ENVIRONMENTAL PRODUCT DECLARATION

MODULAR RESILIENT FLOORING

INTERFACE
3 MM LVT

Interface®

For more than four decades, Interface has consistently led the industry through design and innovation and is a world leader in environmental sustainability. We are committed to transparency and will continue to share our progress as we work to become a carbon negative company by 2040.

At Interface, we believe Life Cycle Assessment is critical for evaluating the environmental impacts of our products. The LCA-based Environmental Product Declaration is the best way to provide full disclosure of those impacts to our customers.

Interface was one of the first companies to develop EPDs for all of our products manufactured globally, and we are committed to providing this level of transparency to our customers, partners and the industry.

For more information visit www.interface.com

UL CERTIFIED ENVIRONMENTAL PRODUCT DECLARATION UL.COM/EPD

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Interface®

Interface
Modular Resilient Flooring
3 mm LVT

According to ISO 14025 and EN 15804

This declaration is an environmental product declaration (EPD) in accordance with ISO 14025. EPDs rely on Life Cycle Assessment (LCA) to provide information on a number of environmental impacts of products over their life cycle. Exclusions: EPDs do not indicate that any environmental or social performance benchmarks are met, and there may be impacts that they do not encompass. LCAs do not typically address the site-specific environmental impacts of raw material extraction, nor are they meant to assess human health toxicity. EPDs can complement but cannot replace tools and certifications that are designed to address these impacts and/or set performance thresholds – e.g. Type 1 certifications, health assessments and declarations, environmental impact assessments, etc. Accuracy of Results: EPDs regularly rely on estimations of impacts, and the level of accuracy in estimation of effect differs for any particular product line and reported impact. Comparability: EPDs are not comparative assertions and are either not comparable or have limited comparability when they cover different life cycle stages, are based on different product category rules or are missing relevant environmental impacts. EPDs from different programs may not be comparable.

PROGRAM OPERATOR	UL Environment
DECLARATION HOLDER	Interface, Inc.
DECLARATION NUMBER	4787521006.133.1
DECLARED PRODUCT	Interface modular resilient flooring, 3 mm LVT
REFERENCE PCR	IBU and UL Environment. PCR for Building-Related Products and Services - Part A: Calculation rules for the LCA and Requirements Project Report, (IBU/ULE,Version 1.306.19.2014) IBU. Part B: Requirements on the EPD for Floor coverings (IBU, V1.6, 07.30.2014)
DATE OF ISSUE	January 1, 2020
PERIOD OF VALIDITY	5 Years
CONTENTS OF THE DECLARATION	Product definition and information about building physics Information about basic material and the material's origin Description of the product's manufacture Indication of product processing Information about the in-use conditions Life cycle assessment results Testing results and verifications

The PCR review was conducted by:	UL Environment Review Panel
	IBU Independent Expert Committee (~~SRV~~)
	epd@ulenvironment.com
This declaration was independently verified in accordance with ISO 14025 by Underwriters Laboratories ☐ INTERNAL ☒ EXTERNAL	Grant R. Martin
	Grant R. Martin, UL Environment
This life cycle assessment was independently verified in accordance with ISO 14044 and the reference PCR by:	Thomas Gloria
	Thomas Gloria, Industrial Ecology Consultants

This EPD conforms with EN 15804

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Modular Modular Resilient Flooring
3 mm LVT

According to ISO 14025

Product

Product description

This Environmental Product Declaration covers all styles and patterns of 3 mm modular resilient flooring, LVT (Luxury Vinyl Tile).

Application

Modular installation of resilient floor covering in commercial buildings

Technical Data

Name	Value	Unit
Product form	Tiles (squares and planks)	-
Product thickness	3	mm
Total Weight	5443	grams/m^2

ISO 10874 Classes 33/42

Delivery Status

Available in a range of tile and plank sizes, mostly commonly 0.5 x 0.5 meter squares and 1.0 x 0.25 meter planks.

Base Materials

Component	Value	Unit
Polyvinyl chloride	26-39	%
Di(2-ethylhexyl) terephthalate	8-13	%
Recycled Limestone	minimum 39	%
Limestone	5-12	%
Stabilizer	<1	
Titanium dioxide	<1	%
Carbon black	<1	%

Produced through hot mixing and a continuous lamination process with a printed design layer. The product is then cut into tiles and packaged.

Environment and health during manufacturing

- ISO 14001 Environmental Management System

- Compliance with Public Health and Environment requirements of NSF/ANSI 332 Sustainability Assessment for Resilient Floor Coverings.

Packaging

Planks and tiles are packaged in cardboard boxes. Packaging waste should be reused or sent local cardboard recycling facilities.

Conditions of use

During the reference service life of the product, it should be cleaned in accordance with the product maintenance instructions including dust and damp mop cleaning and buffing. The frequency is dependent upon the expected foot traffic and local conditions.

