

The PLAE logo is rendered in a bold, black, sans-serif font. The letters 'P', 'L', and 'A' are connected, and the 'E' is separate. The background of the entire page is a dark, textured surface with several circular weight plates in green, yellow, blue, and red, each featuring the PLAE logo and '15 kg'.

### Declaration Owner

#### PLAE

190 Etowah Industrial Court,  
Canton GA 30114  
United States  
404-645-7900 | [www.plae.us](http://www.plae.us)

### Product

Rubber Flooring:

- Achieve
- Forge
- Silence
- Earthflex
- Aspire

EPD represents delivery of product to customers globally.

### Functional Unit

The functional unit is one square meter of flooring over a 75-year period

### EPD Number and Period of Validity

SCS-EPD-08310

EPD Valid October 13, 2022 through October 12, 2027

Version Date: December 12, 2022

### Product Category Rule

PCR Guidance for Building-Related Products and Services Part A: Life Cycle Assessment Calculation Rules and Report Requirements. Version 3.2. UL Environment. December 2018.

PCR Guidance for Building-Related Products and Services Part B: Flooring EPD Requirements. Version 2.0. September 2018 October 2018 v1.

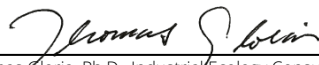

### Program Operator

SCS Global Services

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Declaration Owner:	PLAE																
Address:	190 Etowah Industrial Court, Canton GA 30114, United States																
Declaration Number:	SCS-EPD-08310																
Declaration Validity Period:	EPD Valid October 13, 2022 through October 12, 2027																
Version:	December 12, 2022																
Program Operator:	SCS Global Services																
Declaration URL Link:	<a href="https://www.scsglobalservices.com/certified-green-products-guide">https://www.scsglobalservices.com/certified-green-products-guide</a>																
LCA Practitioner:	Gerard Mansell, Ph.D., SCS Global Services																
LCA Software and LCI database:	OpenLCA 1.10 software and the Ecoinvent v3.8 database																
Product RSL:	Various																
Markets of Applicability:	Global																
EPD Type:	Product-Specific																
EPD Scope:	Cradle-to-Grave																
LCIA Method and Version:	CML-IA and TRACI 2.1																
Independent critical review of the LCA and data, according to ISO 14044 and ISO 14071	<input type="checkbox"/> internal <input checked="" type="checkbox"/> external																
LCA Reviewer:	 Thomas Gloria, Ph.D., Industrial Ecology Consultants																
Part A Product Category Rule:	PCR Guidance for Building-Related Products and Services Part A: Life Cycle Assessment Calculation Rules and Report Requirements. Version 3.2. UL Environment. December 2018.																
Part A PCR Review conducted by:	Lindita Bushi, PhD (Chair); Hugues Imbeault-Tétreault, ing., M.Sc.A.; Jack Geibig																
Part B Product Category Rule:	PCR Guidance for Building-Related Products and Services Part B: Flooring EPD Requirements. Version 2.0. September 2018 October 2018 v1.																
Part B PCR Review conducted by:	Jack Geibig (chair), Ecoform; Thomas Gloria, Industrial Ecology Consultants; Thaddeus Owen																
Independent verification of the declaration and data, according to ISO 14025 and the PCR	<input type="checkbox"/> internal <input checked="" type="checkbox"/> external																
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Declaration Contents:	<table border="0"> <tr> <td>1. PLAE .....</td> <td>2</td> </tr> <tr> <td>2. Product.....</td> <td>2</td> </tr> <tr> <td>3. LCA: Calculation Rules.....</td> <td>7</td> </tr> <tr> <td>4. LCA: Scenarios and Additional Technical Information.....</td> <td>13</td> </tr> <tr> <td>5. LCA: Results.....</td> <td>16</td> </tr> <tr> <td>6. LCA: Interpretation .....</td> <td>31</td> </tr> <tr> <td>7. Additional Environmental Information.....</td> <td>31</td> </tr> <tr> <td>8. References.....</td> <td>32</td> </tr> </table>	1. PLAE .....	2	2. Product.....	2	3. LCA: Calculation Rules.....	7	4. LCA: Scenarios and Additional Technical Information.....	13	5. LCA: Results.....	16	6. LCA: Interpretation .....	31	7. Additional Environmental Information.....	31	8. References.....	32
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<p><b>Disclaimers:</b> This EPD conforms to ISO 14025, 14040, 14044, and 21930.</p> <p><b>Scope of Results Reported:</b> The PCR requirements limit the scope of the LCA metrics such that the results exclude environmental and social performance benchmarks and thresholds, and exclude impacts from the depletion of natural resources, land use ecological impacts, ocean impacts related to greenhouse gas emissions, risks from hazardous wastes and impacts linked to hazardous chemical emissions.</p> <p><b>Accuracy of Results:</b> Due to PCR constraints, this EPD provides estimations of potential impacts that are inherently limited in terms of accuracy.</p> <p><b>Comparability:</b> The PCR this EPD was based on was not written to support comparative assertions. EPDs based on different PCRs, or different calculation models, may not be comparable. When attempting to compare EPDs or life cycle impacts of products from different companies, the user should be aware of the uncertainty in the final results, due to and not limited to, the practitioner's assumptions, the source of the data used in the study, and the specifics of the product modeled.</p> <p>In accordance with ISO 21930:2017, EPDs are comparable only if they comply with the core PCR, use the same sub-category PCR where applicable, include all relevant information modules and are based on equivalent scenarios with respect to the context of construction works.</p>																	

## 1. PLAE

PLAE innovates and distributes the most advanced athletic products in the world for clients who refuse to accept second best. We use the hardest materials available to create dynamic surfaces that outperform, outlast, and totally dominate their competition. We run our own race, pursue our own goals, because when it comes to the athletes who fuel our passion, good enough is never enough.

