Environmental Product Declaration

Flex 2.5 LVT Flooring

MOHAWK GROUP
COMMERCIAL HARD SURFACE FLOORING

Flex 2.5 LVT
Mohawk Group's Flex LVT Flooring provides elegant design and performance solutions for public and private spaces

Mohawk Group

At Mohawk Group, we believe in better. And better for our world means being part of the climate change solution through decarbonization of our products. So, we're taking all our flooring beyond carbon neutral, to build a regenerative, climate-positive future to create a better tomorrow for people and the planet. In November of 2021 Mohawk Group joined over 200 other signatories of the Climate Pledge. As of January 2022, ALL Mohawk Group floor covering products including our carpet tile, broadloom, woven, LVT, and other resilient surfaces are going Beyond Carbon Neutral, meaning an additional 5% carbon offset beyond neutral, for a net-positive impact on the environment. All commercial LVT manufactured in our Dalton, GA resilient facility utilizes our certified 100% recycled content allocation system, so no product waste ever ends up in a landfill.

For more information visit:
mohawkgroup.com

UL CERTIFIED
ENVIRONMENTAL PRODUCT DECLARATION
UL.COM/EPD

ENVIRONMENTAL PRODUCT DECLARATION

Flex 2.5 LVT
Commercial Hard Surface Flooring

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

EPD PROGRAM AND PROGRAM OPERATOR NAME, ADDRESS, LOGO, AND WEBSITE	UL Environment 333 Pfingsten Road Northbrook, IL 60611 https://www.ul.com/ https://spot.ul.com
GENERAL PROGRAM INSTRUCTIONS AND VERSION NUMBER	General Program Instructions v.2.5 March 2020
MANUFACTURER NAME AND ADDRESS	Mohawk Industries, Inc. 160 Industrial Blvd., Calhoun, GA 30701
DECLARATION NUMBER	4790261584.101.1
DECLARED PRODUCT & FUNCTIONAL UNIT OR DECLARED UNIT	Flex 2.5 LVT Functional Unit = 1 m^2
REFERENCE PCR AND VERSION NUMBER	PCR for Building-Related Products and Services – Part A: Calculation Rules for LCA and Requirements, (UL Environment, V3.2), Part B: Flooring EPD Requirements UL 10010-7 v2.0 September 2018
DESCRIPTION OF PRODUCT APPLICATION/USE	Commercial flooring
PRODUCT RSL DESCRIPTION (IF APPL.)	30 Years
MARKETS OF APPLICABILITY	North America
DATE OF ISSUE	April 1, 2022
PERIOD OF VALIDITY	5 Years
EPD TYPE	Product-specific
RANGE OF DATASET VARIABILITY	N/A
EPD SCOPE	Cradle to Grave
YEAR(S) OF REPORTED PRIMARY DATA	2021
LCA SOFTWARE & VERSION NUMBER	GaBi 2021
LCI DATABASE(S) & VERSION NUMBER	GaBi 2021 LCI Database
LCIA METHODOLOGY & VERSION NUMBER	TRACI 2.1

The PCR review was conducted by:	UL Environment PCR Review Panel epd@ul.com
This declaration was independently verified in accordance with ISO 14025: 2006. ☐ INTERNAL ☒ EXTERNAL	Cooper McC Cooper McCollum, UL Environment
This life cycle assessment was conducted in accordance with ISO 14044 and the reference PCR by:	Sphera
This life cycle assessment was independently verified in accordance with ISO 14044 and the reference PCR by:	Thomas P. Gloria, Industrial Ecology Consultants

LIMITATIONS

Exclusions: EPDs do not indicate that any environmental or social performance benchmarks are met, and there may be impacts that they do not encompass. LCAs do not typically address the site-specific environmental impacts of raw material extraction, nor are they meant to assess human health toxicity. EPDs can complement but cannot replace tools and certifications that are designed to address these impacts and/or set performance thresholds – e.g. Type 1 certifications, health assessments and declarations, environmental impact assessments, etc.

Accuracy of Results: EPDs regularly rely on estimations of impacts; the level of accuracy in estimation of effect differs for any particular product line and reported impact.

