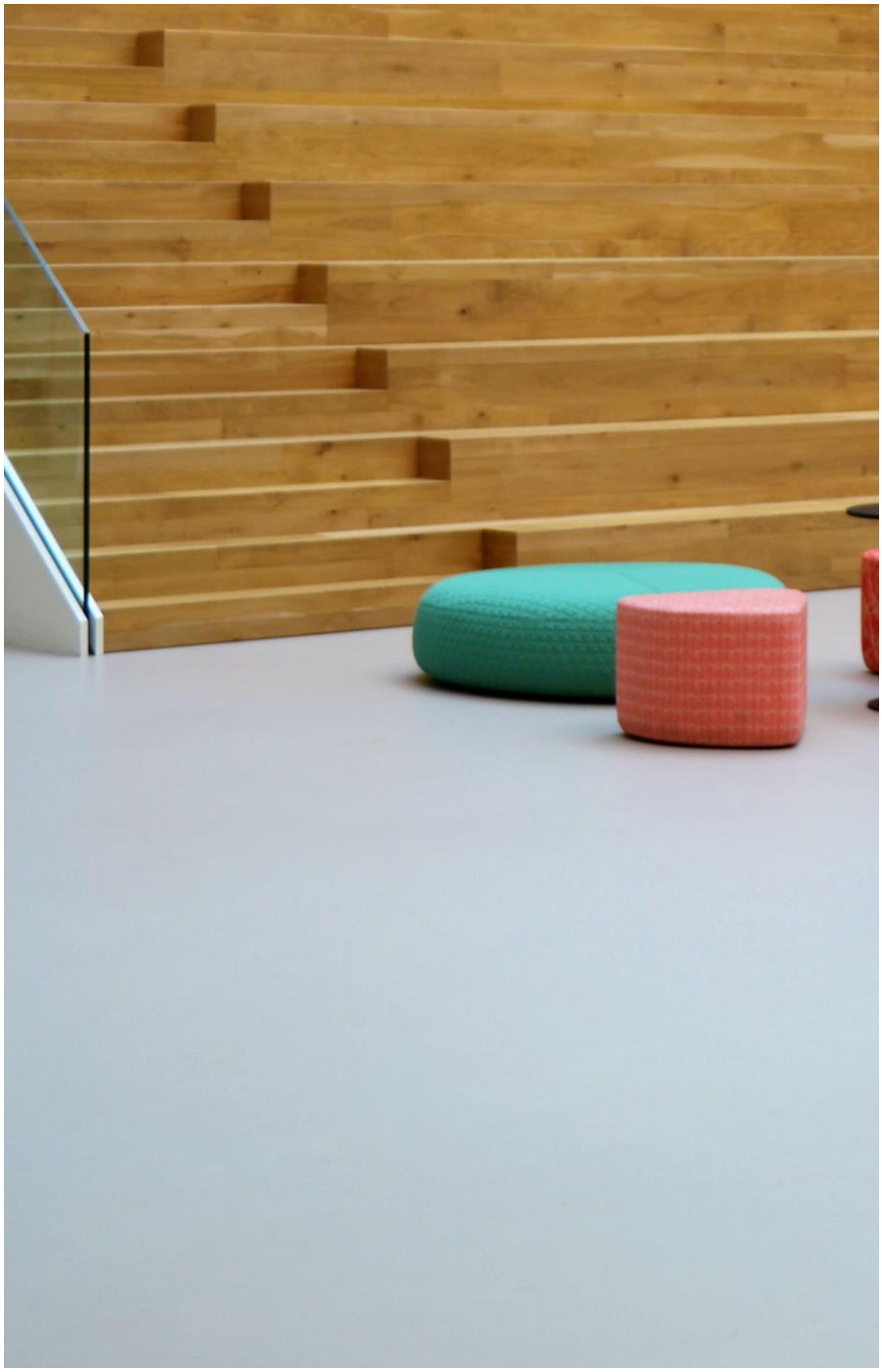
Mannington COMMERCIAL

Environmental Product Declaration



Crafted with purpose.
At Mannington Commercial, we craft a full range of flooring products to inspire your creative vision, fit the performance needs of your spaces and meet your sustainability goals. Ultimately what we're crafting is not only a product, but a partnership.

Legato Flooring uses the same natural ingredients found in traditional linoleum but in a liquid poured version that takes less time to install. Legato is applied seamlessly on site. The properties of the product take all of the positive legacy linoleum characteristics and adds several more like improved resiliency, clean-ability and color stability.

NSF

Certified Environmental Product Declaration
www.nsf.org

Program Operator	NSF Certification LLC 789 N. Dixboro, Ann Arbor, MI 48105 www.nsf.org
General Program instructions and Version Number	PCR for Resinous Flooring Coatings, Version 1
Manufacturer Name and Address	Mannington Commercial 1844 US Highway 41 S.E. Calhoun, GA 30701
Declaration Number	EPD10362
Declared Product and Functional Unit	Legato Flooring 1 m2 of covered and protected flooring surface for a period of 60 years
Reference PCR and Version Number	PCR for Resinous Flooring Coatings, Version 1, NSF International National Center for Sustainability Standards, valid through December 17, 2023
Product's intended Application and Use	Flooring Applications
Market Lifetime Used in the Assessment	10 Years for Industrial Application and 20 Years for Commercial application
Technical Lifetimes Used in the Assessment	15 Years for Industrial Application and 30 Years for Commercial application
Markets of Applicability	North America
Date of Issue	November 5, 2020
Period of Validity	5 years from date of issue
EPD Type	Product Specific
Range of Dataset Variability	N/A
EPD Scope	Cradle to Grave
Year of reported manufacturer primary data	2018
LCA Software and Version Number	GaBi 9.2.0.58
LCI Database and Version Number	GaBi Database Version 9.2, Service Pack 39
LCIA Methodology and Version Number	TRACI 2.1 CML 2001-Jan 2016
The PCR review was conducted by:	Thomas Gloria, PhD (Chair) Bill Stough Jack Geibig

This declaration was independently verified in accordance with ISO 14025: 2006. ISO 21930: 2017 and ISO 14025. ☐ Internal ☒ External	Jenny Oorbeck joorbeck@nsf.org
This life cycle assessment was conducted in accordance with ISO 14044 and the reference PCR by:	WAP Sustainability Consulting
This life cycle assessment was independently verified in accordance with ISO 14044 and the reference PCR by:	Terrie Boguski, Harmony Environmental, LLC
Source of Explanatory Material	Third-party LCA and verification report can be requested by contacting the manufacturer.

Limitations:
In order to support comparative assertions, this EPD meets all comparability requirements stated in ISO 14025:2006. However, differences in certain assumptions, data quality, and variability between LCA data sets may still exist. As such, caution should be exercised when evaluating EPDs from different manufacturers or programs, as the EPD results may not be entirely comparable. Any EPD comparison must be carried out at the construction works level per ISO 21930:2017 guidelines. The results of this EPD reflect an average performance by the product and its actual impacts may vary on a case-to-case basis.

