



Environmental Product Declaration

IN ACCORDANCE WITH ISO 14025 AND ISO 21930:2017

Program Operator: Smart EPD®

www.smartepd.com

Interface®

SmartEPD-2026-111-0731-01.1

Modular Resilient Flooring - Sound Choice+

Date of Issue

Jan 21, 2026

Expiration date

Jan 21, 2031

Last updated

Mar 23, 2026



Refer to the EPD Library at www.smartepd.com for the latest EPD listing information

General Information

Interface, Inc.

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✉ sustainability@interface.com

🌐 [interface.com](https://www.interface.com)



Product Name:	Modular Resilient Flooring - Sound Choice+
Functional Unit:	1 m2 Tiles (squares and planks)
Declaration Number:	SmartEPD-2026-111-0731-01.1
Date of Issue:	January 21, 2026
Expiration:	January 21, 2031
Last updated:	March 23, 2026
EPD Scope:	Cradle to grave A1 - A3, A4, A5, B1 - B7, C1 - C4, D
Market(s) of Applicability:	North America

General Organization Information

Interface, Inc. is a global flooring solutions company and sustainability leader, offering an integrated portfolio of carpet tile and resilient flooring products that includes Interface® carpet tile and LVT, nora® rubber flooring, and FLOR® premium area rugs for commercial and residential spaces. Made with purpose and without compromise, Interface flooring brings more sophisticated design, more performance, more innovation, and more climate progress to interior spaces. A decades-long pioneer in sustainability, Interface remains "all in" on becoming a restorative business. Today, the company is focusing on carbon reductions, not offsets, as it works toward achieving its verified science-based targets by 2030 and its goal to become a carbon negative enterprise by 2040.

Further information can be found at: www.interface.com

Limitations, Liability and Ownership

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. Interface owns the EPD and the underlying data supporting the EPD. Interface is responsible for the accuracy of the data.

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 differences results for upstream or downstream of the life cycle stages declared.

Reference Standards

Standard(s):	ISO 14025 and ISO 21930:2017
Core PCR:	UL Part A PCR for Building-Related Products and Services v.4 Date of issue: March 01, 2022
Sub-category PCR:	UL Part B: Flooring Date of issue: September 28, 2018 Valid until: March 31, 2026
Sub-category PCR review panel:	📄 Contact Smart EPD for more information.

General Program Instructions:  Smart EPD General Program Instructions v.2.0, March 2025

Verification Information

LCA Author/Creator:	 Kristen Wilder
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	 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: External
	 Thomas P Gloria  Industrial Ecology Consultants  t.gloria@industrial-ecology.com
	Independent external verification of EPD, according to ISO 14025 and reference PCR(s): External
	 Thomas P Gloria  Industrial Ecology Consultants  t.gloria@industrial-ecology.com

Product Information

Functional Unit:	1 m2 Tiles (squares and planks)
Mass:	6.31 kg
Reference Service Life:	15 Years
Product Specificity:	 Product Average  Product Specific

Product Description

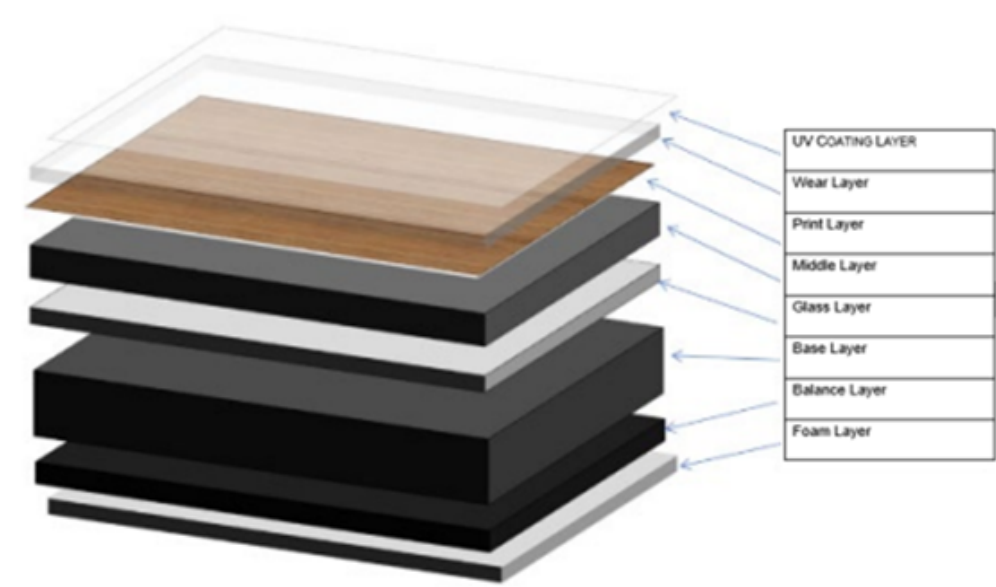
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Further information can be found at: www.interface.com