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

1. Product Definition and Information

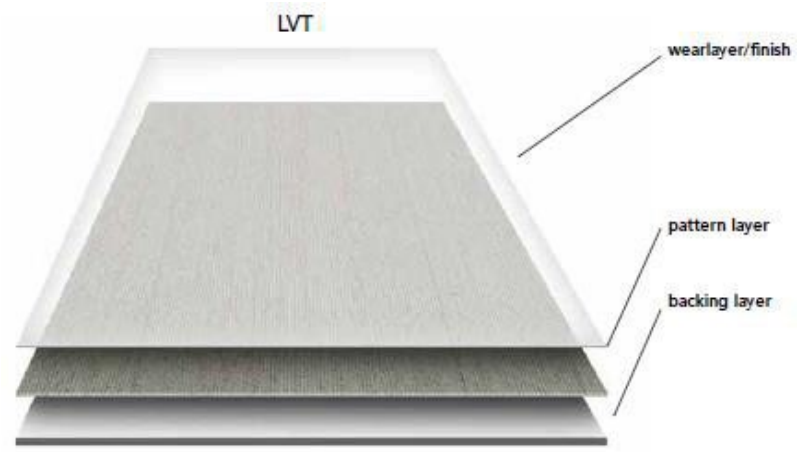
1.1. Description of Company/Organization

Mohawk is a leading manufacturer of carpet, wood, laminate, and luxury vinyl tile flooring that began in 1878. Mohawk is committed to growing in ways that are environmentally sound, socially responsible, and make sense for their stakeholders. The Mohawk Group strives to design and manufacture innovative products with reduced environmental and social impacts. As part of the world's largest flooring manufacturer, Mohawk feels a profound sense of responsibility to advance their shared mission of a more sustainable future.

1.2. Product Description

Product Identification

Luxury vinyl flooring provides elegant design and performance solutions for public and private spaces. Our Flex 2.5 LVT is a multi-layer contruction fused into a single, super-strong whole with a wear layer and finish.



All commercial Flex 2.5 LVT flooring is made from 100% post-industrial recycled materials in the US inside of a zero-waste facility.

This study covers all commercial styles and patterns of Flex 2.5 LVT flooring manufactured in Dalton, Georgia.

As of 2022, all Mohawk Group flooring products will be carbon neutral plus an additional 5%. Flex 2.5 LVT meets Mohawk Group's commitment to Beyond Carbon Neutral.

Product Specification

Products covered by this report fall under CSI 09 6500 and UNSPSC 3161707 classification codes

Product Average

An average based on product construction was utilized for the life cycle assessment. The average was created by utilizing the weighted sales average in 2021. This is deemed to be an accurate representation of an average flooring product.

1.3. Application

Flex 2.5 LVT products are designed to be used in commercial applications such as health care, education, hospitality, and retail. The product can also be used residentially if desired.

1.4. Declaration of Methodological Framework

This LCA is a cradle-to-grave study. This EPD covers the entire life cycle of the product from cradle to grave (modules A1-D) excluding modules for which there are no inputs/outputs. A summary of the life cycle stages can be found in Table 16. Description of the system boundary modules

The reference service life is 30 years and is only applicable if all manufacturing guidelines are followed regarding site-selection, installation, and maintenance.

The cut-off criteria are described in Section 2.4 and allocation procedures are described in Section 2.8. No known flows are deliberately excluded from this EPD.

1.5. Technical Requirements

The following technical data describe the product undergoing life cycle assessment.

Table 1. Technical Data

NAME		AVERAGE VALUE	UNIT
Product thickness		2.5	mm
Wear layer thickness		0.5	mil
Product weight		4390	g/m^2
Product form	Tiles	12x24	in
	Planks	6x48, 9x59, various	in

1.6. Properties of Declared Product as Delivered

Flex 2.5 LVT flooring comes in various sizes, including 12x24 tiles and 6x48 and 9x59 planks. The tiles and planks are stacked and a cardboard wrapping is placed around the stack to protect the product. These boxes are then stacked on pallets and wrapped for shipment.