ENVIRONMENTAL PRODUCT DECLARATION: DETAILED VERSION

Product Definition and Information

Description of Company

Mannington Commercial crafts flooring with purpose. Founded in 1915, Mannington offers a full range of products designed to inspire creativity and deliver advanced performance in all types of commercial spaces. Committed to American manufacturing, Mannington Commercial is proud to craft all of their resilient sheet, rubber, carpet and more than 90% of their LVT in the USA. Mannington and its associates still operate under the same mission that was set forth generations ago: To Be the Best People to do Business within the Flooring Industry.

This study was conducted to reveal the environmental impacts of Mannington Commercial's resinous flooring coating product – Legato. This EPD covers the manufacturing operations in the Netherlands facility and all SKUs under the Legato family are covered by this EPD.

Product Classification and Description

Legato Flooring is a liquid poured version of the linoleum which is applied seamlessly on site. It is manufactured in the Netherlands facility. The coating offers all the original linoleum characteristics, and adds several more, such as outstanding durability, chemical resistance, impact resistance, and seamless installation opportunities. Under the reference PCR, Legato Flooring System falls under the following classification:

"Self-leveling or broadcast slurries: A high build coating system using the addition of fillers or broadcast aggregates installed in multiple layers to build thickness typically from 40-180 mils."

Application

Legato can be used in a variety of applications including commercial, light commercial, institutional, and residential interior applications for floor applications. On site Legato is poured on the subfloor, where it sets overnight at ambient temperatures to create a seamless durable and natural looking resilient floor with excellent properties.

Technical Data

Table 1: Technical Details for Legato

Parameter	Legato
Density	0.9 kg/dm^3
Compressive Strength	Approximate 20N/mm^2
Adhesive Strength	>3N/mm^2
Tensile Strength	Approximate 14 N/mm^2
Elongation at Break	Approximate 130%
Binder	Biopolymer, Linseed Oil
Fire Rating	Bfl-S1 (EN 13501-1)
Color	Collection of standard 54 colors
Hardness	Approximate 45 Shore D
Thermal Insolation	0.027 m^2 x K/W
Underfloor heating	Possible

Material Content

Material Content of the Product

Table 2: Material Content Table for Legato

Material*	Legato
Calcium carbonate	9-10%
Cork flour	18-20%
Ferric oxide*	1-2%
Linseed oil	8-10%
Soya oil	55-60%
*This product contains no regulated substances.	

Packaging

Table 3: Packaging per m^2 of product

Material	Legato	Unit
HDPE	1.31E-01	kg
* Packaging waste disposal has been modeled as per guidelines in section 2.8.5 of Part A: Life Cycle Assessment Calculation Rules and Report Requirements.		

Life Cycle Assessment Stages and Methodological Framework

Declaration of Methodological Framework

This EPD is considered a Cradle-to-Grave study. A summary of the life cycle stages included in this EPD is presented in Table 7. No known flows are deliberately excluded from this EPD. Infrastructure flows have been excluded.

Manufacturing Stage

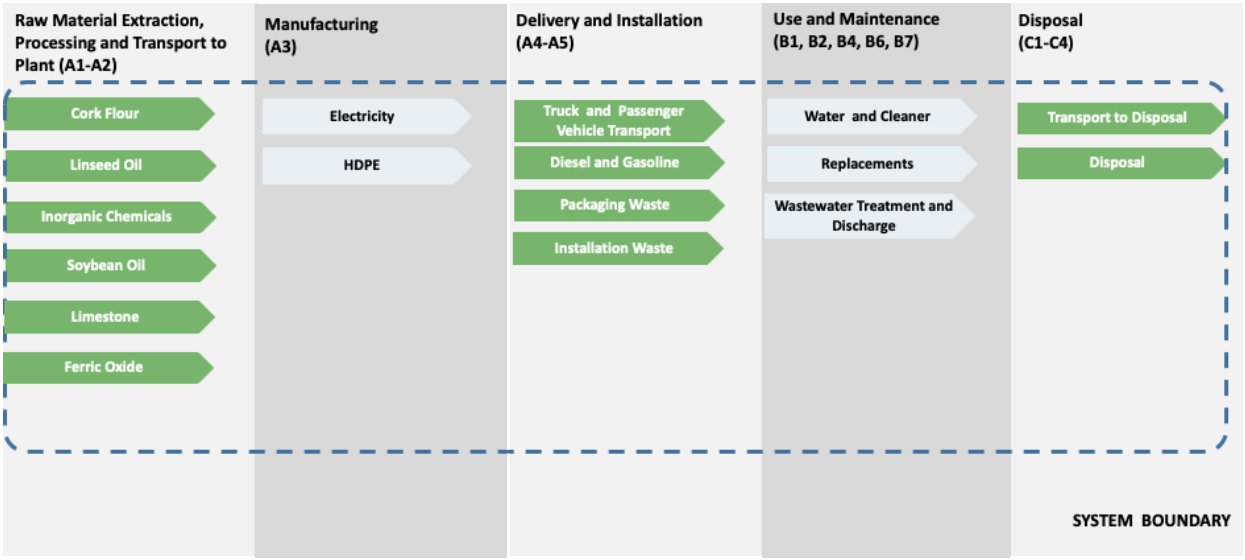


Figure 1: Legato Life Stage Flow Diagram

The ingredients are mixed in a tub for 5 consecutive hours, containing 3,500 kg of material, for which the energy consumption is 45kWh (power is 9kW). After the mixing the material is packed in buckets of 20 liters.

Delivery and Installation Stage

Delivery

As the product is manufactured in the Netherlands, it is transported by truck to a port, then by ship from the Netherlands to North America. Based on the reference PCR, the product is then delivered to the distribution center and point of sale via truck and eventually to the installation site via passenger car. Required Transportation distances outlined in the PCR were adopted for this study.

Installation

Detailed installation instructions are provided by the manufacturer upon request. Manual installation equipment is required though not included in the study as these are multi-use tools and the impact per declared unit is considered negligible. Based on the PCR, a 2% installation waste is considered.

Waste

Packaging and installation waste disposal have been modeled as per the guidelines in section 4.4 of the reference PCR.

Use Stage

Cleaning and Maintenance

The level of cleaning and maintenance varies depending on the amount of floor traffic and the desired appearance of the floor that the end user is seeking. The manufacturer recommends daily cleaning for heavily used floors and once or twice a week for lightly used floor. The cleaning scenario used in the assessment is based on the PCR's requirements. Table 4 shows the use phase parameters used to model maintenance scenarios.

Table 4: Use phase parameters

Parameter	Input per m^2
Cleaning Event over 60 years	220
Water Per Cleaning Event	3.79 liter
Cleaner Per Cleaning Event	0.12 liter
Cleaner Specification	C10-14 Ethoxylated Alcohol (2.5%)

Product Reference Service Life and Building Estimated Service Life

According to the reference PCR, the Estimated Service Life (ESL) of the building is assumed to be 60 years. As required in the PCR, the results are based on this estimated service life (ESL). There are four reference service life scenarios defined in the PCR and used in the assessment.