## 2. Product

### 2.1 PRODUCT DESCRIPTION

	Product Description
Achieve	Achieve is the world's most innovative sports flooring system. Utilizing a patented fusion process, the resilient top layer is fused to our hyper-aggressive PLAETech™ Foundation to create a single layer product. Our PLAETech™ Foundation is specifically designed for the best athletes in the world. Engineered for maximum shock absorption and explosive energy return, this product can withstand anything you throw at it, or drop on it. Supplying you and your athletes with confidence and support, while training day-in, day-out.
Forge	Forge is a single layer concept, it delivers solid-grip technology and a sense reclaimed rubber composition designed for maximum charge and absorption. Engineered to take a beating, Forge provide a low-cos alternative but boasts a durable design that absorbs shock, reduces barbell bounce and returns natural energy for a safe, dynamic workout.
Silence	Silence Sound Insulation is a high-quality sound control underlayment. Silence is engineered for use directly under most floor finishes, yielding exceptional impact sound insulation results, even under hard surface flooring for concrete or wood-framed construction. Silence can be installed under most types of grouted, glued, and floating floors, including hard tile, hardwood, engineered wood, laminate, and LVT.
Earthflex	Combining extreme sustainability with aggressive high performance, Earthflex offers a world-class surface at an economical price. Earthflex is composed of recycled composition rubber and colored EPDM, Earthflex combines aesthetic considerations with highly sustainable composition. The products are available in a low- and high-color level.
Aspire	Aspire provides the ultimate solution for those in search of a dynamic, resilient system capable of quick and easy relocation. Interlock Blocks lock the beveled tiles together, creating a fully stable, modular training surface free of subfloor adhesion. Molded pedestal feet create acoustical insulation beneath the shock layer, making Aspire one of our most noise-deadening systems. They also dramatically improve draining rates. For those looking to create a world-class training space on the go, Aspire checks all the boxes. The products are available in a low- and high-color level.

### 2.2 PRODUCT FLOW DIAGRAM

A flow diagram illustrating the production processes and life cycle phases included in the scope of the EPD is provided below.



### 2.3 APPLICATION

The PLAE rubber flooring products provide the primary function of flooring for interior applications. The products are used in various commercial applications including athletic facilities, healthcare, education, and hospitality.

### 2.4 DECLARATION OF METHODOLOGICAL FRAMEWORK

The scope of the EPD is cradle-to-grave, including raw material extraction and processing, transportation, product manufacture, product delivery, installation and use, and product disposal. The life cycle phases included in the product system boundary are shown below.

Cut-off and allocation procedures are described below and conform to the PCR and ISO standards.

**Table 1.** Life cycle phases included in the PLAE Rubber flooring product system boundary.

Product			Construction Process		Use							End-of-life				Benefits and loads beyond the system boundary
A1	A2	A3	A4	A5	B1	B1	B3	B4	B5	B6	B7	C1	C2	C3	C4	D
Raw material extraction and processing	Transport to manufacturer	Manufacturing	Transport	Construction - installation	Use	Maintenance	Repair	Replacement	Refurbishment	Operational energy use	Operational water use	Deconstruction demolition	Transport	Waste processing	Disposal	Reuse, recovery and/or recycling potential
X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	MND

X = Module Included | MND = Module Not Declared

### 2.5 TECHNICAL DATA

Technical specifications for the flooring product are summarized in Table 2 through Table 6.

**Table 2.** Product specifications for the PLAE Achieve rubber flooring products.

Characteristic		Average Value	Unit	Minimum Value	Maximum Value
Product thickness		13.00 (0.51)	mm (in)	18.00 (0.71)	8.00 (0.31)
Wear layer thickness		3.00 (0.12)	mm (in)	3.00 (0.12)	3.00 (0.12)
Product weight		12,401 (41)	g/m <sup>2</sup> (oz/ft <sup>2</sup> )	17,626 (58)	7,324 (24)
VOC emissions test method		Floorscore®			
Sustainable certifications		-			
Product Form	Rolls	Width	1,219 (48)	mm (in)	1,219 (48)
		Length	9,144 (360)	mm (in)	7,620 (300)
					15,240 (600)

**Table 3.** Product specifications for the PLAE Forge rubber flooring products.

Product Characteristics		Nominal value	Unit	Minimum value	Maximum value
Product Thickness		12.00 (0.47)	mm (in)	12.00 (0.47)	12.00 (0.47)
Wear layer thickness		n/a	mm (in)	n/a	n/a
Product Weight		113.7 (0.37)	g/m <sup>2</sup> (oz/ft <sup>2</sup> )	113.7 (0.37)	113.7 (0.37)
VOC emissions test method		FloorScore®			
Sustainable certifications		-			
Product Form	Rolls	Width	1,219 (48)	mm (in)	1,219 (48)
		Length	9,144 (360)	mm (in)	9,144 (360)