Product Specifications

Product SKU(s):	NA
Product Classification Codes:	UNSPSC - 301617
Flooring type:	Resilient
Product thickness:	4.5 mm
Product weight:	6315 g/m2
Wear layer thickness:	0.55 mm
Product form:	Tiles
Resilient - Rolls width:	Variable mm
Resilient - Rolls length:	Variable m

Product Composition Diagram



Material Composition

Material/Component Category	Origin	% Mass
PVC	None	27
Plasticizer	None	9
Filler	None	59
Glass Fiber	None	1
Pigment	None	<1
Misc.	None	2
Additive & Stabilizer	None	2

Packaging Material	Origin	kg Mass
Cardboard boxes	South Korea	0.174
PE	South Korea	0.0028

Biogenic Carbon Content	kg C per m2
Biogenic carbon content in product	0.03
Biogenic carbon content in accompanying packaging	0.076

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

EPD Data Specificity

Primary Data Year:2024

Manufacturing Specificity:

✗ Industry Average

✗ Manufacturer Average

✓ Facility Specific

Averaging:
Averaging was not included for this EPD

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	✓

Note:
ND = Module not declared

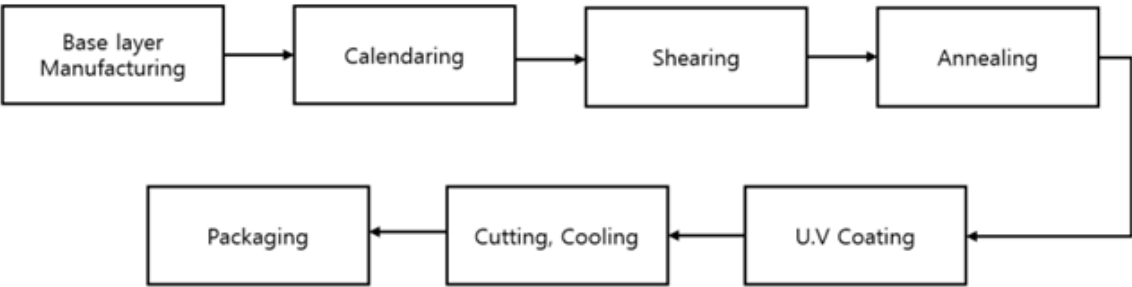
Product Composition Diagram

EPD Type	PRODUCT STAGE			CONSTRUCT- ION 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
	X			X	X	MND	X	MND	MND	MND	MND	MND	MND	X	MND	X	X

Plants

Interface, Inc. Seoul, South Korea

Product Flow Diagram



LVT is manufactured in South Korea. The product is produced through hot mixing and a continuous lamination process with a printed design layer. The product is then cut into tiles and packaged, with a production waste factor of 0,1%.

Software And Database

- LCA Software:
- Sphera LCA for Experts (formerly GaBi) v. 10.9
- LCI Foreground Database(s):
- Sphera Managed LCA Content (formerly GaBi Professional Database) v. 2025.1
- LCI Background Database(s):
- Sphera Managed LCA Content (formerly GaBi Professional Database) v. 2025.1
- Plastics Europe v. most recent at time of publication
- Europe
- FEFCO v.
- Europe
- Substitution - average, no correction

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

The data quality ranges from good to very good. The temporal quality of the data is very good with both the manufacturing specific data and the LCA FE background data being from 2024.

Life Cycle Module Description

A1 – Raw material supply

Raw materials for Sound Choice+ modular resilient flooring LVT include PVC, plasticizer, filler, glass fiber, pigment, misc. and additive & stabilizer. Supplier and background datasets (Sphera database or equivalent) are used, with conservative proxies where primary data is unavailable, in line with UL PCR Part A cut-off criteria (<1% per flow, <5% total mass/energy).

A2 – Transport to factory

Transport of raw materials to the manufacturing site (Seoul, South Korea) is modelled using regional average truck transport, diesel fuel use, and payload assumptions. Capacity utilization and empty-run factors are included per PCR guidance.

A3 – Manufacturing

Manufacturing takes place in South Korea. The product is produced through hot mixing and a continuous lamination process with a printed design layer. The product is then cut into tiles and packaged. All energy, process consumables, in-plant waste, and waste management are included. Typical product thickness is 4.5 mm, with total tile weight around 6.31 kg/m².

A4–A5 Construction Process Stage (Transport to Site; Installation)

A4 – Transport to site

Delivery to installation is modelled by truck (805 km, 34–40 t truck, 85% capacity utilization) and ship (7125 km, 48% capacity utilization).