Table 5: Reference service life scenarios

Coating Type	Application Type	Estimated Market Service Life/Replacement Needed	Estimated Technical Service Life/Replacement Needed
Self-Leveling or Broadcast Slurry Floor Coating	Commercial	20 Years/2 Replacement	30 Years/1 Replacement
	Industrial	10 Years/5 Replacements	15 Years/3 Replacement

End of Life Stage

Due to the lack of primary data, the applied product is assumed to be landfilled according to the PCR Section 4.4.

Life Cycle Assessment (LCA) Background Information

Description of the Functional Unit

The functional unit according to the PCR is 1 m^2 of installed flooring for a period of 60 years.

Table 6: Functional Unit

	Legato Flooring
Functional Unit [m^2]	1
Reference Flow [kg] With Reference Service Life as 10 yrs	22.47
Reference Flow [kg] With Reference Service Life as 15 yrs	14.98
Reference Flow [kg] With Reference Service Life as 20 yrs	11.24
Reference Flow [kg] With Reference Service Life as 30 yrs	7.49

System Boundary

This LCA is considered a Cradle-to-Grave study. A summary of the life cycle modules included in this LCA is presented in Table 7.

Table 7: Summary of Included Life Cycle Modules

Module Name	Description	Analysis Period	Summary of Included Elements
A1	Product Stage: Raw Material Supply	2018	Raw Material sourcing and processing as defined by secondary data.
A2	Product Stage: Transport	2018	Shipping from supplier to manufacturing site. Fuel use requirements estimated based on product weights and estimated distance.
A3	Product Stage: Manufacturing	2018	Energy, water (not applicable) and material inputs required for manufacturing products from raw materials. Packaging materials and manufacturing waste are included as well.
A4	Construction Process Stage: Transport	2019	Shipping from manufacturing site to project site. Fuel use requirements estimated based on product weights and mapped distance.
A5	Construction Process Stage: Installation	2019	Installation materials, installation waste and packaging material waste.
B1	Use Stage: Use	2019	Use of the product. The product does not require any input of energy or material for use.
B2	Use Stage: Maintenance	2019	Cleaning water, and materials.
B3	Use Stage: Repair	2019	Materials and energy required to repair the product. Under normal circumstances, the product does not require repairing.
B4	Use Stage: Replacement	2019	Total materials and energy required to manufacture and install replacements.

Module Name	Description	Analysis Period	Summary of Included Elements
B5	Use Stage: Refurbishment	2019	Materials and energy required to refurbish the product. Under normal circumstances, the product does not require refurbishment.
B6	Operational Energy Use	2019	The use of the product in the building does not alter the energy use of other components in the building.
B7	Operational Water Use	2019	The use of the product in the building does not alter the water use of other components in the building.
C1	EOL: Deconstruction	2019	No inputs required for deconstruction.
C2	EOL: Transport	2019	Shipping from project site to landfill. Fuel use requirements estimated based on product weight and mapped distance.
C3	EOL: Waste Processing	2019	Waste processing not required. All waste can be processed as is.
C4	EOL: Disposal	2019	Assumes all products are sent to landfill. Landfill impacts modeled based on secondary data.
D	Benefits beyond system	MND	Credits from energy or material capture.

Estimations and Assumptions

All estimates and assumptions are within the requirements of ISO 14040/44. The majority of the estimations follow the requirement in the reference PCR and related to the transportation, maintenance and end-of-life stages. Another assumption is that the installation tools are used enough times that the per square meter impacts are negligible and are thus not relevant to the study.

Cut-off Criteria

Material inputs greater than 1% (based on total mass of the final product) were included within the scope of analysis. Material inputs less than 1% were included if sufficient data was available to warrant inclusion and/or the material input was thought to have significant environmental impact. Cumulative excluded material inputs and environmental impacts are less than 5% based on total weight of the functional unit. No known flows are deliberately excluded from this EPD.

Data Sources

Primary data was collected by the manufacturer for onsite energy and waste during the course of manufacturing. Whenever available, supplier data was used for the raw materials that were used in the production process. When primary data did not exist, secondary data for raw material production was used from GaBi Database Version 9.2, Service Pack 39. All calculation procedures adhere to ISO14044.

Data Quality

The geographical scope of the manufacturing portion of the life cycle is the Netherlands. All primary data were collected from the manufacturer. The geographic coverage of primary data is considered excellent. Primary data were provided by the manufacturer and represent all information for calendar year 2018. Primary data provided by the manufacturer is specific to the technology that the company uses in manufacturing their product. It is process-specific and considered of good quality. There are no significant data gaps.

Period under Review

The period under review is calendar year 2018.

Allocation

General principles of allocation were based on ISO 14040/44. Because the material and resource inputs are process-specific, no allocation based on co-products is required. As a default, secondary GaBi datasets use a physical mass basis for allocation.

Comparability and Benchmarking

The user of the EPD should take care when comparing EPDs from different companies. Assumptions, data sources, and assessment tools may all impact the variability of the final results and make comparisons misleading. The user is therefore, not encouraged to compare EPDs. Even for similar products, differences in use and end-of-life stage assumptions, and data quality may produce incomparable results. Comparison of the environmental performance of Flooring Products using EPD information shall be based on the product's use and impacts at the building level, and therefore EPDs may not be used for comparability purposes when not considering the building energy use phase as instructed under this PCR. Full conformance with the PCR for flooring products 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 in results for upstream or downstream of the life cycle stages declared.

Life Cycle Assessment Scenarios

Table 8: Transport to building site (A4)

Vehicle type	Fuel type	Liters of fuel	Capacity utilization	Source
Truck - Trailer, basic enclosed / 50,000 lb payload – 8a	Diesel	38.43 l/100km	65%	GaBi
Passenger car, average, Euro 3-5, engine size from 1.4l up to >2l	Diesel and gasoline	not provided	n/a	GaBi
Container ship, 5,000 to 200,000 dwt payload capacity, ocean going	Heavy fuel oil	0.23 kg/100 (km*kg)	70%	GaBi

Table 9: Reference Service Life

Name	Value	Unit
RSL	*See* Table 5	years
Declared product properties (at the gate) and finishes, etc.	See Table 1	-
Design application	Installation per recommendation by manufacturer	-
An assumed quality of work, when installed in accordance with the manufacturer's instructions	Accepted industry standard	-
Indoor environment (if relevant for indoor applications)	Normal building operating conditions	-
Use conditions, e.g. frequency of use, mechanical exposure	Normal building operating conditions	-

Table 10: Installation into the building (A5)

Parameter	Value	Unit
Unused Coating	7.34E-02	kg
EOL Option Utilized	Landfilled	-
Electricity Consumption	0	kWh
VOC Emission	0	kg
Plastic Packaging-Recycled	1.10E-02	kg
Plastic Packaging-Landfilled	9.93E-02	kg
Plastic Packaging-Incinerated	2.07E-02	kg

Table 11: End of life (C1-C4)

Waste Type	Disposal scenario	Weight for 10-yr RSL	Weight for 15-yr RSL	Weight for 20-yr RSL	Weight for 30-yr RSL	Unit
Unused product from installation stage	Landfilling	4.41E-01	2.94E-01	2.20E-01	1.47E-01	kg
Applied product at the end of reference service life	Landfilling	2.20E+01	1.47E+01	1.10E+01	7.34E+00	kg

Life Cycle Assessment Results

All results are given per functional unit, which is 1 m^2 of installed flooring over an estimated building life of 60 years. Environmental Impacts were calculated using the GaBi software platform. Impact results have been calculated using both TRACI 2.1 and CML 2001-Jan 2016 characterization factors. LCIA results are relative expressions and do not predict impacts on category endpoints, the exceeding of thresholds, safety margins or risks. The impact categories of TRACI and CML 2001 are globally deemed mature enough to be included in Type III environmental declarations. Other categories are being developed and defined and LCA should continue making advances in their development, however the EPD users shall not use additional measures for comparative purposes.