Environment and health during use

Product has low VOC emissions as indicated by compliance with the FoorScore Flooring Products Certification Program for Indoor Air Quality and GreenGuard Gold certification.

Reference service life

The reference service life of this product is 15 years based on product warranty.

Extraordinary effects

Fire:

Name	Value
EN13501-1 Reaction to Fire	Bfl-s1
ASTM E648 Radiant Panel	Class 1
ASTM E662 Smoke Density	<450

Water: The product is impervious to water, protecting the subfloor from leaks and spills. Exposure to flooding for long periods may result in damage to the product.

Mechanical destruction: The product is intended for commercial applications with heavy wear. Performance requires proper installation according to Interface installation guidelines.

Re-use phase

The modular aspect of the product allows for easy re-use of the product. The product is intended to be recycled through Interface's ReEntry 2.0 process.

Disposal

At end of life the product should be returned to Interface through Interface's ReEntry 2.0 process by contacting Interface. Disposal in municipal landfill or commercial incineration facilities is permissible in accordance with local regulations.

LCA: Calculation rules

Declared unit

Name	Value	Unit
Declared unit	1	m^2
Conversion factor to 1 kg	0.184	-
Mass	5.4	kg/m^2

System boundary

This study includes all relevant cradle-to-grave environmental information for the life cycle of one square meter of flooring. The analysis period for each module is one fiscal year. The system boundaries include:

A1-A3 Product stage

A1 raw material extraction and processing, and processing of recycled materials
A2 transport to the factory
A3 manufacturing including materials, packaging, energy, and waste disposal or recycling

A4-A5 Construction stage

A4 transport to installation sites (Asia, US, and Europe)
A5 installation including ancillary materials required for installation and trim-waste disposal

B2 Maintenance: Includes the energy for buffing and also the production and transport of cleaning agents. The treatment of the waste water from extraction cleaning is included.

C2 Transport of waste to local disposal

C4 Disposal

Estimates and assumptions

The datasets for materials upstream from manufacturing are a combination of information from the GaBi database and supplier provided datasets. Inventories for all materials are not available and when unavailable, conservative proxy datasets were chosen based on similarity of material.

Cut-off criteria

As dictated by the Part A: Calculation rules for the life cycle assessment and requirements, the cut-off criteria is less than 1% for energy use and less than 1% of total mass per unit process, the sum of which shall not exceed 5% of either energy or mass. If a flow met the cut-off criteria for exclusion, yet was thought to have significant environmental impact, then it was included.

Background data

The datasets for materials upstream from manufacturing are a combination of information from the GaBi database version 9.2.0.58 in 2019 and supplier provided datasets.

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 GaBi background data being from 2019.

Period under review

The data collection and the product described are an average product manufactured in 2019.

Allocation

Where relevant, the background data incorporates some allocation such as in the power mix. There are no co-products produced in the process, so the LCA model does not include allocation. No credits were taken for recycling of production waste.

Comparability

A comparison or an evaluation of EPD data is only possible if all of the data sets were created according to EN15804 and the building contexts are taken into account.

LCA: Scenarios and additional technical information

Declared unit

Name	Value	Unit
Transport to the construction site (A4)		
Liters of fuel	0.040	l/100 km
Transport distance	7930	km
Capacity utilization	85	%
Installation in the building (A5)		
Auxiliary materials	0.107	kg
Maintenance (B2)		
Dust mop	7	1/week
Damp mop w/cleaner	1	1/week
Buffing	12	1/year
Electricity consumption	0.0792	MJ/year
Water	5.8	kg/year
Cleaning agent	0.119	kg/year
Reference service life (RSL)		
RSL	15	years
End of Life		
Transport to disposal	32.2	km
Landfilling	5.4	kg

LCA results

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Description of the system boundary (X = included in LCA; MND = module not declared)

PRODUCT STAGE			CONSTRUCTION PROCESS STAGE		USE STAGE							END OF LIFE STAGE				BENEFITS AND LOADS (BEYOND THE SYSTEM BOUNDARY)
Raw material supply	Transport	Manufacturing	Transport from the gate to the site	Assembly	Use	Maintenance	Repair	Replacement 1)	Refurbishment 1)	Operational energy use	Operational water use	De-construction demolition	Transport	Waste processing	Disposal	Reuse- Recovery- Recycling- potential
A1	**A2**	**A3**	**A4**	**A5**	**B1**	**B2**	**B3**	**B4**	**B5**	**B6**	**B7**	**C1**	**C2**	**C3**	**C4**	**D**
X	X	X	X	X	MND	X	MND	MND	MND	MND	MND	MND	X	MND	X	MND