A5 – Installation

Installation uses adhesive. Ancillary materials and typical off-cut waste are included. Representative values per functional unit: ancillary materials, product loss, construction-site waste. Packaging biogenic carbon is reported where applicable. VOC content is managed per product certifications; direct on-site emissions are negligible.

B1–B7 Use Stage (Product Use, Maintenance, Repair, Replacement, Refurbishment, Operational Energy, Operational Water)

B2 – Maintenance

A typical commercial cleaning scenario is modelled: dust and damp mop cleaning and buffing, with local electricity mix. Annual flows per functional unit include net freshwater, cleaning agent, and energy. Reference Service Life (RSL) is 15 years; maintenance is scaled accordingly.

B1, B3–B5, B6–B7

Not declared unless required by local PCR addenda or supported by data. Replacement (B4) may be modelled over the 75-year building ESL if required.

C1–C4 End-of-Life Stage (Deconstruction/Demolition, Transport, Waste Processing, Disposal)

C1 – Deconstruction/Demolition

Impacts are negligible for modular resilient flooring and typically not declared unless mechanised removal is modelled.

C2 – Transport

Post-use transport to local disposal/recovery is modelled by truck; representative distance is 32.2 km and collection is assumed to be 6.43 kg per functional unit.

C3 – Waste processing

Includes sorting and pre-processing prior to disposal or recovery, if modelled. In current declarations, recovery routes may be not declared unless specified by the program.

C4 – Disposal

Disposal considers landfill and incineration with/without energy recovery per local practice. Representative mass flows per functional unit: landfill 6.43 kg. Biogenic carbon removals/emissions for product/packaging are reported separately per EN 15804+A2/EF3.1.

ReEntry (Company take-back):

Where operational, end-of-life return to manufacturer and closed-loop processing is available via Interface's ReEntry® programme. If applied, model under C3/C4 and/or Module D with documented substitution credits.

Module D (Benefits and Loads Beyond the System Boundary)

Module D is declared for this EPD. Credits/debits for reuse, recycling, and energy recovery beyond the system boundary must follow UL PCR Part A substitution rules and EN 15804+A2 guidance (e.g., documented secondary raw material substitution, net energy exported). Any reported biogenic carbon storage transfer beyond boundary must be handled consistently with

EF 3.1/TRACI reporting and PCR rules.

LCA Discussion

Allocation Procedure

Co-product allocation:
No co-products are produced in the manufacturing process for Sound Choice+ modular resilient flooring LVT. Therefore, allocation between co-products is not required.

Recycled and secondary raw materials:
Allocation for recycled and secondary raw materials (such as recycled fillers or additives, if present) follows the “cut-off” approach. Only the environmental burdens associated with the collection and processing of recycled materials up to the point of entry into the product system are included. No upstream burdens from previous product life cycles are assigned to the recycled content.

Energy, ancillary, and operating materials:
Energy use, ancillary materials (adhesives, cleaning agents, packaging), and operating materials are allocated to individual products based on production volumes and process-specific consumption data. Where direct measurement is not possible, allocation is performed using mass or area-based proxies (e.g., per square metre of product). In-plant waste is assigned to the product and not allocated to other products, as there are no co-products.

Factory-wide allocation:
If multiple products are produced in the same facility, shared energy and utilities are allocated according to the proportion of production output (mass or area) attributable to each product. No credits are taken for recycling of production waste; all relevant impacts are assigned to the declared product.

Cut-off Procedure

In the Life Cycle Assessment (LCA) for Interface Sound Choice+ LVT flooring product, cut-off criteria were rigorously applied to determine which material and energy flows should be included or excluded from the analysis. The objective was to ensure the study was both thorough and practical, focusing on flows that could meaningfully affect the environmental results. The cut-off criteria were based on thresholds for mass and energy, specifically:

- Any flow representing less than one percent of the total mass or energy for a given process could be excluded, provided it was not considered environmentally significant.
- If a flow met the exclusion threshold but was thought to have a notable environmental impact, it was included regardless of its size.
- The total sum of all excluded flows does not exceed five percent of the overall mass or energy for the product system.

In practice, this meant that all relevant flows—such as raw materials, processing, transportation, manufacturing, packaging, installation, maintenance, disposal, and recycling—were considered in the assessment. Flows that were excluded typically involved capital goods and equipment, or human labour and commuting, as these were not expected to contribute significantly to the results. Where specific data from suppliers was unavailable, conservative proxy datasets were used to ensure that any potentially important flows were still represented.