**Table 4.** Product specifications for the PLAE Silence rubber flooring products.

Product Characteristics		Nominal value	Unit	Minimum value	Maximum value
Product Thickness		10.00 (0.39)	mm (in)	15.00 (0.59)	5.00 (0.20)
Wear layer thickness		n/a	mm (in)	n/a	n/a
Product Weight		67.4 (0.22)	g/m <sup>2</sup> (oz/ft <sup>2</sup> )	94.8 (0.31)	35.0 (0.11)
VOC emissions test method		FloorScore®			
Sustainable certifications		-			
Product Form	Tiles	Width	1,219 (48)	mm (in)	1,219 (48)
		Length	4,572 (180)	mm (in)	1,524 (60)

**Table 5.** Product specifications for the PLAE Aspire rubber flooring products.

Characteristic		Nominal Value	Unit	Minimum Value	Maximum Value
Product thickness		25.40 (1.00)	mm (in)	25.40 (1.00)	25.40 (1.00)
Wear layer thickness		3.00 (0.12)	mm (in)	3.00 (0.12)	3.00 (0.12)
Product weight		337.0 (1.10)	g/m <sup>2</sup> (oz/ft <sup>2</sup> )	337.0 (1.10)	337.0 (1.10)
VOC emissions test method		Floorscore®			
Sustainable certifications		-			
Product Form	Tiles	Width	609 (24)	mm (in)	609 (24)
		Length	609 (24)	mm (in)	609 (24)

**Table 6.** Product specifications for the PLAE Earthflex rubber flooring products.

Characteristic		Nominal Value	Unit	Minimum Value	Maximum Value
Product thickness		8.00 (0.31)	mm (in)	9.00 (0.35)	6.00 (0.24)
Wear layer thickness		n/a	mm (in)	n/a	n/a
Product weight		75.8 (0.25)	g/m <sup>2</sup> (oz/ft <sup>2</sup> )	84.2 (0.28)	63.2 (0.21)
VOC emissions test method		Floorscore®			
Sustainable certifications		-			
Product Form	Rolls	Width	1,219 (48)	mm (in)	1,219 (48)
		Length	7,620 (300)	mm (in)	7,620 (300)

## 2.6 MARKET PLACEMENT/APPLICATION RULES

Technical specifications and product performance results for the flooring products can be found on the manufacturer's website: [www.plae.us](http://www.plae.us).

## 2.7 PROPERTIES OF DECLARED PRODUCT AS DELIVERED

The products are delivered for installation in the form of rubber tiles and rolls.

## 2.8 MATERIAL COMPOSITION

The primary materials include virgin and recycled rubber, fillers, binders and adhesives. For the Aspire and Earthflex flooring products, both a high- and low-color level version of the products are modeled.

**Table 7.** Material content for the rubber flooring products in kg per square meter and percent of total mass. (Achieve; Forge; Silence)

Component	Achieve	Forge	Silence
Rubber	0.286	$4.90 \times 10^{-2}$	0.00
	2%	0.34%	0%
Regrind/Crumb Rubber	9.57	12.5	10.4
	68%	87%	93%
Polymer Binder	1.01	1.21	0.688
	7.2%	8.4%	6.2%
Adhesive	0.132	0.00	0.00
	0.94%	0%	0%
Filler	2.37	0.407	0.00
	17%	2.8%	0%
Other	0.528	$7.41 \times 10^{-2}$	0.00
	3.8%	0.52%	0%
Water	0.110	0.114	$6.65 \times 10^{-2}$
	0.78%	0.79%	0.6%
<b>Total Product</b>	<b>14.0</b>	<b>14.3</b>	<b>11.2</b>
	<b>100%</b>	<b>100%</b>	<b>100%</b>

**Table 8.** Material content for the rubber flooring products in kg per square meter and percent of total mass. (Earthflex; Aspire)

Component	Earthflex- Low color	Earthflex - High color	Aspire- Low color	Aspire - High color
Rubber	0.589	$5.34 \times 10^{-2}$	1.10	0.159
	7%	0.64%	1.4%	0.2%
Regrind/Crumb Rubber	1.31	7.04	62.1	72.1
	16%	84%	77%	90%
Polymer Binder	0.734	0.704	6.04	5.93
	8.7%	8.4%	7.5%	7.4%
Filler	4.88	0.443	9.10	1.32
	58%	5.3%	11%	1.6%
Other	0.812	$8.91 \times 10^{-2}$	1.51	0.266
	9.7%	1.1%	1.9%	0.33%
Water	$7.34 \times 10^{-2}$	$6.63 \times 10^{-2}$	0.745	0.738
	0.87%	0.79%	0.92%	0.92%
<b>Total Product</b>	<b>8.40</b>	<b>8.40</b>	<b>80.6</b>	<b>80.6</b>
	<b>100%</b>	<b>100%</b>	<b>100%</b>	<b>100%</b>

No substances required to be reported as hazardous are associated with the production of this product

## 2.9 MANUFACTURING

PLAE rubber flooring is produced at a manufacturing facility in the United States. The rubber flooring is made primarily from virgin and recycled rubber.

## 2.10 PACKAGING

The products are packaged for shipment using cardboard cartons, plastic wrap and wood pallets.