Table 12: Description of the system boundary modules

	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	MND

An X in the table above signifies that a module was included in the life cycle assessment. MND stands for Module Not Declared and signifies that a life cycle stage was not evaluated in the life cycle assessment.

See Impact Category Key below for definition of acronyms.

Table 13: Acronym Key

Acronym	Text	Acronym	Text
ADP-elements	Abiotic depletion potential for non-fossil resources	**GWP**	Global warming potential
ADP-fossil	Abiotic depletion potential for fossil resources	**OPD**	Depletion of stratospheric ozone layer
AP	Acidification potential of soil and water	**POCP**	Photochemical ozone creation potential
EP	Eutrophication potential	**Resources**	Depletion of non-renewable fossil fuels
LCI Indicators			

RPR_E	Use of renewable primary energy excluding renewable primary energy resources used as raw materials	**SM**	Use of secondary materials
RPR_M	Use of renewable primary energy resources used as raw materials	**RSF**	Use of renewable secondary fuels
$NRPR_E$	Use of non-renewable primary energy excluding non-renewable primary energy resources used as raw materials	**NRSF**	Use of non-renewable secondary fuels
$NRPR_M$	Use of non-renewable primary energy resources used as raw materials	**FW**	Net use of fresh water
HWD	Disposed-of-hazardous waste	**MR**	Materials for recycling
NHWD	Disposed-of non-hazardous waste	**MER**	Materials for energy recovery
HLRW	High-level radioactive waste, conditioned, to final repository	**EE**	Exported energy
ILLRW	Intermediate- and low-level radioactive waste, conditioned, to final repository	**CRU**	Components for reuse
RE	Recovered energy		

Significant data limitations currently exist within the LCI data used to generate waste metrics for Life Cycle Assessments and Environmental Product Declarations. The waste metrics were calculated in a way conformant with the requirements of ISO 21930:2017, but these values represent rough estimates and are for informational purposes only. As such, no decisions regarding actual cradle-grave waste performance between products should be derived from these reported values.

Table 14: Carbon Uptakes and Emission Indicators

	Description
BCRP [kg CO2e]	Biogenic Carbon Removal from Product
BCEP [kg CO2e]	Biogenic Carbon Emission from Product
BCRK [kg CO2e]	Biogenic Carbon Removal from Packaging
BCEK [kg CO2e]	Biogenic Carbon Emission from Packaging
BCEW [kg CO2e]	Biogenic Carbon Emission from Combustion of Waste from Renewable Sources Used in Production Processes—Not applicable
CCE [kg CO2e]	Calcination Carbon Emissions –Not applicable
CCR [kg CO2e]	Carbonation Carbon Removals –Not applicable
CWNR [kg CO2e]	Carbon Emissions from Combustion of Waste from Non-Renewable Sources used in Production Processes –Not applicable

The results below represent the impacts of the product system under four reference service life scenarios—10 years, 15 years, 20 years and 30 years. All results are given per functional unit, which is 1 m2 of covered and protected flooring surface over 60 years.

Legato Flooring--10-yr Service Life

Table 15: CML Results

Impact Category	A1-A3	A4	A5	B1	B2	B3	B4	B5	B6	B7	C1	C2	C3	C4	D	Total
ADP-elements [kg Sb eq]	3.85E-06	1.48E-07	7.66E-08	0.00E+00	1.92E-06	0.00E+00	2.04E-05	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.10E-08	0.00E+00	4.08E-07	MND	2.68E-05
ADP-fossil fuel [MJ]	3.60E+01	1.37E+01	8.17E-01	0.00E+00	2.93E+01	0.00E+00	2.53E+02	0.00E+00	0.00E+00	0.00E+00	0.00E+00	8.14E-01	0.00E+00	1.54E+01	MND	3.49E+02
AP [kg SO_2 eq]	1.10E-02	9.66E-03	4.31E-04	0.00E+00	6.67E-03	0.00E+00	1.05E-01	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.18E-04	0.00E+00	2.32E-02	MND	1.56E-01
EP [kg Phosphate eq]	2.84E-02	1.37E-03	6.20E-04	0.00E+00	6.12E-03	0.00E+00	1.52E-01	0.00E+00	0.00E+00	0.00E+00	0.00E+00	3.41E-05	0.00E+00	4.21E-02	MND	2.31E-01
GWP [kg CO_2 eq]	2.63E+00	1.06E+00	1.08E-01	0.00E+00	2.20E+00	0.00E+00	1.90E+01	0.00E+00	0.00E+00	0.00E+00	0.00E+00	5.76E-02	0.00E+00	8.16E+00	MND	3.32E+01
ODP [kg CFC 11 eq]	8.24E-15	1.23E-16	1.28E-16	0.00E+00	3.59E-07	0.00E+00	4.25E-14	0.00E+00	0.00E+00	0.00E+00	0.00E+00	5.47E-18	0.00E+00	3.60E-15	MND	3.59E-07
POCP [kg Ethene eq]	8.58E-04	5.30E-04	5.15E-05	0.00E+00	1.31E-03	0.00E+00	7.20E-03	0.00E+00	0.00E+00	0.00E+00	0.00E+00	-1.77E-05	0.00E+00	6.02E-03	MND	1.60E-02

Table 16: TRACI Results

Impact Category	A1-A3	A4	A5	B1	B2	B3	B4	B5	B6	B7	C1	C2	C3	C4	D	Total
AP [kg SO_2 eq]	1.35E-02	1.08E-02	5.17E-04	0.00E+00	9.56E-03	0.00E+00	1.24E-01	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.56E-04	0.00E+00	7.56E-02	MND	2.34E-01
EP [kg N eq]	6.11E-02	5.57E-04	1.26E-03	0.00E+00	1.04E-02	0.00E+00	3.15E-01	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.52E-05	0.00E+00	3.93E-02	MND	4.27E-01
GWP [kg CO_2 eq]	2.65E+00	1.06E+00	1.08E-01	0.00E+00	2.15E+00	0.00E+00	1.91E+01	0.00E+00	0.00E+00	0.00E+00	0.00E+00	5.76E-02	0.00E+00	7.31E+00	MND	3.24E+01
ODP [kg CFC 11 eq]	-1.75E-13	-6.77E-15	-2.55E-15	0.00E+00	3.59E-07	0.00E+00	-9.23E-13	0.00E+00	0.00E+00	0.00E+00	0.00E+00	-3.10E-16	0.00E+00	-5.18E-14	MND	3.59E-07
Resources [MJ]	4.65E+00	1.87E+00	1.17E-01	0.00E+00	3.54E+00	0.00E+00	3.31E+01	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.09E-01	0.00E+00	1.98E+00	MND	4.54E+01
POCP [kg O_3 eq]	2.30E-01	2.20E-01	9.21E-03	0.00E+00	1.20E-01	0.00E+00	2.30E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	3.50E-03	0.00E+00	1.79E-01	MND	3.06E+00