1.7. Material Composition

The material that make up the product are indicated in Table 2

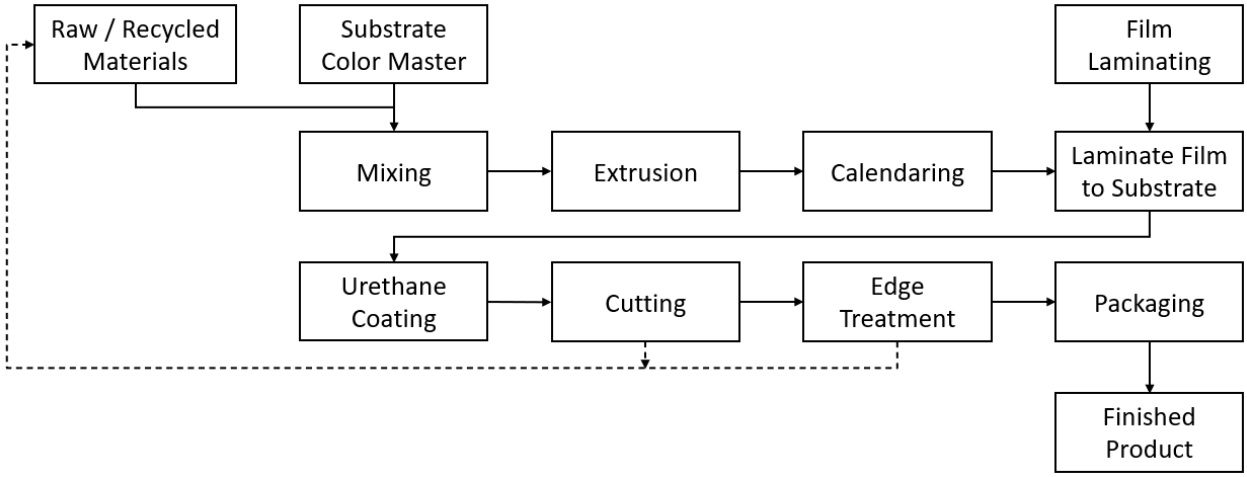
Table 2. Material Composition

COMPONENT	MASS %
Fillers	32%
Resin	39%
Plasticizer	13%
Backing	14%
Pigment	1%
Additives	<1%
Other	<1%

1.8. Manufacturing

Flex 2.5 LVT flooring products are manufactured in Dalton, Georgia. LVT is produced in several stages beginning with the mixing of some combination of raw materials. Once thoroughly blended, the materials are fed into an extruder, followed by a calendar press, and then formed into a sheet. Each layer of the LVT product is made and formed in a similar manner. The separate layers are laminated together under heat and pressure to form a finished product having, from top to bottom, a UV-cured coating, clear wear layer, a printed decorative layer, one or more inner core layers, and a backing layer. The sheet is then cut into tiles and placed in cardboard box packaging before being transported to the installation site.

Flow Diagram



1.9. Packaging

Packaging utilized in the shipment of the product is described in Table 3. Landfill emissions from paper, plastic, and wood packaging are allocated to installation. Electricity generated fromlandfill gas (produced from the decomposition of bio-based packaging) is declared as an output from module A5 (installation).

Table 3. Packaging

Packaging Type	Material	Amount (kg)	Disposal Pathway
Cardboard Box	Corrugate	0.056	Landfill
Plastic Wrap	Polyethylene Film	0.020	Landfill

1.10. Transportation

Transport of raw materials from supplier to the manufacturing facility by truck or ship is included in the model, but only an average has been listed here due to simplicity.

An average shipping distance from manufacturing location to the customer was assumed to be 500 miles by a Class 8 truck.

1.11. Product Installation

During the installation step, the LVT products are trimmed to fit the specific application and is adhered to the subfloor. Commercial Flex 2.5 LVT flooring is recommended to utilize adhesive (0.15 kg/m^2). Approximately 4.5% of the total material is assumed to be trimmed and discarded as waste. While some of this waste could be recycled, this discarded flooring product is modeled as being sent to landfill.

While installation equipment is required to install the flooring product, it is not included in the study as these are multi-use tools and the impacts per declared unit is considered negligible. All waste generated during installation, including packaging waste, is assumed to be disposed in a landfill.

Detailed installation instructions can be found at: www.mohawkgroup.com/resources/installation-guides

1.12. Use

Flex 2.5 LVT Flooring should be cleaned in accordance with the product warranty instructions, including dust and damp mop cleaning and buffing. The frequency is dependent upon the expected foot traffic and local conditions.

Flex 2.5 LVT products are traditionally not repaired or refurbished. If a single LVT tile gets damanged, it can be removed and replaced with a new tile, assuming the correct installation method was used per the manufacturer's instructions.

Indoor emissions during use have been evaluated and certified by FloorScore. No health concerns are present during the normal use of the flooring.