**Table 9.** Material content for the flooring product packaging, in kg per square meter and percent of total mass. (Achieve; Forge; Silence)

Component	Achieve	Forge	Silence
Corrugated	0.198	0.198	0.00
	48%	48%	0%
Plastic	0.215	0.215	4.00x10 <sup>-2</sup>
	52%	52%	48%
Wood	0.00	0.00	4.40x10 <sup>-2</sup>
	0%	0%	52%
<b>Total Packaging</b>	<b>0.413</b>	<b>0.413</b>	<b>8.40x10<sup>-2</sup></b>
	<b>100%</b>	<b>100%</b>	<b>100%</b>

**Table 10.** Material content for the flooring product packaging, in kg per square meter and percent of total mass. (Earthflex; Aspire)

Component	Earthflex- Low color	Earthflex - High color	Aspire- Low color	Aspire - High color
Corrugated	0.129	0.129	2.44x10 <sup>-3</sup>	2.44x10 <sup>-3</sup>
	11%	11%	0.32%	0.32%
Plastic	0.293	0.293	2.44x10 <sup>-2</sup>	2.44x10 <sup>-2</sup>
	25%	25%	3.2%	3.2%
Wood	0.732	0.732	0.732	0.732
	63%	63%	96%	96%
<b>Total Packaging</b>	<b>1.15</b>	<b>1.15</b>	<b>0.759</b>	<b>0.759</b>
	<b>100%</b>	<b>100%</b>	<b>100%</b>	<b>100%</b>

## 2.11 PRODUCT INSTALLATION

Installation of the product is accomplished using hand tools with negligible impacts and waste. The impacts associated with packaging disposal are included with the installation phase as per PCR requirements.

## 2.12 USE CONDITIONS

No special conditions of use are noted.

## 2.13 PRODUCT REFERENCE SERVICE LIFE AND BUILDING ESTIMATED SERVICE LIFE

The Reference Service Life (RSL) of the flooring product is based on the manufacturer's estimated product lifetime and is summarized in Table 11 below. The building Estimated Service Life (ESL) is 75 years, consistent with the PCR.

## 2.14 RE-USE PHASE

The flooring products are not reused at end-of-life.

## 2.15 DISPOSAL

At end-of-life, the products are disposed of in a landfill, per PCR guidance. It is assumed that no components of the product are recycled at end-of-life.

## 2.16 FURTHER INFORMATION

Further information on the product can be found on the manufacturers' website at <https://plae.us/>



## 3. LCA: Calculation Rules

### 3.1 FUNCTIONAL UNIT

The functional unit used in the study is defined as 1 m<sup>2</sup> of floor covering installed for use over a 75-year period. The corresponding reference flow for each product system is presented in Table 11. For the present assessment, a reference service lifetime (RSL) corresponding to the manufacturer's warranted lifetime is assumed. The total number of required product lifecycles during the 75-year period over which the product system is modeled is also summarized for the product in Table 11.

**Table 11.** Reference flows and RSL for the Rubber flooring product.

Product Name	Reference Flow (kg/m <sup>2</sup> )	Reference Service Life – RSL (years)	Replacement Cycle (ESL/RSL-1)
PLAE Achieve	14.0	15	4
PLAE Forge	14.3	5	14
PLAE Silence	11.2	5	14
PLAE Earthflex – low color	8.40	15	4
PLAE Earthflex – high color	8.40	15	4
PLAE Aspire – low color	80.6	20	3.75
PLAE Aspire – high color	80.6	20	3.75



### 3.2 SYSTEM BOUNDARY

The scope of the EPD is cradle-to-grave, including raw material extraction and processing, transportation, product manufacture, product delivery, installation and use, and product disposal. The life cycle phases included in the EPD scope are described in Table 12 and illustrated in Figure 1.

**Table 12.** *The modules and unit processes included in the scope for the PLAE flooring products.*

Module	Module description from the PCR	Unit Processes Included in Scope
A1	Extraction and processing of raw materials; any reuse of products or materials from previous product systems; processing of secondary materials; generation of electricity from primary energy resources; energy, or other, recovery processes from secondary fuels	Extraction and processing of raw materials for the rubber flooring components.
A2	Transport (to the manufacturer)	Transport of component materials to the manufacturing facility.
A3	Manufacturing, including ancillary material production	Manufacturing of flooring products and packaging (incl. upstream unit processes)
A4	Transport (to the building site)	Transport of product (including packaging) to the building site.
A5	Construction-installation process	Impacts from the installation of the product are assumed negligible. Only impacts from packaging disposal are included in this phase.
B1	Product use	Use of the flooring in a commercial building setting. There are no associated emissions or impacts from the use of the product.
B2	Product maintenance	Maintenance of products, including periodic cleaning over the 75-year ESL of the assessment.
B3	Product repair	The flooring is not expected to require repair over its lifetime. Impacts from this phase are reported as zero.
B4	Product replacement	The materials and energy required for replacement of the product over the 75-year ESL of the assessment are included in this phase.
B5	Product refurbishment	The flooring is not expected to require refurbishment over its lifetime. Impacts from this phase are reported as zero.
B6	Operational energy use by technical building systems	There is no operational energy use associated with the use of the product.
B7	Operational water use by technical building systems	There is no operational water use associated with the use of the product.
C1	Deconstruction, demolition	Demolition of the product is accomplished using hand tools with no associated emissions and negligible impacts
C2	Transport (to waste processing)	Transport of flooring product to waste treatment at end-of-life.
C3	Waste processing for reuse, recovery and/or recycling	The product is disposed of by landfilling which require no waste processing.
C4	Disposal	Disposal of flooring product in municipal landfill.
D	Reuse-recovery-recycling potential	Module Not Declared