Table 17: Resource Use Results

Impact Category	A1-A3	A4	A5	B1	B2	B3	B4	B5	B6	B7	C1	C2	C3	C4	D	Total
RPR_E [MJ]	6.89E+01	5.68E-01	1.36E+00	0.00E+00	1.93E+01	0.00E+00	3.54E+02	0.00E+00	0.00E+00	0.00E+00	0.00E+00	2.53E-02	0.00E+00	1.20E+00	MND	4.45E+02
RPR_M [MJ]	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	MND	0.00E+00
RPR_T [MJ]	6.89E+01	5.68E-01	1.36E+00	0.00E+00	1.93E+01	0.00E+00	3.54E+02	0.00E+00	0.00E+00	0.00E+00	0.00E+00	2.53E-02	0.00E+00	1.20E+00	MND	4.45E+02
$NRPR_E$ [MJ]	3.77E+01	1.37E+01	7.93E-01	0.00E+00	3.09E+01	0.00E+00	2.61E+02	0.00E+00	0.00E+00	0.00E+00	0.00E+00	8.18E-01	0.00E+00	1.58E+01	MND	3.61E+02
$NRPR_M$ [MJ]	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	MND	0.00E+00
$NRPR_T$ [MJ]	3.77E+01	1.37E+01	7.93E-01	0.00E+00	3.09E+01	0.00E+00	2.61E+02	0.00E+00	0.00E+00	0.00E+00	0.00E+00	8.18E-01	0.00E+00	1.58E+01	MND	3.61E+02
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	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	MND	0.00E+00
RSF [MJ]	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	MND	0.00E+00
NRSF [MJ]	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	MND	0.00E+00
RE [MJ]	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	MND	0.00E+00
FW [m^3]	9.91E-01	2.96E-03	1.99E-02	0.00E+00	1.89E-02	0.00E+00	5.07E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	9.81E-05	0.00E+00	3.06E-03	MND	6.11E+00

Table 18: Output Flows and Waste Results

Impact Category	A1-A3	A4	A5	B1	B2	B3	B4	B5	B6	B7	C1	C2	C3	C4	D	Total
HWD [kg]	1.04E-06	3.53E-06	9.16E-08	0.00E+00	9.10E-04	0.00E+00	2.33E-05	0.00E+00	0.00E+00	0.00E+00	0.00E+00	6.63E-09	0.00E+00	5.52E-08	MND	9.38E-04
NHWD [kg]	2.69E-01	1.21E-03	1.06E-01	0.00E+00	8.32E-01	0.00E+00	1.88E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	3.08E-05	0.00E+00	1.93E+01	MND	2.24E+01
HLRW [kg]	9.44E-07	3.78E-08	-7.66E-09	0.00E+00	7.42E-07	0.00E+00	4.87E-06	0.00E+00	0.00E+00	0.00E+00	0.00E+00	2.19E-09	0.00E+00	1.92E-07	MND	6.78E-06
ILLRW [kg]	6.41E-04	3.03E-05	-9.47E-06	0.00E+00	6.05E-04	0.00E+00	3.31E-03	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.81E-06	0.00E+00	1.53E-04	MND	4.73E-03
CRU [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	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	MND	0.00E+00
MFR [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	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	MND	0.00E+00
MER [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	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	MND	0.00E+00
EE [MJ]	0.00E+00	0.00E+00	6.40E-02	0.00E+00	0.00E+00	0.00E+00	3.20E-01	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	MND	3.84E-01

Legato Flooring--15-yr Service Life

Table 19: CML Results

Impact Category	A1-A3	A4	A5	B1	B2	B3	B4	B5	B6	B7	C1	C2	C3	C4	D	Total
ADP-elements [kg Sb eq]	3.85E-06	1.48E-07	7.67E-08	0.00E+00	1.92E-06	0.00E+00	1.22E-05	0.00E+00	0.00E+00	0.00E+00	0.00E+00	7.33E-09	0.00E+00	2.72E-07	MND	1.85E-05
ADP-fossil fuel [MJ]	3.60E+01	1.37E+01	8.16E-01	0.00E+00	2.93E+01	0.00E+00	1.51E+02	0.00E+00	0.00E+00	0.00E+00	0.00E+00	5.42E-01	0.00E+00	1.02E+01	MND	2.42E+02
AP [kg SO_2 eq]	1.10E-02	9.66E-03	4.32E-04	0.00E+00	6.67E-03	0.00E+00	6.33E-02	0.00E+00	0.00E+00	0.00E+00	0.00E+00	7.86E-05	0.00E+00	1.55E-02	MND	1.07E-01
EP [kg Phosphate eq]	2.84E-02	1.37E-03	6.19E-04	0.00E+00	6.12E-03	0.00E+00	9.11E-02	0.00E+00	0.00E+00	0.00E+00	0.00E+00	2.27E-05	0.00E+00	2.81E-02	MND	1.56E-01
GWP [kg CO_2 eq]	2.63E+00	1.06E+00	1.08E-01	0.00E+00	2.20E+00	0.00E+00	1.14E+01	0.00E+00	0.00E+00	0.00E+00	0.00E+00	3.84E-02	0.00E+00	5.44E+00	MND	2.29E+01
ODP [kg CFC 11 eq]	8.24E-15	1.23E-16	1.28E-16	0.00E+00	3.59E-07	0.00E+00	2.55E-14	0.00E+00	0.00E+00	0.00E+00	0.00E+00	3.64E-18	0.00E+00	2.40E-15	MND	3.59E-07
POCP [kg Ethene eq]	8.58E-04	5.30E-04	5.15E-05	0.00E+00	1.31E-03	0.00E+00	4.32E-03	0.00E+00	0.00E+00	0.00E+00	0.00E+00	-1.18E-05	0.00E+00	4.02E-03	MND	1.11E-02

Table 20: TRACI Results

Impact Category	A1-A3	A4	A5	B1	B2	B3	B4	B5	B6	B7	C1	C2	C3	C4	D	Total
AP [kg SO_2 eq]	1.35E-02	1.08E-02	5.17E-04	0.00E+00	9.56E-03	0.00E+00	7.43E-02	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.04E-04	0.00E+00	5.04E-02	MND	1.59E-01
EP [kg N eq]	6.11E-02	5.57E-04	1.26E-03	0.00E+00	1.04E-02	0.00E+00	1.89E-01	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.01E-05	0.00E+00	2.62E-02	MND	2.88E-01
GWP [kg CO_2 eq]	2.65E+00	1.06E+00	1.08E-01	0.00E+00	2.15E+00	0.00E+00	1.15E+01	0.00E+00	0.00E+00	0.00E+00	0.00E+00	3.84E-02	0.00E+00	4.87E+00	MND	2.23E+01
ODP [kg CFC 11 eq]	-1.75E-13	-6.77E-15	-2.55E-15	0.00E+00	3.59E-07	0.00E+00	-5.54E-13	0.00E+00	0.00E+00	0.00E+00	0.00E+00	-2.07E-16	0.00E+00	-3.46E-14	MND	3.59E-07
Resources [MJ]	4.65E+00	1.87E+00	1.17E-01	0.00E+00	3.54E+00	0.00E+00	1.99E+01	0.00E+00	0.00E+00	0.00E+00	0.00E+00	7.26E-02	0.00E+00	1.32E+00	MND	3.14E+01
POCP [kg O_3 eq]	2.30E-01	2.20E-01	9.21E-03	0.00E+00	1.20E-01	0.00E+00	1.38E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	2.34E-03	0.00E+00	1.19E-01	MND	2.08E+00