1.13. Reference Service Life and Estimated Building Service Life

The reference service life (RSL) for Luxury Vinyl Tile is 30, meaning that the product will meet its functional requirements for an average of 30 years before replacement. Estimated building service life is 75 years, as specified by the PCR. Note that the results are calculated for 1 m2 of LVT.

1.14. Reuse, Recycling, and Energy Recovery

Vinyl tile is typically not reused or recycled following its removal from a building. Thus, reuse, recycling, and energy recovery are not applicable to this product.

1.15. Disposal

For this study, it is assumed that at the end of the useful life of the product, 100% is diposed through landfill, 0% is recycled, and 0% is incinerated.

2. Life Cycle Assessment Background Information

2.1. Functional or Declared Unit

Per the PCR, the functional unit is 1 m2 of floor covering over the reference service life of 30 years, as indicated in Table 4.

Table 4. Functional Unit

NAME	VALUE	UNIT
Functional Unit	1 m^2	-
Mass	4.39	kg

2.2. System Boundary

This EPD is considered cradle-to-grave. The following modules are included and summarized in Table 5:

Table 5. System Boundary

MODULE NAME	DESCRIPTION	SUMMARY OF INCLUDED ELEMENTS
A1	Product Stage: Raw Material Supply	Raw Material sourcing and processing as defined by secondary data
A2	Product Stage: Transport	Shipping from supplier to manufacturing site. Fuel use requirements estimated based on product weights and estimated distance
A3	Product Stage: Manufacturing	Energy, water and material inputs required for manufacturing products from raw materials. Packaging materials and manufacturing waste are included as well
A4	Construction Process Stage: Transport	Shipping from manufacturing site to project site. Fuel use requirements estimated based on product weights and mapped distance
A5	Construction Process Stage: Installation	Installation adhesives, installation waste and packaging material waste
B1	Use Stage: Use	Use of the product
B2	Use Stage: Maintenance	Cleaning energy, water, and materials, including refinishing the product
B4	Use Stage: Replacement	Replacing the floor to match building service life
C2	EOL: Transport	Shipping from project site to landfill. Fuel use requirements estimated based on product weight and mapped distance
C3	EOL: Waste Processing	Waste processing not required. All waste can be processed as is
C4	EOL: Disposal	Assumes all products are sent to landfill. Landfill impacts modeled based on secondary data
D	Benefits/loads	Captured methane gas from landfilling of biodegradable materials used for electricity generation

2.3. Estimates and Assumptions

All estimates and assumptions are within the requirements of ISO 14040/44. The majority of the estimations are within the primary data. The primary data was collected as annual totals including all utility usage and production information. For the LCA, the utility usage information was divided by the production to create an energy and water use per square meter. As there are different products produced at this facility, it is assumed all products are using the same amount of energy. A weighted average of product weight based on one year of sales data is used.

The recommended cleaning regime is highly dependent on the use of the premises where the floor covering is installed. In high traffic areas more frequent cleaning will be needed compared to areas where there is low traffic.

Transportation distances to installation and disposal were assumed to be 500 and 100 miles, respectively.

Packaging disposal assumptions are consistent with PCR requirements (Table 6)

Table 6. Packaging end-of-life assumptions

COMPONENT	RECYCLED	LANDFILLED	INCINERATED
Paper packaging	75%	20%	5%
Plastic packaging	15%	68%	17%

Table 7 and Table 8 below details the assumptions and inputs for cleaning LVT based on the industry average data

Table 7. Assumptions for cleaning process during maintenance

LEVEL OF USE	CLEANING PROCESS	CLEANING FREQUENCY	CONSUMPTION OF ENERGY AND RESOURCES
Commercial / Residential / Industrial	Dust mop	Daily	None
	Damp mop/ neutral cleaner	Weekly	Hot water, natural detergent
	Spray buff/ finish restorer	Monthly	Floor finish, electricity

Table 8. Assumptions for cleaning inputs during maintenance

COMPONENT	AMOUNT	UNITS
Detergent	119	mL / m2 / yr.
Electricity	0.022	kWh / m2 / yr.
Finish	0.12	L / m2 / yr.
Finish remover	0	L / m2 / yr.
Water	5.8	L / m2 / yr.