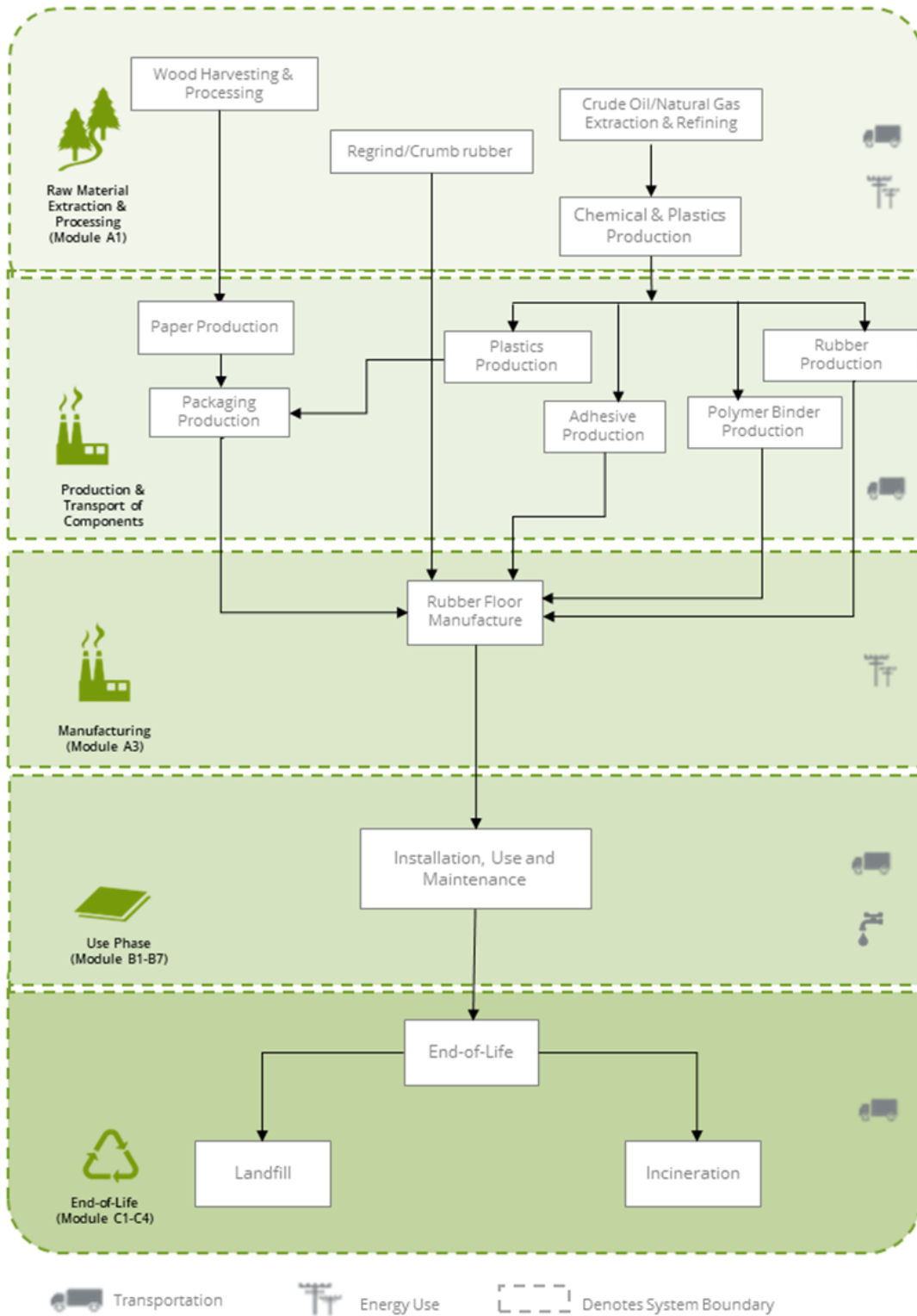


Figure 1. Flow Diagram for the life cycle of the PLAE rubber flooring product system.

### 3.3 PRODUCT SPECIFIC CALCULATION FOR USE PHASE

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. For the purposes of this EPD, average maintenance (moderate traffic levels) is presented based on typical installations.

### 3.4 UNITS

All data and results are presented using SI units.

### 3.5 ESTIMATES AND ASSUMPTIONS

- The Reference Service Life (RSL) of the products was modeled based on information provided by the manufacturer assuming their products are installed and maintained as recommended and used for the specific application noted.
- For the product end-of-life, disposal of product and packaging is modeled based on the PCR guidance regarding recycling rates of product and packaging materials.
- For final disposal of the packaging material and flooring products at end-of-life, all materials are assumed to be transported 20 miles by diesel truck to either a landfill or material reclamation facility (for recycling). Datasets representing disposal in a landfill and waste incineration are from Ecoinvent.
- Modeling of recycled materials follows the recycled content method (also known as 100-0 method or cut-off method) whereby only the burdens of reprocessing the waste material are allocated to the system from the use of the recycled material.
- Electricity use at the Lancaster Pennsylvania manufacturing facility was allocated to the flooring products based on the product area as a fraction of the total production.
- The production facility is located in the RFCE eGRID EPA NERC subregion. An Ecoinvent inventory dataset was modified to reflect the eGRID energy mix for RFCE to estimate resource use and emissions from electricity use at the manufacturing facility.
- Downstream transport was modeled based on information provided by the manufacturer representing transport for global product distribution.
- The use phase of the product life cycle was modeled based on information provided by the manufacturer including recommended installation and cleaning methods, as well as cleaning frequency.

