selection of materials or products which are higher-impact, at least in some impact categories.

## Resource Use Indicator

per 1 m2 installed flooring of product.

| Indicator  | Unit | A1 - A3 | A4      | A5      | B1 | B2      | B3 | B4      | B5 | B6 | B7 | C1 | C2      | C3 | C4      |
|------------|------|---------|---------|---------|----|---------|----|---------|----|----|----|----|---------|----|---------|
| PERE       | MJ   | ND      | ND      | ND      | ND | ND      | ND | ND      | ND | ND | ND | ND | ND      | ND | ND      |
| PERM       | MJ   | ND      | ND      | ND      | ND | ND      | ND | ND      | ND | ND | ND | ND | ND      | ND | ND      |
| PERT       | MJ   | ND      | ND      | ND      | ND | ND      | ND | ND      | ND | ND | ND | ND | ND      | ND | ND      |
| PENRE      | MJ   | ND      | ND      | ND      | ND | ND      | ND | ND      | ND | ND | ND | ND | ND      | ND | ND      |
| PENRM      | MJ   | ND      | ND      | ND      | ND | ND      | ND | ND      | ND | ND | ND | ND | ND      | ND | ND      |
| PENRT      | MJ   | ND      | ND      | ND      | ND | ND      | ND | ND      | ND | ND | ND | ND | ND      | ND | ND      |
| RPRE       | MJ   | 3.45e+1 | 1.20e-1 | 1.48e+0 | 0  | 3.16e+0 | 0  | 3.19e+1 | 0  | 0  | 0  | 0  | 5.94e-2 | 0  | 4.73e-2 |
| RPRM       | MJ   | 0       | 0       | 0       | 0  | 0       | 0  | 0       | 0  | 0  | 0  | 0  | 0       | 0  | 0       |
| RPRT       | MJ   | 3.45e+1 | 1.20e-1 | 1.48e+0 | 0  | 3.16e+0 | 0  | 3.19e+1 | 0  | 0  | 0  | 0  | 5.94e-2 | 0  | 4.73e-2 |
| NRPRE      | MJ   | 1.82e+2 | 8.75e+0 | 2.98e+1 | 0  | 3.20e+1 | 0  | 2.09e+2 | 0  | 0  | 0  | 0  | 1.36e+1 | 0  | 1.51e+0 |
| NRPRM      | MJ   | 5.49e+1 | 0       | 2.47e+0 | 0  | 0       | 0  | 5.02e+1 | 0  | 0  | 0  | 0  | 0       | 0  | 0       |
| NRPRT      | MJ   | 2.37e+2 | 8.75e+0 | 3.23e+1 | 0  | 3.20e+1 | 0  | 2.59e+2 | 0  | 0  | 0  | 0  | 1.36e+1 | 0  | 1.51e+0 |
| ADP-fossil | MJ   | 1.63e+2 | 8.63e+0 | 2.81e+1 | 0  | 2.64e+1 | 0  | 1.91e+2 | 0  | 0  | 0  | 0  | 1.36e+1 | 0  | 1.45e+0 |
| SM         | kg   | 0       | 0       | 0       | 0  | 0       | 0  | 0       | 0  | 0  | 0  | 0  | 0       | 0  | 0       |
| RSF        | MJ   | ND      | ND      | ND      | ND | ND      | ND | ND      | ND | ND | ND | ND | ND      | ND | ND      |
| NRSF       | MJ   | ND      | ND      | ND      | ND | ND      | ND | ND      | ND | ND | ND | ND | ND      | ND | ND      |
| FW         | m3   | 2.66e-1 | 5.96e-4 | 6.49e-3 | 0  | 1.49e-2 | 0  | 2.41e-1 | 0  | 0  | 0  | 0  | 2.83e-4 | 0  | 2.84e-4 |
| RE         | MJ   | ND      | ND      | ND      | ND | ND      | ND | ND      | ND | ND | ND | ND | ND      | ND | ND      |

Note:

Not all abbreviated indicators listed below may be present in the results above. The inclusion of indicators varies based on PCR requirements.

Abbreviations:

RPRE or PERE = Renewable primary resources used as energy carrier (fuel), RPRM or PERM = Renewable primary resources with energy content used as material, RPRT or PERT = Total use of renewable primary resources with energy content, NRPRE or PENRE = Non-renewable primary resources used as an energy carrier (fuel), NRPRM or PENRM = Non-renewable primary resources with energy content used as material, NRPRT or PENRT = Total non-renewable primary resources with energy content, SM = Secondary materials, RSF = Renewable secondary fuels, NRSF = Non-renewable secondary fuels, RE = Recovered energy, ADPF = Abiotic depletion potential, FW = Use of net freshwater resources, VOCs = Volatile Organic Compounds.