Renewable Electricity

Energy Attribute Certificates (EACs) such as Renewable Energy Certificates (RECs) or Power Purchase Agreements (PPAs) are included in the baseline reported results:

☒ No

Scenarios

Transport to the building/construction site (A4)

A4 Module

Fuel Type:	Diesel
Liters of Fuel:	0.0136 l/100km
Vehicle Type:	Truck
Transport Distance:	805 km
Capacity Utilization:	85 %
Packaging Mass:	0.177 kg
Gross density of products transported:	1403 kg/m3
Capacity utilization volume factor:	=1
Assumptions for scenario development:	Assumptions for Scenario Development: Assuming a thickness of 4.5 mm 0,014 kg diesel per 805 km per kg of product for truck transportation 0.0357 kg heavy fuel oil per 7125 km per kg of product for container ship transportation Transport is from the

factory gate (Seoul, South Korea) to the place of installation All values refer to the declared functional unit (1 m²) Packaging waste and installation waste are considered in subsequent modules (A5, C1–C4) Preparation of the floor and auxiliaries (adhesives, fixing agents, PET connectors) are beyond the system boundaries and not taken into account

Heavy fuel oil: 0.00329 l/100km

Installation in to the building/construction site (A5)

A5 Module

Installation Scrap Rate Assumed:	5 %
Ancillary Materials:	0.107 kg
Net Fresh Water Consumption Specified by Water Source and Fate:	0 m3
Other Resources:	0 kg
Electricity Consumption:	0 kWh
Other Energy Carriers:	0 MJ
Product Lost per Declared/Functional Unit:	0.316 kg
Waste Materials at the Construction Site Before Waste Processing:	0.502 kg
Mass of Packaging Waste Specified by Type:	0.186 kg
Biogenic Carbon Contained in Packaging (kg C):	0.076 kg
Assumptions for scenario development:	Installation uses adhesive. All values refer to the declared functional unit (1 m²). Packaging waste and installation waste are considered in subsequent modules (A5, C1–C4). Preparation of the floor and auxiliaries (adhesives, fixing agents, PET connectors) are beyond the system boundaries and not taken into account.

Use (B1)

B1 Module

Declared Product Properties:	NA
Design Application Parameters:	NA
An Assumed Quality of Work, When Installed in Accordance with The Manufacturer's Instructions:	NA
Outdoor Environment:	NA
Indoor Environment:	NA
Use Conditions:	NA
Maintenance:	NA

Maintenance (B2)

B2 Module

Maintenance Cycle:	15 Cycles/RSL 75 Cycles/ESL
Net Fresh Water Consumption Specified by Water Source and Fate:	0.0058 m3
Ancillary Materials Specified by Type:	0.119 kg
Energy Input:	0.022 kWh
Waste Materials from Maintenance:	5.92 kg
Maintenance Process Information:	Maintenance Process Information: Dust and damp mop cleaning, buffing; see LVT Maintenance Guidelines https://www.interface.com/content/dam/interfaceinc/interface/technical/ams/maintenance/LVT_Maintenance%20Guide_Global.pdf
Further assumptions for scenario development:	Further Assumptions: Frequency depends on foot traffic and local conditions; service life based on warranty (15 years) ESL for a building is set to 75 years

Repair (B3)

B3 Module

Repair Cycle:	NA Cycles/RSL
	NA Cycles/ESL
Net Fresh Water Consumption Specified by Water Source and Fate:	NA m3
Ancillary Materials Specified by Type:	NA kg
Energy Input:	NA kWh
Waste Materials From Repair:	NA kg
Direct Emissions to Ambient Air, Soil and Water:	NA kg
Repair Process Information:	NA
Inspection Process Information:	NA
Further assumptions for scenario development:	NA

Replacement (B4)

B4 Module

Reference Service Life:	NA Years
Replacement Cycle:	NA (ESL/RSL) -1
Energy Input:	NA kWh
Net Fresh Water Consumption Specified by Water Source and Fate:	NA m3
Ancillary Materials Specified by Type:	NA kg
Replacement of Worn Parts:	NA kg
Direct Emissions to Ambient Air, Soil and Water:	NA kg
Further assumptions for scenario development:	NA

Refurbishment (B5)

B5 Module

Replacement Cycle:	NA Cycles/RSL
	NA Cycles/ESL
Energy Input:	NA kWh
Net Fresh Water Consumption Specified by Water Source and Fate:	NA m3
Material Input for Refurbishment:	NA kg
Waste Materials From Repair:	NA kg
Direct Emissions to Ambient Air, Soil and Water:	NA kg
Refurbishment Process Description:	NA
Further assumptions for scenario development:	NA

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

B6 & B7 Modules

Net Fresh Water Consumption Specified by Water Source and Fate:	NA m3
Ancillary Materials Specified by Type:	NA kg
Energy Input:	NA kWh
Equipment Power Output:	NA kWh
Direct Emissions to Ambient Air, Soil and Water:	NA kg
Characteristic Performance:	NA
Further assumptions for scenario development:	NA