2.4. Cut-off Criteria

Cut-off criteria were applied to a small number of raw materials representing less than 1% of input material mass in order to facilitate handling the wide variety of additives and other raw material inputs to resilientflooring

2.5. Data Sources

Primary data were collected by facility personnel and from utility bills during calendar year 2021. Whenever available, supplier data was used for raw materials used in the production process. When primary data did not exist, secondary data for raw material production was utilized from GaBi 2021 Database.

2.6. Data Quality

Temporal Coverage

The primary data provided by the manufacturer represent all information for calendar year 2021. Using this data meets the PCR requirements. Time coverage of this data is considered very good.

Geographical Coverage

The geographical scope of the manufacturing portion of the life cycle is Dalton, GA. All primary data were collected from the manufacturer. The geographic coverage of primary data is considered very good. Proxy datasets were used as needed for raw material inputs to address lack of data for a specific material or geographic region.

Technological Coverage

Primary data provided by the manufacturer is specific to the technology that Mohawk uses in manufacturing their product. It is site-specific and considered of good quality.

2.7. Period under Review

The period under review is calendar year 2021.

2.8. Allocation

General principles of allocation were based on ISO 14040/44. When allocationbecomes necessary during the data collection phase, the allocation rule most suitable for the respective processstep was applied.

No co- or by-product allocation was necessary during the manufacturing, use or end of life. In the case of secondary raw materials (i.e., recycled PVC), only burdens from the point of recovery forward were considered (cut-off approach). The primary production of recycled materials was outside the system boundary.

3. Life Cycle Assessment Scenarios

Table 9. Transport to the building site (A4)

NAME	VALUE	UNIT
Fuel type	Diesel	
Liters of fuel	35	l/100km
Vehicle type	Truck – Trailer, basic enclosed/ 45,000 lb payload	
Transport distance	800	km
Capacity utilization (including empty runs, mass based	78	%
Gross density of products transported	4.39	kg/m^2
Capacity utilization volume factor (factor: =1 or <1 or ≥ 1 for compressed or nested packaging products)	=1	-

Table 10. Installation into the building (A5)

NAME	VALUE	UNIT
Ancillary materials	-	kg
Net freshwater consumption	0	m^3
Adhesive	0.15	kg
Electricity consumption	0	kWh
Other energy carriers	0	MJ
Product loss per functional unit	0.198	kg
Waste materials at the construction site before waste processing, generated by product installation	0.0195	kg
Output materials resulting from on-site waste processing	0	kg
Biogenic carbon contained in packaging	0.0634	kg CO_2
Direct emissions to ambient air, soil and water	0	kg
VOC content	N/A	µg/m^3

Table 11. Reference Service Life

NAME	VALUE	UNIT
RSL	30	years

Table 12. Maintenance (B2)

NAME	VALUE	UNIT
Maintenance cycle	1560	Number/ RSL
Maintenance cycle	3900	Number/ ESL
Net freshwater consumption specified by water source and fate (disposed to sewer)	0.435	m^3
Ancillary materials specified by type: Cleaning Agent Finish Finish Remover	 8.93 3.08 0	kg
Other resources	-	kg
Energy input for spray buffing	1.7	kWh
Other energy carriers specified by type	-	kWh
Power output of equipment	1.1	kW
Waste materials from maintenance	-	kg
Direct emissions to ambient air, soil and water	-	kg

Table 13. Replacement (B4)

NAME	VALUE	UNIT
Reference Service Life	30	Years
Replacement Cycle	1.5	(ESL/RSL)-1
Energy input	-	kWh
Net freshwater consumption	-	m^3
Ancillary materials	-	kg
Replacement of worn parts	-	kg
Direct emissions to ambient air, soil, and water	0	kg
Further assumptions for scenario development	-	As appropriate

Table 14. End of life (C1-C4)

NAME		VALUE	UNIT
Assumptions for scenario development	Product disposed of either with underlying floor or manually removed via scraping		
Collection process	Collected separately	0	kg
	Collected with mixed construction waste	4.39	kg
Recovery	Reuse	0	kg
	Recycling	0	kg
	Landfill	4.39	kg
	Incineration	0	kg
	Incineration with energy recovery	-	kg
	Energy conversion efficiency rate	-	
Disposal	Product or material for final deposition	4.39	kg
Removals of biogenic carbon (excluding packaging)		-	kg CO_2

Table 15. Reuse, recovery, and/or recycling potentials (D)

NAME	VALUE	UNIT
Net energy benefit from energy recovery from waste treatment of packaging from A5	0.0116	MJ
Net energy benefit from energy recovery from waste treatment of packaging from B4	0.0175	MJ

4. Life Cycle Assessment Results

Table 16. Description of the system boundary modules

The LCA scope is cradle-to-grave. Note that modules B1, B3, B5-B7, C1, and C3 have no environmental impacts and are excluded from results tables to improve readability. Module D is excluded from this analysis.