The PCR requires the results for several inventory flows related to construction products to be reported including energy and resource use and waste and outflows. These are aggregated inventory flows, and do not characterize any potential impact; results should be interpreted considering this limitation.

### 3.6 CUT-OFF RULES

According to the PCR, processes contributing greater than 1% of the total environmental impact indicator for each impact are included in the inventory. No data gaps were allowed which were expected to significantly affect the outcome of the indicator results. No known flows are deliberately excluded from this EPD.

### 3.7 DATA SOURCES

Primary data were provided by the manufacturer for its operations. The sources of secondary LCI data are the Ecoinvent database.

**Table 13.** Data sources for the PLAE rubber flooring product system.

Component	Dataset	Data Source	Publication date
<b>PRODUCT</b>			
Crumb Rubber	SBR - Crumb, recycled	Primary data; EI v3.8	2017; 2021
Wear layer	synthetic rubber production   synthetic rubber   Cutoff, S/RoW	EI v3.8	2021
Filler	limestone production, crushed, washed   limestone, crushed, washed   Cutoff, S/RoW; market for clay   clay   Cutoff, S/RoW	EI v3.8	2021
Adhesive	ethylene vinyl acetate copolymer production   ethylene vinyl acetate copolymer   Cutoff, S/RoW	EI v3.8	2021
Polymer binder	methylene diphenyl diisocyanate production   methylene diphenyl diisocyanate   Cutoff, S/RoW	EI v3.8	2021
Pigments	carbon black production   carbon black   Cutoff, S/GLO; market for titanium dioxide   titanium dioxide   Cutoff, S/RoW	EI v3.8	2021
Other	chemical production, organic   chemical, organic   Cutoff, S/GLO lubricating oil production   lubricating oil   Cutoff, S/RoW	EI v3.8	2021
<b>PACKAGING</b>			
Cardboard	containerboard production, linerboard, kraftliner   containerboard, linerboard   Cutoff, S/RoW	EI v3.8	2021
Plastic wrap	packaging film production, low density polyethylene   packaging film, low density polyethylene   Cutoff, S/RoW	EI v3.8	2021
<b>TRANSPORT</b>			
Road transport	market for transport, freight, lorry 16-32 metric ton, EURO4   transport, freight, lorry 16-32 metric ton, EURO4   Cutoff, S/RoW	EI v3.8	2021
Ship transport	transport, freight, sea, container ship   transport, freight, sea, container ship   Cutoff, S/GLO	EI v3.8	2021
<b>RESOURCES</b>			
Grid electricity	Electricity, medium voltage, per kWh - RFCE/RFCE	EI v3.8; eGRID 2018	2021; 2021
Heat – natural gas	heat production, natural gas, at industrial furnace >100kW   heat, district or industrial, natural gas   Cutoff, S/RoW	EI v3.8	2021
Heat – diesel	diesel, burned in building machine   diesel, burned in building machine   Cutoff, S/GLO	EI v3.8	2021
Heat – propane	propane, burned in building machine   propane, burned in building machine   Cutoff, S/GLO	EI v3.8	2021

### 3.8 DATA QUALITY

The data quality assessment addressed the following parameters: time-related coverage, geographical coverage, technological coverage, precision, completeness, representativeness, consistency, reproducibility, sources of data, and uncertainty.