End of Life (C1 - C4)

C1 - C4 Modules

Collection Process

Collected Separately: 6.43 kg

Recovery

Landfill: 6.43 kg

Disposal

Product or Material for Final Disposal: 6.43 kg

Assumptions for scenario development:

Deconstruction: All products are designed for modular removal, typically done manually, with minimal environmental impact. Collection: Products can be collected separately or with mixed construction waste, depending on local practices and regulations. Recovery & Recycling: Interface promotes recycling via its ReEntry process, especially for GlasBac and LVT. Cement industry recycling is an option for CQuest Bio. Disposal: If not recycled, products are disposed of in landfill or incineration facilities, following local regulations. Transport: Typical transport distances 32 km.

Results

Environmental Impact Assessment Results

IPCC AR5 GWP 100, TRACI 2.2, CML 2016 v4.8, EF3.1

per 1 m2 of product Tiles (squares and planks).

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

Impact Category	Method	Indicator	A1 - A3	A4	A5	B1	B2	B3	B4	B5	B6	B7	C1	C2	C3	C4	D
GWP-total	IPCC AR5 GWP 100	ND	6.40e+0	1.25e+0	5.61e-1	ND	4.92e-1	ND	ND	ND	ND	ND	ND	1.37e-2	ND	1.99e-1	0
ODP	TRACI 2.2	ND	2.95e-6	1.68e-13	1.47e-7	ND	1.58e-8	ND	ND	ND	ND	ND	ND	3.87e-15	ND	7.84e-13	0
AP	TRACI 2.2	ND	2.37e-2	2.68e-2	1.64e-3	ND	1.55e-3	ND	ND	ND	ND	ND	ND	6.84e-5	ND	9.86e-4	0
EP-freshwater	TRACI 2.2	ND	5.40e-4	5.20e-7	3.10e-5	ND	1.72e-6	ND	ND	ND	ND	ND	ND	1.12e-8	ND	5.89e-5	0
EP-marine	TRACI 2.2	ND	8.96e-3	1.38e-2	5.93e-4	ND	5.14e-4	ND	ND	ND	ND	ND	ND	6.41e-5	ND	4.27e-4	0
POCP	TRACI 2.2	ND	3.33e-1	4.86e-1	2.22e-2	ND	1.96e-2	ND	ND	ND	ND	ND	ND	1.56e-3	ND	1.54e-2	0
ODP	CML 2016 v4.8	ND	2.22e-6	1.68e-13	1.11e-7	ND	1.45e-8	ND	ND	ND	ND	ND	ND	3.87e-15	ND	7.84e-13	0
AP	CML 2016 v4.8	ND	2.38e-2	2.53e-2	1.66e-3	ND	1.59e-3	ND	ND	ND	ND	ND	ND	4.98e-5	ND	9.61e-4	0
EP	CML 2016 v4.8	ND	7.79e-3	2.69e-3	5.29e-4	ND	1.51e-4	ND	ND	ND	ND	ND	ND	1.29e-5	ND	1.28e-3	0
POCP	CML 2016 v4.8	ND	2.51e-3	8.14e-4	1.93e-4	ND	1.51e-4	ND	ND	ND	ND	ND	ND	-2.17e-5	ND	8.43e-5	0
ADP-fossil	CML 2016 v4.8	ND	1.44e+2	1.48e+1	1.22e+1	ND	1.14e+1	ND	ND	ND	ND	ND	ND	1.75e-1	ND	3.08e+0	0
GWP- total	EF3.1	ND	6.24e+0	1.23e+0	5.43e-1	ND	4.85e-1	ND	ND	ND	ND	ND	ND	1.35e-2	ND	1.95e-1	0
GWP- fossil	EF3.1	ND	6.62e+0	1.23e+0	5.34e-1	ND	4.86e-1	ND	ND	ND	ND	ND	ND	1.33e-2	ND	1.94e-1	0
GWP-biogenic	EF3.1	ND	-3.95e-1	-6.66e-3	8.32e-3	ND	-4.30e-4	ND	ND	ND	ND	ND	ND	1.67e-4	ND	-5.45e-5	0
GWP-luluc	EF3.1	ND	1.42e-2	3.55e-3	7.44e-4	ND	2.43e-5	ND	ND	ND	ND	ND	ND	7.24e-6	ND	5.32e-4	0
ODP	EF3.1	ND	3.24e-6	1.41e-13	1.62e-7	ND	1.11e-8	ND	ND	ND	ND	ND	ND	3.23e-15	ND	6.63e-13	0
AP	EF3.1	ND	2.84e-2	3.15e-2	1.97e-3	ND	1.88e-3	ND	ND	ND	ND	ND	ND	7.34e-5	ND	1.16e-3	0
PM	EF3.1	ND	2.74e-7	5.29e-7	1.84e-8	ND	1.28e-8	ND	ND	ND	ND	ND	ND	4.50e-10	ND	1.19e-8	0
IRP	EF3.1	ND	8.69e-1	2.89e-3	8.46e-2	ND	1.89e-2	ND	ND	ND	ND	ND	ND	5.07e-5	ND	6.22e-3	0
POCP	EF3.1	ND	2.10e-2	2.17e-2	1.41e-3	ND	1.18e-3	ND	ND	ND	ND	ND	ND	6.86e-5	ND	7.93e-4	0
EP-fw	EF3.1	ND	1.21e-3	1.15e-6	6.80e-5	ND	3.79e-6	ND	ND	ND	ND	ND	ND	2.48e-8	ND	1.08e-4	0
EP-marine	EF3.1	ND	6.03e-3	7.93e-3	3.99e-4	ND	3.17e-4	ND	ND	ND	ND	ND	ND	3.71e-5	ND	2.51e-4	0
EP-terrestrial	EF3.1	ND	5.95e-2	8.68e-2	3.90e-3	ND	3.23e-3	ND	ND	ND	ND	ND	ND	4.05e-4	ND	2.73e-3	0
SQI	EF3.1	ND	3.85e+1	1.97e+0	1.98e+0	ND	2.64e-2	ND	ND	ND	ND	ND	ND	2.61e-2	ND	4.97e-1	0
WDP	EF3.1	ND	7.30e+0	3.23e-3	4.07e-1	ND	1.18e-2	ND	ND	ND	ND	ND	ND	1.93e-4	ND	2.39e-2	0
ADP-fossil	EF3.1	ND	1.61e+2	1.48e+1	1.33e+1	ND	1.19e+1	ND	ND	ND	ND	ND	ND	1.76e-1	ND	3.21e+0	0
ADP-minerals&metals	EF3.1	ND	5.33e-5	4.51e-8	2.79e-6	ND	9.90e-8	ND	ND	ND	ND	ND	ND	2.11e-9	ND	1.32e-8	0
ETP-fwio	EF3.1	ND	8.78e+1	1.07e+1	6.53e+0	ND	1.48e+0	ND	ND	ND	ND	ND	ND	1.04e-1	ND	2.13e+0	0