Table 21: Resource Use Results

Impact Category	A1-A3	A4	A5	B1	B2	B3	B4	B5	B6	B7	C1	C2	C3	C4	D	Total
RPR_E [MJ]	6.89E+01	5.68E-01	1.36E+00	0.00E+00	1.93E+01	0.00E+00	2.12E+02	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.69E-02	0.00E+00	8.02E-01	MND	3.03E+02
RPR_M [MJ]	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	MND	0.00E+00
RPR_T [MJ]	6.89E+01	5.68E-01	1.36E+00	0.00E+00	1.93E+01	0.00E+00	2.12E+02	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.69E-02	0.00E+00	8.02E-01	MND	3.03E+02
$NRPR_E$ [MJ]	3.77E+01	1.37E+01	7.94E-01	0.00E+00	3.09E+01	0.00E+00	1.57E+02	0.00E+00	0.00E+00	0.00E+00	0.00E+00	5.46E-01	0.00E+00	1.05E+01	MND	2.51E+02
$NRPR_M$ [MJ]	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	MND	0.00E+00
$NRPR_T$ [MJ]	3.77E+01	1.37E+01	7.94E-01	0.00E+00	3.09E+01	0.00E+00	1.57E+02	0.00E+00	0.00E+00	0.00E+00	0.00E+00	5.46E-01	0.00E+00	1.05E+01	MND	2.51E+02
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	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	MND	0.00E+00
RSF [MJ]	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	MND	0.00E+00
NRSF [MJ]	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	MND	0.00E+00
RE [MJ]	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	MND	0.00E+00
FW [m^3]	9.91E-01	2.96E-03	1.99E-02	0.00E+00	1.89E-02	0.00E+00	3.04E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	6.54E-05	0.00E+00	2.04E-03	MND	4.08E+00

Table 22: Waste

Impact Category	A1-A3	A4	A5	B1	B2	B3	B4	B5	B6	B7	C1	C2	C3	C4	D	Total
HWD [kg]	1.04E-06	3.53E-06	9.16E-08	0.00E+00	9.10E-04	0.00E+00	1.40E-05	0.00E+00	0.00E+00	0.00E+00	0.00E+00	4.42E-09	0.00E+00	3.68E-08	MND	9.29E-04
NHWD [kg]	2.69E-01	1.21E-03	1.07E-01	0.00E+00	8.32E-01	0.00E+00	1.13E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	2.06E-05	0.00E+00	1.29E+01	MND	1.52E+01
HLRW [kg]	9.44E-07	3.78E-08	-7.70E-09	0.00E+00	7.42E-07	0.00E+00	2.92E-06	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.46E-09	0.00E+00	1.28E-07	MND	4.77E-06
ILLRW [kg]	6.41E-04	3.03E-05	-9.43E-06	0.00E+00	6.05E-04	0.00E+00	1.99E-03	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.21E-06	0.00E+00	1.02E-04	MND	3.36E-03
CRU [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	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	MND	0.00E+00
MFR [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	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	MND	0.00E+00
MER [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	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	MND	0.00E+00
EE [MJ]	0.00E+00	0.00E+00	6.42E-02	0.00E+00	0.00E+00	0.00E+00	1.93E-01	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	MND	2.57E-01

Legato Flooring--20-yr Service Life

Table 23: CML Results

Impact Category	A1-A3	A4	A5	B1	B2	B3	B4	B5	B6	B7	C1	C2	C3	C4	D	Total
ADP-elements [kg Sb eq]	3.85E-06	1.48E-07	7.67E-08	0.00E+00	1.92E-06	0.00E+00	8.16E-06	0.00E+00	0.00E+00	0.00E+00	0.00E+00	5.50E-09	0.00E+00	2.04E-07	MND	1.44E-05
ADP-fossil fuel [MJ]	3.60E+01	1.37E+01	8.16E-01	0.00E+00	2.93E+01	0.00E+00	1.01E+02	0.00E+00	0.00E+00	0.00E+00	0.00E+00	4.07E-01	0.00E+00	7.69E+00	MND	1.89E+02
AP [kg SO_2 eq]	1.10E-02	9.66E-03	4.32E-04	0.00E+00	6.67E-03	0.00E+00	4.22E-02	0.00E+00	0.00E+00	0.00E+00	0.00E+00	5.90E-05	0.00E+00	1.16E-02	MND	8.17E-02
EP [kg Phosphate eq]	2.84E-02	1.37E-03	6.19E-04	0.00E+00	6.12E-03	0.00E+00	6.07E-02	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.70E-05	0.00E+00	2.10E-02	MND	1.18E-01
GWP [kg CO_2 eq]	2.63E+00	1.06E+00	1.08E-01	0.00E+00	2.20E+00	0.00E+00	7.60E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	2.88E-02	0.00E+00	4.08E+00	MND	1.77E+01
ODP [kg CFC 11 eq]	8.24E-15	1.23E-16	1.28E-16	0.00E+00	3.59E-07	0.00E+00	1.70E-14	0.00E+00	0.00E+00	0.00E+00	0.00E+00	2.73E-18	0.00E+00	1.80E-15	MND	3.59E-07
POCP [kg Ethene eq]	8.58E-04	5.30E-04	5.15E-05	0.00E+00	1.31E-03	0.00E+00	2.88E-03	0.00E+00	0.00E+00	0.00E+00	0.00E+00	-8.87E-06	0.00E+00	3.01E-03	MND	8.63E-03

Table 24: TRACI Results

Impact Category	A1-A3	A4	A5	B1	B2	B3	B4	B5	B6	B7	C1	C2	C3	C4	D	Total
AP [kg SO_2 eq]	1.35E-02	1.08E-02	5.17E-04	0.00E+00	9.56E-03	0.00E+00	4.95E-02	0.00E+00	0.00E+00	0.00E+00	0.00E+00	7.81E-05	0.00E+00	3.78E-02	MND	1.22E-01
EP [kg N eq]	6.11E-02	5.57E-04	1.26E-03	0.00E+00	1.04E-02	0.00E+00	1.26E-01	0.00E+00	0.00E+00	0.00E+00	0.00E+00	7.59E-06	0.00E+00	1.96E-02	MND	2.19E-01
GWP [kg CO_2 eq]	2.65E+00	1.06E+00	1.08E-01	0.00E+00	2.15E+00	0.00E+00	7.64E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	2.88E-02	0.00E+00	3.66E+00	MND	1.73E+01
ODP [kg CFC 11 eq]	-1.75E-13	-6.77E-15	-2.55E-15	0.00E+00	3.59E-07	0.00E+00	-3.69E-13	0.00E+00	0.00E+00	0.00E+00	0.00E+00	-1.55E-16	0.00E+00	-2.59E-14	MND	3.59E-07
Resources [MJ]	4.65E+00	1.87E+00	1.17E-01	0.00E+00	3.54E+00	0.00E+00	1.33E+01	0.00E+00	0.00E+00	0.00E+00	0.00E+00	5.45E-02	0.00E+00	9.90E-01	MND	2.45E+01
POCP [kg O_3 eq]	2.30E-01	2.20E-01	9.21E-03	0.00E+00	1.20E-01	0.00E+00	9.18E-01	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.75E-03	0.00E+00	8.95E-02	MND	1.59E+00