**Table 14.** Data quality assessment for the PLAE flooring product system.

Data Quality Parameter	Data Quality Discussion
<b>Time-Related Coverage:</b> Age of data and the minimum length of time over which data is collected	The most recent available data are used, based on other considerations such as data quality and similarity to the actual operations. Typically, these data are less than 5 years old (typically 2016). All of the data used represented an average of at least one year's worth of data collection, and up to three years in some cases. Manufacturer-supplied data (primary data) are based on annual production for 2021.
<b>Geographical Coverage:</b> Geographical area from which data for unit processes is collected to satisfy the goal of the study	The data used in the analysis provide the best possible representation available with current data. Electricity use for product manufacture is modeled using representative data for the US. Surrogate data used in the assessment are representative of global or European operations. Data representative of European operations are considered sufficiently similar to actual processes. Data representing product disposal are based on US statistics.
<b>Technology Coverage:</b> Specific technology or technology mix	For the most part, data are representative of the actual technologies used for processing, transportation, and manufacturing operations. Representative fabrication datasets, specific to the type of material, are used to represent the actual processes, as appropriate.
<b>Precision:</b> Measure of the variability of the data values for each data expressed	Precision of results are not quantified due to a lack of data. Data collected for operations were typically averaged for one or more years and over multiple operations, which is expected to reduce the variability of results.
<b>Completeness:</b> Percentage of flow that is measured or estimated	The LCA model included all known mass and energy flows for production of the flooring products. In some instances, surrogate data used to represent upstream and downstream operations may be missing some data which is propagated in the model. No known processes or activities contributing to more than 1% of the total environmental impact for each indicator are excluded.
<b>Representativeness:</b> Qualitative assessment of the degree to which the data set reflects the true population of interest	Data used in the assessment represent typical or average processes as currently reported from multiple data sources and are therefore generally representative of the range of actual processes and technologies for production of these materials. Considerable deviation may exist among actual processes on a site-specific basis; however, such a determination would require detailed data collection throughout the supply chain back to resource extraction.
<b>Consistency:</b> Qualitative assessment of whether the study methodology is applied uniformly to the various components of the analysis	The consistency of the assessment is considered to be high. Data sources of similar quality and age are used; with a bias towards the most recent data where available. Different portions of the product life cycle are equally considered; however, it must be noted that final disposition of the product is based on assumptions of current average practices in the United States.
<b>Reproducibility:</b> Qualitative assessment of the extent to which information about the methodology and data values would allow an independent practitioner to reproduce the results reported in the study	Based on the description of data and assumptions used, this assessment would be reproducible by other practitioners. All assumptions, models, and data sources are documented.
<b>Sources of the Data:</b> Description of all primary and secondary data sources	Data representing energy use at Ecore's Pennsylvania manufacturing facility represents an annual average and are considered of high quality due to the length of time over which these data are collected, as compared to a snapshot that may not accurately reflect fluctuations in production. For secondary LCI data, Ecoinvent v3.8 LCI data are used.
<b>Uncertainty of the Information:</b> Uncertainty related to data, models, and assumptions	Uncertainty related to materials in the flooring products and packaging is low. Actual supplier data for upstream operations was not available for all suppliers and the study relied upon the use of existing representative datasets. These datasets contained relatively recent data (<10 years) but lacked geographical representativeness. Uncertainty related to the impact assessment methods used in the study are high. The impact assessment method required by the PCR includes impact potentials, which lack characterization of providing and receiving environments or tipping points.

### 3.9 PERIOD UNDER REVIEW

The period of review is the calendar year 2021.

### 3.10 ALLOCATION

Manufacturing resource use was allocated to the products based on area. Impacts from transportation were allocated based on the mass of material and distance transported.

### 3.11 COMPARABILITY

The PCR this EPD was based on was not written to support comparative assertions. EPDs based on different PCRs, or different calculation models, may not be comparable. When attempting to compare EPDs or life cycle impacts of products from different companies, the user should be aware of the uncertainty in the final results, due to and not limited to, the practitioner's assumptions, the source of the data used in the study, and the specifics of the product modeled.

## 4. LCA: Scenarios and Additional Technical Information

### *Delivery and Installation stage (A4 - A5)*

Distribution of the flooring products to the point of installation is included in the assessment. Transportation parameters for modeling product distribution are summarized in Table 15. Production-weighted average distances by transport mode were used to represent product distribution globally.

**Table 15.** Product distribution parameters, per 1 m<sup>2</sup> (A4).

Transport Mode	Achieve	Forge	Silence	Earthflex	Aspire
Diesel truck – Fuel utilization (L/100 km)	42	42	42	42	42
Diesel truck – Capacity utilization (%)	76%	76%	76%	76%	76%
Diesel truck – Distance (km)	1,203	1,203	1,203	1,203	1,203
Ocean freighter – Fuel utilization (g/tkm)	2.5	2.5	2.5	2.5	2.5
Ocean freighter – Capacity utilization (%)	65%	65%	65%	65%	65%
Ocean freighter – Distance (km)	1,464	1,464	1,464	1,464	1,464
Gross mass transported (including packaging) (kg)	14.4	14.7	11.2	9.55	81.3

The impacts associated with the product installation are assumed negligible. The impacts associated with packaging disposal are included with the installation phase as per PCR requirements.

**Table 16.** Installation parameters for the rubber flooring products, per 1 m<sup>2</sup> (A5).

Parameter	Achieve	Forge	Silence	Earthflex	Aspire	
Ancillary materials (kg)	negligible	negligible	negligible	negligible	negligible	
Net freshwater consumption (m <sup>3</sup> )	-	-	-	-	-	
Electricity consumption (kWh)	-	-	-	-	-	
Product loss per functional unit (kg)	negligible	negligible	negligible	negligible	negligible	
Waste materials generated by product installation (kg)	negligible	negligible	negligible	negligible	negligible	
Output materials resulting from on-site waste processing (kg)	na	na	na	na	na	
Mass of packaging waste (kg)	Paper/Corrugated	0.198	0.198	0.00	0.129	2.44x10 <sup>-3</sup>
	Plastic	0.215	0.215	4.00x10 <sup>-2</sup>	0.293	2.44x10 <sup>-2</sup>
	Wood	0.00	0.00	4.40x10 <sup>-2</sup>	0.732	0.732
Biogenic carbon contained in packaging (kg CO <sub>2</sub> )	0.362	0.362	0.362	1.58	1.35	
Direct emissions (kg)	-	-	-	-	-	

**Use stage (B1)**

No impacts are associated with the use of the product over the Reference Service Lifetime.

**Maintenance stage (B2)**

According to the manufacturer, typical maintenance involves regular sweeping and damp mopping. The present assessment is based on a recommended weekly cleaning schedule including sweeping and damp mopping with a neutral cleaner.