(X = Included; MND = Module Not Declared)

	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
Cradle-to-Grave	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	MND

4.1. Life Cycle Impact Assessment Results: 75 Year Estimated Building Service Life

Table 17. North American Impact Assessment Results

TRACI v2.1	A1-A3	A4	A5	B2	B4	C2	C4	D
GWP 100 [kg CO2 eq]	6.41E+00	2.53E-01	1.79E-01	4.71E+00	1.17E+01	5.06E-02	1.88E-01	-1.49E-04
ODP [kg CFC-11 eq]	1.29E-09	5.33E-17	2.01E-13	1.27E-13	1.93E-09	1.07E-17	6.45E-16	-8.95E-19
AP [kg SO_2 eq]	6.79E-03	1.06E-03	2.98E-04	8.08E-03	1.42E-02	1.31E-04	8.23E-04	-2.03E-07
EP [kg N eq]	2.63E-03	1.07E-04	3.16E-05	5.74E-03	4.28E-03	1.62E-05	4.58E-05	-1.57E-08
SFP [kg O_3 eq]	1.38E-01	2.44E-02	7.23E-03	1.45E-01	2.91E-01	2.97E-03	1.46E-02	-3.08E-06
ADP_{fossil} [MJ, LHV]	1.29E+01	5.00E-01	6.49E-01	1.33E+01	2.43E+01	1.00E-01	3.76E-01	-1.84E-04

GWP 100 = Global Warming Potential; ODP = Ozone Depletion Potential; AP = Acidification Potential; EP = Eutrophication Potential; SFP = Smog Formation Potential; $ADP_{fossilt}$ = Abiotic Depletion Potential (Fossil)

Biogenic carbon is not reported in GWP as resilient flooring products do not typically contain bio-based materials. As such, carbon emissions and removals are not declared.

4.2. Life Cycle Inventory Results: 75 Year Estimated Building Service Life

Table 18. Resource Use

PARAMETER	A1-A3	A4	A5	B2	B4	C2	C4	D
RPR_E [MJ, LHV]	1.02E+01	1.56E-01	6.14E-01	5.39E+00	1.67E+01	3.13E-02	2.46E-01	-4.01E-04
RPR_M [MJ, LHV]	1.56E+00	0.00E+00	0.00E+00	0.00E+00	2.34E+00	0.00E+00	0.00E+00	0.00E+00
$NRPR_E$ [MJ, LHV]	1.14E+02	3.78E+00	4.73E+00	1.08E+02	2.07E+02	7.58E-01	2.95E+00	-2.51E-03
$NRPR_M$ [MJ, LHV]	7.60E+00	0.00E+00	0.00E+00	0.00E+00	2.36E+01	0.00E+00	0.00E+00	0.00E+00
SM [kg]	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
RSF [MJ, LHV]	1.62E-18	0.00E+00	1.34E-09	5.32E-23	2.01E-09	0.00E+00	0.00E+00	0.00E+00
NRSF [MJ, LHV]	1.90E-17	0.00E+00	1.58E-08	6.25E-22	2.37E-08	0.00E+00	0.00E+00	0.00E+00
FW [m^3]	4.98E-02	6.65E-04	7.62E-04	2.47E-02	7.98E-02	1.34E-04	4.06E-04	-8.49E-07

RPRE = Renewable primary resources used as energy carrier (fuel); RPRM = Renewable primary resources with energy content used as material; RPRT = Total use of renewable primary resources with energy content; NRPRE = Non-renewable primary resources used as an energy carrier (fuel); NRPRM = Non-renewable primary resources with energy content used as material; NRPRT = Total use of non-renewable primary resources with energy content; SM = Secondary materials; RSF = Renewable secondary fuels; NRSF = Non-renewable secondary fuels; FW = Use of net freshwater resources