Impact Category	Method	Indicator	A1 - A3	A4	A5	B1	B2	B3	B4	B5	B6	B7	C1	C2	C3	C4	D
ETP-fw	EF3.1	ND	3.80e+0	2.57e+0	4.72e-1	ND	1.19e-2	ND	ND	ND	ND	ND	ND	2.27e-2	ND	5.23e+0	0
HTP-cio	EF3.1	ND	2.26e-9	1.88e-10	1.44e-10	ND	2.56e-11	ND	ND	ND	ND	ND	ND	1.85e-12	ND	9.26e-11	0
HTP-co	EF3.1	ND	3.11e-9	6.05e-12	1.63e-10	ND	2.11e-11	ND	ND	ND	ND	ND	ND	1.62e-13	ND	8.65e-12	0
HTP-ncio	EF3.1	ND	1.51e-7	5.78e-9	8.21e-9	ND	2.16e-9	ND	ND	ND	ND	ND	ND	6.02e-11	ND	1.14e-9	0
HTP-nc	EF3.1	ND	3.47e-9	4.48e-10	2.79e-10	ND	7.19e-11	ND	ND	ND	ND	ND	ND	3.69e-12	ND	6.58e-10	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 = Particular 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.

Discussion:

- The End of Life phase for LVT Sound Choice+ is dominated by landfill disposal, with the entire product mass assumed to be landfilled if not recycled.
- The EPD highlights the modular nature of the product, which facilitates collection and potential recycling, but does not provide specific recycling rates or recovery values.
- A small amount of biogenic carbon removal is reported, but this is negligible compared to the total product mass.
- The environmental impacts of landfill disposal are reported, but the fate of additives, plasticizers, and fillers in landfill or incineration is not fully explored.

Limitations:

- The EPD does not specify values for incineration, energy recovery, or recycling, limiting the ability to compare scenarios.
- The results are based on generic assumptions and may not reflect local waste management realities.
- Potential leaching of additives or microplastics from landfill is not assessed.
- The impact of modular design on actual recycling rates is not quantified.

General Limitations Across All Products

- Scenario Modelling: EPDs typically model 100% allocation to each scenario (landfill, incineration, recycling), which simplifies calculations but does not reflect the mixed reality of waste management.
- Data Gaps: Some inventory categories (e.g., direct emissions, VOCs, energy conversion) are not fully quantified or are omitted.
- Regional Differences: Results are based on regional data (Europe, APAC, Korea) and may not be directly applicable to other locations.
- Uncertainty: Impact assessment methods (e.g., for toxicity, water depletion, microplastics) have high uncertainty and limited real-world validation.
- Comparability: EPDs from different programmes or using different LCA software may not be directly comparable.