Table 25: Resource Use Results

Impact Category	A1-A3	A4	A5	B1	B2	B3	B4	B5	B6	B7	C1	C2	C3	C4	D	Total
RPR_E [MJ]	6.89E+01	5.68E-01	1.36E+00	0.00E+00	1.93E+01	0.00E+00	1.42E+02	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.27E-02	0.00E+00	6.01E-01	MND	2.32E+02
RPR_M [MJ]	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	MND	0.00E+00
RPR_T [MJ]	6.89E+01	5.68E-01	1.36E+00	0.00E+00	1.93E+01	0.00E+00	1.42E+02	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.27E-02	0.00E+00	6.01E-01	MND	2.32E+02
$NRPR_E$ [MJ]	3.77E+01	1.37E+01	7.94E-01	0.00E+00	3.09E+01	0.00E+00	1.05E+02	0.00E+00	0.00E+00	0.00E+00	0.00E+00	4.09E-01	0.00E+00	7.88E+00	MND	1.96E+02
$NRPR_M$ [MJ]	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	MND	0.00E+00
$NRPR_T$ [MJ]	3.77E+01	1.37E+01	7.94E-01	0.00E+00	3.09E+01	0.00E+00	1.05E+02	0.00E+00	0.00E+00	0.00E+00	0.00E+00	4.09E-01	0.00E+00	7.88E+00	MND	1.96E+02
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	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	MND	0.00E+00
RSF [MJ]	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	MND	0.00E+00
NRSF [MJ]	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	MND	0.00E+00
RE [MJ]	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	MND	0.00E+00
FW [m^3]	9.91E-01	2.96E-03	1.99E-02	0.00E+00	1.89E-02	0.00E+00	2.03E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	4.91E-05	0.00E+00	1.53E-03	MND	3.06E+00

Table 26: Waste

Impact Category	A1-A3	A4	A5	B1	B2	B3	B4	B5	B6	B7	C1	C2	C3	C4	D	Total
HWD [kg]	1.04E-06	3.53E-06	9.16E-08	0.00E+00	9.10E-04	0.00E+00	9.32E-06	0.00E+00	0.00E+00	0.00E+00	0.00E+00	3.32E-09	0.00E+00	2.76E-08	MND	9.24E-04
NHWD [kg]	2.69E-01	1.21E-03	1.07E-01	0.00E+00	8.32E-01	0.00E+00	7.53E-01	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.54E-05	0.00E+00	9.67E+00	MND	1.16E+01
HLRW [kg]	9.44E-07	3.78E-08	-7.70E-09	0.00E+00	7.42E-07	0.00E+00	1.95E-06	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.09E-09	0.00E+00	9.59E-08	MND	3.76E-06
ILLRW [kg]	6.41E-04	3.03E-05	-9.43E-06	0.00E+00	6.05E-04	0.00E+00	1.32E-03	0.00E+00	0.00E+00	0.00E+00	0.00E+00	9.06E-07	0.00E+00	7.63E-05	MND	2.67E-03
CRU [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	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	MND	0.00E+00
MFR [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	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	MND	0.00E+00
MER [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	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	MND	0.00E+00
EE [MJ]	0.00E+00	0.00E+00	6.42E-02	0.00E+00	0.00E+00	0.00E+00	1.28E-01	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	MND	1.93E-01

Legato Flooring--30-yr Service Life

Table 27: CML Results

Impact Category	A1-A3	A4	A5	B1	B2	B3	B4	B5	B6	B7	C1	C2	C3	C4	D	Total
ADP-elements [kg Sb eq]	3.85E-06	1.48E-07	7.67E-08	0.00E+00	1.92E-06	0.00E+00	4.08E-06	0.00E+00	0.00E+00	0.00E+00	0.00E+00	3.67E-09	0.00E+00	1.36E-07	MND	1.02E-05
ADP-fossil fuel [MJ]	3.60E+01	1.37E+01	8.16E-01	0.00E+00	2.93E+01	0.00E+00	5.05E+01	0.00E+00	0.00E+00	0.00E+00	0.00E+00	2.71E-01	0.00E+00	5.12E+00	MND	1.36E+02
AP [kg SO_2 eq]	1.10E-02	9.66E-03	4.32E-04	0.00E+00	6.67E-03	0.00E+00	2.11E-02	0.00E+00	0.00E+00	0.00E+00	0.00E+00	3.93E-05	0.00E+00	7.74E-03	MND	5.67E-02
EP [kg Phosphate eq]	2.84E-02	1.37E-03	6.19E-04	0.00E+00	6.12E-03	0.00E+00	3.04E-02	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.14E-05	0.00E+00	1.40E-02	MND	8.09E-02
GWP [kg CO_2 eq]	2.63E+00	1.06E+00	1.08E-01	0.00E+00	2.20E+00	0.00E+00	3.80E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.92E-02	0.00E+00	2.72E+00	MND	1.25E+01
ODP [kg CFC 11 eq]	8.24E-15	1.23E-16	1.28E-16	0.00E+00	3.59E-07	0.00E+00	8.49E-15	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.82E-18	0.00E+00	1.20E-15	MND	3.59E-07
POCP [kg Ethene eq]	8.58E-04	5.30E-04	5.15E-05	0.00E+00	1.31E-03	0.00E+00	1.44E-03	0.00E+00	0.00E+00	0.00E+00	0.00E+00	-5.91E-06	0.00E+00	2.01E-03	MND	6.19E-03