## Waste and Output Flow Indicators

per 1 m2 installed flooring of product.

| Indicator | Unit | A1 - A3 | A4      | A5      | B1 | B2      | B3 | B4      | B5 | B6 | B7 | C1 | C2      | C3 | C4      |
|-----------|------|---------|---------|---------|----|---------|----|---------|----|----|----|----|---------|----|---------|
| HWD       | kg   | 2.42e-3 | 6.00e-5 | 5.69e-4 | 0  | 2.73e-4 | 0  | 2.80e-3 | 0  | 0  | 0  | 0  | 9.55e-5 | 0  | 9.48e-6 |
| NHWD      | kg   | 1.31e+0 | 5.37e-1 | 4.96e-1 | 0  | 2.50e-1 | 0  | 6.41e+0 | 0  | 0  | 0  | 0  | 6.48e-2 | 0  | 4.76e+0 |
| RWD       | kg   | ND      | ND      | ND      | ND | ND      | ND | ND      | ND | ND | ND | ND | ND      | ND | ND      |
| HLRW      | kg   | ND      | ND      | ND      | ND | ND      | ND | ND      | ND | ND | ND | ND | ND      | ND | ND      |
| ILLRW     | kg   | ND      | ND      | ND      | ND | ND      | ND | ND      | ND | ND | ND | ND | ND      | ND | ND      |
| CRU       | kg   | 0       | 0       | 0       | 0  | 0       | 0  | 0       | 0  | 0  | 0  | 0  | 0       | 0  | 0       |
| MFR       | kg   | 1.28e-1 | 0       | 3.47e-1 | 0  | 0       | 0  | 3.22e-1 | 0  | 0  | 0  | 0  | 0       | 0  | 0       |
| MER       | kg   | 0       | 0       | 0       | 0  | 0       | 0  | 0       | 0  | 0  | 0  | 0  | 0       | 0  | 0       |
| MNER      | kg   | ND      | ND      | ND      | ND | ND      | ND | ND      | ND | ND | ND | ND | ND      | ND | ND      |
| EEE       | MJ   | ND      | ND      | ND      | ND | ND      | ND | ND      | ND | ND | ND | ND | ND      | ND | ND      |
| EET       | MJ   | ND      | ND      | ND      | ND | ND      | ND | ND      | ND | ND | ND | ND | ND      | ND | ND      |

### Note:

Not all abbreviated indicators listed below may be present in the results above. The inclusion of indicators varies based on PCR requirements.

### Abbreviations:

HWD = Hazardous waste disposed, NHWD = Non-hazardous waste disposed, RWD = Radioactive waste disposed, HLRW = High-level radioactive waste, ILLRW = Intermediate- and low-level radioactive waste, CRU = Components for re-use, MFR or MR = Materials for recycling, MER = Materials for energy recovery, MNER = Materials for incineration, no energy recovery, EE or EEE = Recovered energy exported from the product system, EET = Exported thermal energy.

Carbon Emissions and Removals

per 1 m2 installed flooring of product.

| Indicator | Unit   | A1 - A3  | A4 | A5      | B1 | B2 | B3 | B4       | B5 | B6 | B7 | C1 | C2 | C3 | C4 |
|-----------|--------|----------|----|---------|----|----|----|----------|----|----|----|----|----|----|----|
| BCRP      | kg CO2 | 0        | 0  | 0       | 0  | 0  | 0  | 0        | 0  | 0  | 0  | 0  | 0  | 0  | 0  |
| BCEP      | kg CO2 | 0        | 0  | 0       | 0  | 0  | 0  | 0        | 0  | 0  | 0  | 0  | 0  | 0  | 0  |
| BCRK      | kg CO2 | -7.04e-1 | 0  | 0       | 0  | 0  | 0  | -6.16e-1 | 0  | 0  | 0  | 0  | 0  | 0  | 0  |
| BCEK      | kg CO2 | 0        | 0  | 7.04e-1 | 0  | 0  | 0  | 6.16e-1  | 0  | 0  | 0  | 0  | 0  | 0  | 0  |
| BCEW      | kg CO2 | ND       | ND | ND      | ND | ND | ND | ND       | ND | ND | ND | ND | ND | ND | ND |
| CCE       | kg CO2 | ND       | ND | ND      | ND | ND | ND | ND       | ND | ND | ND | ND | ND | ND | ND |
| CCR       | kg CO2 | ND       | ND | ND      | ND | ND | ND | ND       | ND | ND | ND | ND | ND | ND | ND |
| CWNR      | kg CO2 | ND       | ND | ND      | ND | ND | ND | ND       | ND | ND | ND | ND | ND | ND | ND |

Note:

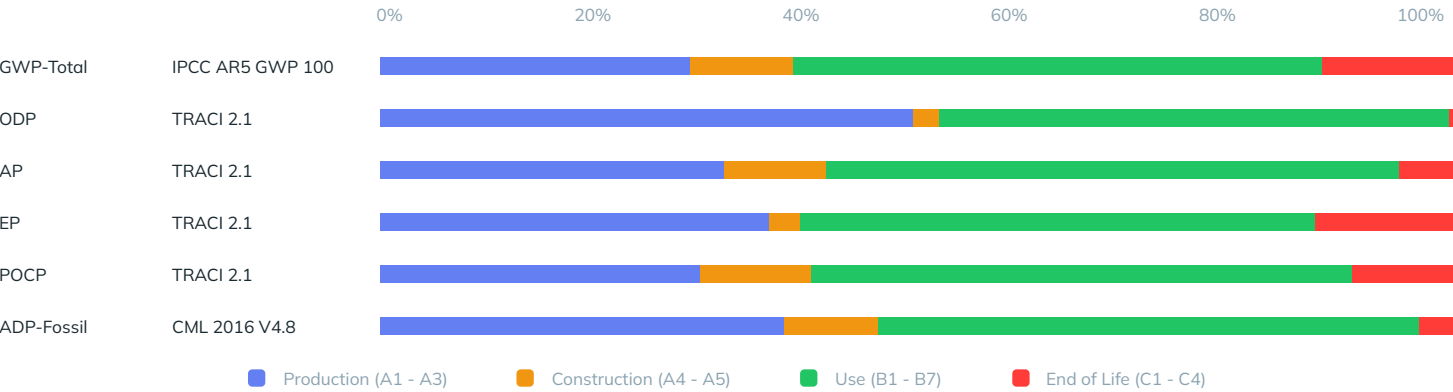
Not all abbreviated indicators listed below may be present in the results above. The inclusion of indicators varies based on PCR requirements.

Abbreviations:

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, GWP-luc = Carbon Emissions from Land-use Change.

Interpretation

Across all indicators, the largest source of impact is the replacement phase (B4). For all indicators other than eutrophication, raw materials (A1) are the second largest source of impact, followed by manufacturing (A3). For eutrophication, the second largest source of impacts comes from the disposal stage (C4), followed by raw materials (A1). Unlike the rubber products, the contribution from the raw materials is substantially larger, accounting for a larger percentage of impacts given the impacts associated with the production of polyvinyl chloride and the bio-based plasticizer. Installation (A5), maintenance (B2), and transport (A2, A4, C1) are considered non-negligible.



Additional Environmental Information

Waste Management:

The LCA models 100% landfill as the end-of-life treatment in accordance with PCR defaults and current industry practice for vinyl flooring. While not included in this study, recycling pathways for vinyl flooring do exist.

LCA-Derived Data:

This EPD reports results for global warming potential (fossil and biogenic), ozone depletion, acidification, eutrophication, smog formation, and abiotic depletion of fossil fuels and minerals. Calculations are based on the TRACI 2.1 method. Packaging-related biogenic carbon removals are disclosed in the Additional Carbon Emissions and Removals section of the EPD.

Materials of Concern:

This product is composed of polyvinyl chloride (PVC), mineral fillers, plasticizers, stabilizers, and pigments. It does not contain recycled content and is free of chemicals listed on California Proposition 65 as of the date of publication.

Use Instructions:

Designed for indoor use only. Product is not intended for exterior installations or exposure to direct UV, standing water, or high-temperature environments. VOC emissions meet the stringent requirements of California Section 01350, and the product is FloorScore certified.

Environmental Performance Data:

The product is certified to the NSF/ANSI 332 Sustainability Assessment for Resilient Flooring. It meets the criteria of the Collaborative for High Performance Schools (CHPS) and contributes to LEED v4/v4.1 credits. A Health Product Declaration (HPD) is available in the public domain.

Environmental Activities and Certifications

|                                                           |
|-----------------------------------------------------------|
| Certification                                             |
| FloorScore, demonstrating CA Section 01350 VOC compliance |
| NSF/ANSI 332 Level 1 Certification                        |

| Certification              |
|----------------------------|
| Health Product Declaration |
| ISO14001                   |

## Further Information

### Additional Multipliers

| Product Identifier            | Weight (kg/m2) | Multiplier |
|-------------------------------|----------------|------------|
| Renew Solid Vinyl Tile        | 5.87           | 1.238      |
| ESD Vinyl Static Control Tile | 3.63           | 0.766      |

Since this product is available in a variety of configurations and weights, the table below provides multiplication factors to facilitate calculation of environmental impacts for other variants. These multipliers were derived based on deviations from the average product weight for this product, as presented in Section 4 of this EPD. To estimate impacts for alternate configurations, users may multiply the values in the results tables by the appropriate factor from the table above.

For Module B2, the results are provided per m2 as they do not vary depending on the weight or thickness of the product and depend only on the area of product applied, therefore B2 results can be used as is.

## References

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