Further Information:

- For more detailed environmental results, refer to the full EPD documents and manufacturer's sustainability reports.
- Always consider local waste management practices and regulations when interpreting End of Life impacts.
- The actual environmental performance will depend on the effectiveness of collection, recycling, and disposal infrastructure.

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 of product Tiles (squares and planks).

Indicator	Unit	A1 - A3	A4	A5	B1	B2	B3	B4	B5	B6	B7	C1	C2	C3	C4	D
PERE	MJ	1.34e+1	3.82e-1	7.91e-1	ND	1.73e-1	ND	ND	ND	ND	ND	ND	7.33e-3	ND	5.36e-1	0
PERM	MJ	6.77e+0	0	3.39e-1	ND	0	ND	ND	ND	ND	ND	ND	0	ND	0	0
PERT	MJ	2.02e+1	3.82e-1	1.13e+0	ND	1.73e-1	ND	ND	ND	ND	ND	ND	7.33e-3	ND	5.36e-1	0
PENRE	MJ	2.60e+1	1.48e+1	6.56e+0	ND	1.19e+1	ND	ND	ND	ND	ND	ND	1.76e-1	ND	3.21e+0	0
PENRM	MJ	1.35e+2	0	6.74e+0	ND	0	ND	ND	ND	ND	ND	ND	0	ND	0	0
PENRT	MJ	1.61e+2	1.48e+1	1.33e+1	ND	1.19e+1	ND	ND	ND	ND	ND	ND	1.76e-1	ND	3.21e+0	0
SM	kg	2.46e+0	0	0	ND	0	ND	ND	ND	ND	ND	ND	0	ND	0	0
RSF	MJ	8.22e-25	0	4.11e-26	ND	0	ND	ND	ND	ND	ND	ND	0	ND	0	0
NRSF	MJ	9.66e-24	0	4.83e-25	ND	0	ND	ND	ND	ND	ND	ND	0	ND	0	0
FW	m3	1.82e-1	2.27e-4	1.01e-2	ND	2.95e-4	ND	ND	ND	ND	ND	ND	7.91e-6	ND	7.01e-4	0
RE	MJ	0	0	0	ND	0	ND	ND	ND	ND	ND	ND	0	ND	0	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:

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, NRPT 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 of product Tiles (squares and planks).

Indicator	Unit	A1 - A3	A4	A5	B1	B2	B3	B4	B5	B6	B7	C1	C2	C3	C4	D
HWD	kg	4.87e-2	5.38e-10	2.54e-3	ND	1.33e-10	ND	ND	ND	ND	ND	ND	2.92e-11	ND	7.19e-10	0
NHWD	kg	2.00e-1	1.46e-3	3.59e-1	ND	5.91e-3	ND	ND	ND	ND	ND	ND	1.80e-5	ND	6.40e+0	0
RWD	kg	3.47e-3	2.07e-5	2.37e-4	ND	1.94e-4	ND	ND	ND	ND	ND	ND	6.05e-7	ND	4.63e-5	0
CRU	kg	0	0	0	ND	0	ND	ND	ND	ND	ND	ND	0	ND	0	0
MFR	kg	0	0	0	ND	0	ND	ND	ND	ND	ND	ND	0	ND	0	0
MER	kg	0	0	0	ND	0	ND	ND	ND	ND	ND	ND	0	ND	0	0
EEE	MJ	0	0	0	ND	0	ND	ND	ND	ND	ND	ND	0	ND	0	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:

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 of product Tiles (squares and planks).

Indicator	Unit	A1 - A3	A4	A5	B1	B2	B3	B4	B5	B6	B7	C1	C2	C3	C4	D
BCRP	kg CO2	1.26e-1	0	0	ND	0	ND	ND	ND	ND	ND	ND	0	ND	0	0
BCEP	kg CO2	0	0	0	ND	0	ND	ND	ND	ND	ND	ND	0	ND	1.26e-1	0
BCRK	kg CO2	2.79e-1	0	0	ND	0	ND	ND	ND	ND	ND	ND	0	ND	0	0
BCEK	kg CO2	0	0	2.79e-1	ND	0	ND	ND	ND	ND	ND	ND	0	ND	0	0

Note:

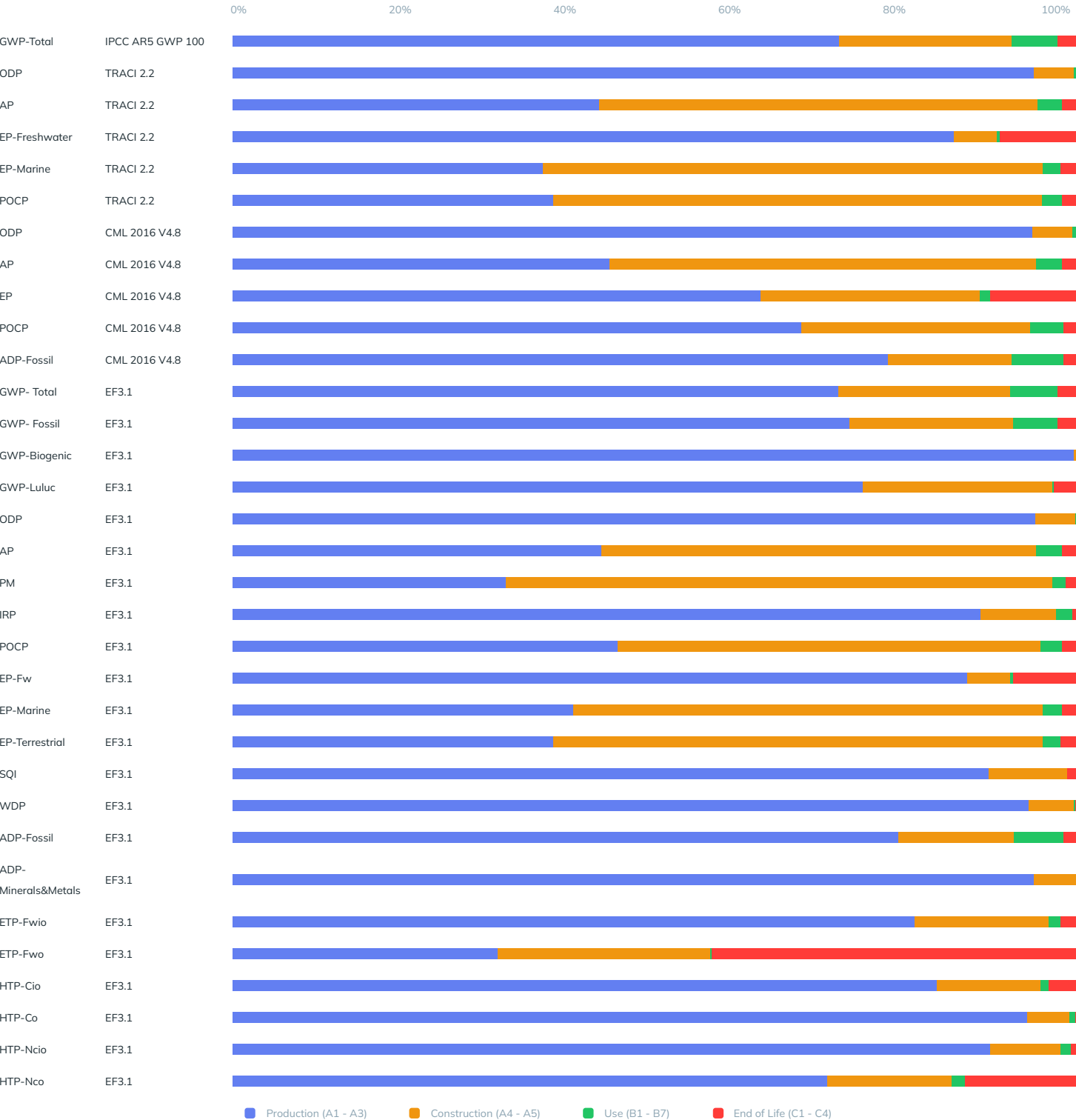
Not all abbreviated indicators listed below may be present in the results above. The inclusion of indicators varies based on PCR requirements.

Abbreviations:

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

The life cycle impacts of LVT are driven by the Product Stage (A1-A3) and the impacts from this stage are driven by raw materials. PVC and plasticizer are the major contributors to impacts. Recycled materials in the product greatly reduce the impacts as compared to virgin petrochemical based materials.



References

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EN 15804:2019 + A2 Sustainability of construction works – Environmental product declarations – Core rules for the product category of construction products

EN ISO 23997 Specifies weight per unit area for flooring products

EN ISO 24346 Specifies thickness for flooring products

EN ISO 10874 Classification of floor coverings for heavy traffic areas

ISO 15686 Reference Service Life calculation (not applied for rubber flooring)

ISO/IEC 25010 Software Product Quality

ISO/IEC 27001 Information Security Management

OWASP SAMM Software Assurance Maturity Model

UL Environment Part A Life Cycle Assessment Calculation Rules and Report Requirements according to ISO 21930:2017, version 4.0

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