Table 28: TRACI Results

Impact Category	A1-A3	A4	A5	B1	B2	B3	B4	B5	B6	B7	C1	C2	C3	C4	D	Total
AP [kg SO_2 eq]	1.35E-02	1.08E-02	5.17E-04	0.00E+00	9.56E-03	0.00E+00	2.48E-02	0.00E+00	0.00E+00	0.00E+00	0.00E+00	5.21E-05	0.00E+00	2.52E-02	MND	8.44E-02
EP [kg N eq]	6.11E-02	5.57E-04	1.26E-03	0.00E+00	1.04E-02	0.00E+00	6.29E-02	0.00E+00	0.00E+00	0.00E+00	0.00E+00	5.06E-06	0.00E+00	1.31E-02	MND	1.49E-01
GWP [kg CO_2 eq]	2.65E+00	1.06E+00	1.08E-01	0.00E+00	2.15E+00	0.00E+00	3.82E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.92E-02	0.00E+00	2.44E+00	MND	1.22E+01
ODP [kg CFC 11 eq]	-1.75E-13	-6.77E-15	-2.55E-15	0.00E+00	3.59E-07	0.00E+00	-1.85E-13	0.00E+00	0.00E+00	0.00E+00	0.00E+00	-1.03E-16	0.00E+00	-1.73E-14	MND	3.59E-07
Resources [MJ]	4.65E+00	1.87E+00	1.17E-01	0.00E+00	3.54E+00	0.00E+00	6.63E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	3.63E-02	0.00E+00	6.60E-01	MND	1.75E+01
POCP [kg O_3 eq]	2.30E-01	2.20E-01	9.21E-03	0.00E+00	1.20E-01	0.00E+00	4.59E-01	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.17E-03	0.00E+00	5.96E-02	MND	1.10E+00

Table 29: Resource Use Results

Impact Category	A1-A3	A4	A5	B1	B2	B3	B4	B5	B6	B7	C1	C2	C3	C4	D	Total
RPR_E [MJ]	6.89E+01	5.68E-01	1.36E+00	0.00E+00	1.93E+01	0.00E+00	7.08E+01	0.00E+00	0.00E+00	0.00E+00	0.00E+00	8.44E-03	0.00E+00	4.01E-01	MND	1.61E+02
RPR_M [MJ]	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	MND	0.00E+00
RPR_T [MJ]	6.89E+01	5.68E-01	1.36E+00	0.00E+00	1.93E+01	0.00E+00	7.08E+01	0.00E+00	0.00E+00	0.00E+00	0.00E+00	8.44E-03	0.00E+00	4.01E-01	MND	1.61E+02
$NRPR_E$ [MJ]	3.77E+01	1.37E+01	7.94E-01	0.00E+00	3.09E+01	0.00E+00	5.23E+01	0.00E+00	0.00E+00	0.00E+00	0.00E+00	2.73E-01	0.00E+00	5.25E+00	MND	1.41E+02
$NRPR_M$ [MJ]	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	MND	0.00E+00
$NRPR_T$ [MJ]	3.77E+01	1.37E+01	7.94E-01	0.00E+00	3.09E+01	0.00E+00	5.23E+01	0.00E+00	0.00E+00	0.00E+00	0.00E+00	2.73E-01	0.00E+00	5.25E+00	MND	1.41E+02
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	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	MND	0.00E+00
RSF [MJ]	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	MND	0.00E+00
NRSF [MJ]	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	MND	0.00E+00
RE [MJ]	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	MND	0.00E+00
FW [m^3]	9.91E-01	2.96E-03	1.99E-02	0.00E+00	1.89E-02	0.00E+00	1.01E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	3.27E-05	0.00E+00	1.02E-03	MND	2.05E+00

Table 30: Waste

Impact Category	A1-A3	A4	A5	B1	B2	B3	B4	B5	B6	B7	C1	C2	C3	C4	D	Total
HWD [kg]	1.04E-06	3.53E-06	9.16E-08	0.00E+00	9.10E-04	0.00E+00	4.66E-06	0.00E+00	0.00E+00	0.00E+00	0.00E+00	2.21E-09	0.00E+00	1.84E-08	MND	9.19E-04
NHWD [kg]	2.69E-01	1.21E-03	1.07E-01	0.00E+00	8.32E-01	0.00E+00	3.77E-01	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.03E-05	0.00E+00	6.44E+00	MND	8.03E+00
HLRW [kg]	9.44E-07	3.78E-08	-7.70E-09	0.00E+00	7.42E-07	0.00E+00	9.74E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	7.29E-10	0.00E+00	6.39E-08	MND	2.75E-06
ILLRW [kg]	6.41E-04	3.03E-05	-9.43E-06	0.00E+00	6.05E-04	0.00E+00	6.62E-04	0.00E+00	0.00E+00	0.00E+00	0.00E+00	6.04E-07	0.00E+00	5.09E-05	MND	1.98E-03
CRU [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	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	MND	0.00E+00
MFR [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	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	MND	0.00E+00
MER [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	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	MND	0.00E+00
EE [MJ]	0.00E+00	0.00E+00	6.42E-02	0.00E+00	0.00E+00	0.00E+00	6.42E-02	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	MND	1.28E-01

Table 31: Biogenic Carbon Uptakes and Emissions

Product	Indicator	A1-A3	A4	A5	B1	B2	B3	B4	B5	B6	B7	C1	C2	C3	C4	D
Legato Flooring-10-yr RSL	BCRP	9.16E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	4.58E+01	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	6.52E-02	MND
	BCEP	4.98E-02	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	2.49E-01	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	2.93E+00	MND
	BCRK	5.65E-03	0.00E+00	-4.39E-04	0.00E+00	0.00E+00	0.00E+00	2.60E-02	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	MND
	BCEK	6.22E-03	0.00E+00	-5.16E-04	0.00E+00	0.00E+00	0.00E+00	2.85E-02	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	MND
Legato Flooring-15-yr RSL	BCRP	9.16E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	2.75E+01	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	4.35E-02	MND
	BCEP	4.98E-02	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.49E-01	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.95E+00	MND
	BCRK	5.65E-03	0.00E+00	-4.39E-04	0.00E+00	0.00E+00	0.00E+00	1.56E-02	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	MND
	BCEK	6.22E-03	0.00E+00	-5.16E-04	0.00E+00	0.00E+00	0.00E+00	1.71E-02	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	MND
Legato Flooring-20-yr RSL	BCRP	9.16E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.83E+01	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	3.26E-02	MND
	BCEP	4.98E-02	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	9.96E-02	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.46E+00	MND
	BCRK	5.65E-03	0.00E+00	-4.39E-04	0.00E+00	0.00E+00	0.00E+00	1.04E-02	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	MND
	BCEK	6.22E-03	0.00E+00	-5.16E-04	0.00E+00	0.00E+00	0.00E+00	1.14E-02	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	MND
Legato Flooring-30-yr RSL	BCRP	9.16E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	9.16E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	2.17E-02	MND
	BCEP	4.98E-02	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	4.98E-02	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	9.75E-01	MND
	BCRK	5.65E-03	0.00E+00	-4.39E-04	0.00E+00	0.00E+00	0.00E+00	5.21E-03	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	MND
	BCEK	6.22E-03	0.00E+00	-5.16E-04	0.00E+00	0.00E+00	0.00E+00	5.71E-03	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	MND

Life Cycle Assessment Interpretation

Overall, the raw material extraction, raw material transportation and manufacturing stages (A1-A3) are the largest impact contributor in one single reference service life of the product system. On the other hand, the impacts from the manufacturing stage across all the indicators is negligible. This points out that raw material selection and formulation optimization is a focal area where the manufacturer may be able to effectively reduce its product environmental impact.

Finally, from a broader standpoint, improving the product system's performance and durability can be an effective measure. In the assessment, the reference flows across four service life scenarios range from 7.49 kg to 22.47 kg. A longer service life for the product leads to better environmental performance across all impact categories.

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