Table 19. Output Flows and Waste Categories

PARAMETER	A1-A3	A4	A5	B2	B4	C2	C4	D
HWD [kg]	2.37E-06	3.16E-10	6.06E-09	-2.86E-07	3.56E-06	6.34E-11	2.79E-10	-2.09E-13
NHWD [kg]	4.55E-01	3.47E-04	1.06E-02	5.08E-01	7.37E+00	6.97E-05	4.40E+00	-7.44E-07
RWD [kg]	4.22E-03	1.07E-05	3.64E-05	2.50E-03	6.18E-03	2.15E-06	2.46E-05	-1.98E-07
HLRW [kg]	5.09E-06	1.27E-08	4.51E-08	3.01E-06	7.61E-06	2.55E-09	2.85E-08	-2.36E-10
ILLRW [kg]	4.22E-03	1.07E-05	3.63E-05	2.50E-03	6.17E-03	2.15E-06	2.46E-05	-1.98E-07
MFR [kg]	1.88E-01	0.00E+00	3.23E-03	0.00E+00	2.87E-01	0.00E+00	0.00E+00	0.00E+00
EEE [MJ, LHV]	0.00E+00	0.00E+00	8.70E-04	0.00E+00	1.47E+00	0.00E+00	0.00E+00	0.00E+00
EET [MJ, LHV]	0.00E+00	0.00E+00	2.95E-04	0.00E+00	5.90E-01	0.00E+00	0.00E+00	0.00E+00

HWD = hazardous waste deposited; NHWD = non-hazardous waste deposited; RWD = radioactive waste deposited; HLRW = high-level radioactive waste; ILLRW = intermediate- and low-level radioactive waste; CRU = components for re-use; MFR = materials for recycling; MER = materials for energy recovery; EEE = exported electrical energy; EET = exported thermal energy.
CRU and MER output flows are zero for all life cycle stages.

Using the framework from Living Product Challenge (LPC) Net Positive Carbon Petal, Flex 2.5 LVT meets Mohawk Group's commitment to Beyond Carbon Neutral. Each year, Mohawk retires the equivalent to 105% of the cradle-to-gate GWP to cover all sales of the platform. The resulting GWP is shown in Table 20.

Table 20. A1-3 GWP (TRACI 2.1) and Beyond Carbon Neutral

	EMBODIED CARBON [KG CO_2E]	BEYOND CARBON NEUTRAL [KG CO_2E]
Flex 2.5 LVT	6.41	-0.32

5. LCA Interpretation

The analysis results represent cradle-to-grave environmental performance of Flex 2.5 LVT flooring products. The top three contributors to each impact category are shown in Table 21

Table 21. Highest Contributions by Impact Category

Impact Category	Contributors		
	Largest	2nd	3rd
Global Warming Potential, GWP	B4	A1-3	B2
Ozone Depletion Potential, ODP	B4	A1-3	A5
Acidification Potential, AP	B4	B2	A1-3
Eutrophication Potential, EP	B2	B4	A1-3
Depletion of abiotic resources – fossil fuels, ADPf	B4	B2	A1-3

Under the 75-year building service life assumption, the replacement stage (B4) was the largest contributor in all five impact categories considered. The production of raw materials represents a substantial fraction of the life cycle impacts. Maintenance (B2) was the second and third highest contributor for the five impact categories. If the impacts of the product were considered for one product life, the production stage (A1-3) would have the most significant impact.

6. Additional Environmental Information

6.1. Environment and Health During Manufacturing

More information on the manufacturer's sustainability and environmental programs, including a corporate sustainabiltiy report, can be found online.

6.2. Environment and Health During Installation

All recommended personal protective equipment (PPE) should be utilized during instllation, as indication on the SDS and installation guidelines, found online.

6.3. Extraordinary Effects

Fire

Name	Value
Radiant panel (ASTM E-648)	Class 1
Smoke density (ASTM E-662)	<450

Water

This 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

If the product is mechanically destroyed, it should be disposed of using standard procedures and replaced ina timely manner.

6.4. Environmental Activities and Certifications

All environmental activities and certificates can be found at mohawkgroup.com

7. References

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ISO 14025	ISO 14025:2011-10 Environmental labels and declarations – Type III environmental declarations – Principles and procedures
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ISO 21930	ISO 21930:2017 Sustainability in buildings and civil engineering works – Core rules for environmental product delcarations of construction products and services
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