Results of the LCA - Environmental impact potentials

CML 2001 - Jan. 2016

	A1-A3	A4 Asia	A4 EU	A4 US	A5	B2	C2	C4
GWP [kg CO2 eq.]	1.05E01	2.71E-01	1.11E00	8.02E-01	1.32E-01	4.12E-01	8.61E-03	3.93E-01
ODP [kg R11 eq.]	7.18E-06	2.37E-17	1.25E-16	1.26E-16	5.50E-12	1.23E-08	6.99E-19	1.33E-15
AP [kg SO2 eq.]	4.88E-02	2.96E-03	2.89E-02	1.87E-02	3.14E-04	1.37E-03	3.29E-05	1.05E-03
EP [kg Phosphate eq.]	4.38E-03	5.91E-04	3.36E-03	2.13E-03	8.49E-05	1.05E-04	9.21E-06	1.07E-03
POCP [kg Ethene eq.]	3.39E-03	-7.16E-04	6.72E-04	5.79E-04	4.17E-05	1.29E-04	-1.39E-05	1.18E-04
ADPe [kg Sb eq.]	3.18E-05	4.61E-08	6.66E-08	3.40E-08	1.11E-07	3.77E-07	1.68E-09	7.37E-08
ADPf [MJ]	1.84E02	3.82E00	1.41E01	1.01E01	3.29E00	8.98E00	1.24E-01	5.81E00

TRACI 2.1

	A1-A3	A4 Asia	A4 EU	A4 US	A5	B2	C2	C4
GWP [kg CO2 eq.]	1.04E01	2.71E-01	1.11E00	8.00E-01	1.31E-01	4.09E-01	8.61E-03	3.87E-01
ODP [kg CFC 11 eq.]	9.64E-06	-1.37E-15	-4.42E-15	-2.79E-15	5.85E-12	1.34E-08	-4.55E-17	-4.05E-14
AP [kg SO2 eq.]	4.80E-02	3.69E-03	3.13E-02	2.02E-02	3.09E-04	1.34E-03	4.49E-05	1.09E-03
EP [kg N eq.]	3.61E-03	2.17E-04	1.16E-03	7.51E-04	4.24E-05	6.87E-05	3.68E-06	4.86E-04
SFP [kg O3 eq.]	4.20E-01	7.98E-02	6.07E-01	3.89E-01	3.78E-03	1.67E-02	1.03E-03	1.80E-02

Caption	GWP = Global warming potential; ODP = Depletion potential of the stratospheric ozone layer; AP = Acidification potential of land and water; EP = Eutrophication potential; POCP = Formation potential of tropospheric ozone photochemical oxidants; ADPE = Abiotic depletion potential for non fossil resources; ADPF = Abiotic depletion potential for fossil resources; SFP = Smog air

Results of the LCA - Resource use: declared unit and product

	A1-A3	A4	A5	B2	C2	C4
PERE [MJ]	12.4	0.205	-	0.0239	0.00378	-
PERM [MJ]	6.43	-	0.0816	0.0942	-	-
PERT [MJ]	18.8	0.205	0.0816	0.118	0.00378	-

PENRE [MJ]	1.55	10.1	-	0.175	0.124	-
PENRM [MJ]	207	-	3.39	9.35	-	-
PENRT [MJ]	208	10.1	3.39	9.53	0.124	-
SM [kg]	0	-	-	-	-	-
RSF [MJ]	-	-	-	-	-	-
NRSF [MJ]	-	-	-	-	-	-
FW [m^3]	0.2	0.000349	0.000586	0.00527	1.48E-005	0.000102

Caption	PERE = Use of renewable primary energy excluding renewable primary energy resources used as raw materials; PERM = Use of renewable primary energy resources used as raw materials; PERT = Total use of renewable primary energy resources; PENRE = Use of non renewable primary energy excluding non renewable primary energy resources used as raw materials; PENRM = Use of non renewable primary energy resources used as raw materials; PENRT = Total use of non renewable primary energy resources; SM = Use of secondary material; RSF = Use of renewable secondary fuels; NRSF = Use of non renewable secondary fuels; FW = Use of net fresh water

Results of the LCA - Output flows and waste categories: declared unit and product

	A1-A3	A4	A5	B2	C2	C4
HWD [kg]	1.17E-005	1.72E-007	6.01E-005	1.1E-010	1.01E-009	2.52E-008
NHWD [kg]	0.0453	0.000304	0.351	0.00105	4.51E-006	5.53
RWD [kg]	0.00545	1.48E-005	4.21E-005	0.000165	2.21E-007	8.01E-005
CRU [kg]	-	-	-	-	-	-
MFR [kg]	0	-	-	-	-	0
MER [kg]	0	-	0	-	-	0
EEE [MJ]	-	-	-	-	-	-
EET [MJ]	-	-	-	-	-	-

Caption	HWD = Hazardous waste disposed; NHWD = Non hazardous waste disposed; RWD = Radioactive waste disposed; CRU = Components for re-use; MFR = Materials for recycling; MER = Materials for energy recovery; EEE = Exported electrical energy; EEE = Exported thermal energy

References

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