**Table 17.** Maintenance parameters for the PLAE flooring products, per 1 m<sup>2</sup>.

Parameter	Unit	Value
<i>Maintenance cycle</i>	-	<i>Damp mopping (weekly)</i>
Net freshwater consumption	kg/m <sup>2</sup> /yr	5.80
Cleaning agent	kg/m <sup>2</sup> /yr	0.119
Further assumptions	-	Moderate traffic; weekly maintenance

**Repair/Refurbishment stage (B3; B5)**

Product repair and refurbishment are not relevant during the lifetime of the product.

**Replacement stage (B4)**

The materials and energy required for replacement of the product over the 75-year ESL of the assessment are included in this stage.

**Building operation stage (B6 – B7)**

There is no operational energy or water use associated with the use of the product.

**Disposal stage (C1 - C4)**

The disposal stage includes removal of the products (C1); transport of the flooring products to waste treatment facilities (C2); waste processing (C3); and associated emissions as the product degrades in a landfill or is burned in an incinerator (C4). For the flooring products, no emissions are generated during demolition (C1) while no waste processing (C3) is required for incineration or landfill disposal.

Transportation of waste materials at end-of-life (C2) assumes a 20 mile (~32 km) average distance to disposal, consistent with assumptions used in the US EPA WARM model. The recycling rates used for the product packaging are based on the PCR. No recycling of the product materials is assumed at end-of-life. The relevant disposal statistics used for the packaging are summarized in Table 18 and Table 19. For material not recycled, 80% are assumed landfilled and 20% incinerated.

**Table 18.** Recycling rates for packaging materials at end-of-life.

Material	Recycling Rate
Paper & Pulp	75%
Plastics	15%

**Table 19.** End-of-life disposal scenario parameters for the flooring products.

Parameter		Achieve	Forge	Silence	Earthflex	Aspire
Assumptions for scenario development		100% landfill	100% landfill	100% landfill	100% landfill	100% landfill
Collection process	Collected separately (kg)	-	-	-	-	-
	Collected with mixed construction waste (kg)	14.0	14.3	11.2	8.40	80.6
Recovery	na	-	-	-	-	-
Disposal	Landfill (kg)	14.0	14.3	11.2	8.40	80.6
Removals of biogenic carbon, excluding packaging (kg CO <sub>2</sub> eq)		-	-	-	-	-





## 5. LCA: Results

Results of the Life Cycle Assessment are presented below. It is noted that LCA results are relative expressions and do not predict impacts on category endpoints, the exceeding of thresholds, safety margins or risks.

The following environmental impact category indicators are reported using characterization factors based on the U.S. EPA's Tool for the Reduction and Assessment of Chemical and Other Environmental Impacts – TRACI 2.1 and CML-IA.

CMLI-A Impact Category	Unit	TRACI 2.1 Impact Category	Unit
Global Warming Potential (GWP)	kg CO <sub>2</sub> eq	Global Warming Potential (GWP)	kg CO <sub>2</sub> eq
Depletion potential of the stratospheric ozone layer (ODP)	kg CFC 11 eq	Ozone Depletion Potential (ODP)	kg CFC 11 eq
Acidification Potential of soil and water (AP)	kg SO <sub>2</sub> eq	Acidification Potential (AP)	kg SO <sub>2</sub> eq
Eutrophication Potential (EP)	kg PO <sub>4</sub> <sup>3-</sup> eq	Eutrophication Potential (EP)	kg N eq
Photochemical Oxidant Creation Potential (POCP)	kg C <sub>2</sub> H <sub>4</sub> eq	Smog Formation Potential (SFP)	kg O <sub>3</sub> eq
Abiotic depletion potential (ADP-elements) for non-fossil resources	kg Sb eq	Fossil Fuel Depletion Potential (ADP <sub>fossil</sub> )	MJ Surplus, LHV
Abiotic depletion potential (ADP-fossil fuels) for fossil resources	MJ, LHV		

These impact categories 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.

The following inventory parameters, specified by the PCR, are also reported.

Resources	Unit	Waste and Outflows	Unit
<b>RPR<sub>E</sub></b> : Renewable primary resources used as energy carrier (fuel)	MJ, LHV	<b>HWD</b> : Hazardous waste disposed	kg
<b>RPR<sub>M</sub></b> : Renewable primary resources with energy content used as material	MJ, LHV	<b>NHWD</b> : Non-hazardous waste disposed	kg
<b>NRPR<sub>E</sub></b> : Non-renewable primary resources used as an energy carrier (fuel)	MJ, LHV	<b>HLRW</b> : High-level radioactive waste, conditioned, to final repository	kg
<b>NRPR<sub>M</sub></b> : Non-renewable primary resources with energy content used as material	MJ, LHV	<b>ILLRW</b> : Intermediate- and low-level radioactive waste, conditioned, to final repository	kg
<b>SM</b> : Secondary materials	MJ, LHV	<b>CRU</b> : Components for re-use	kg
<b>RSF</b> : Renewable secondary fuels	MJ, LHV	<b>MR</b> : Materials for recycling	kg
<b>NRSF</b> : Non-renewable secondary fuels	MJ, LHV	<b>MER</b> : Materials for energy recovery	kg
<b>RE</b> : Recovered energy	MJ, LHV	<b>EE</b> : Recovered energy exported from the product system	MJ, LHV
<b>FW</b> : Use of net fresh water resources	m <sup>3</sup>	-	-

Modules B1, B3, B5, B6, and B7 are not associated with any impact and are therefore declared as zero. In addition, module C1 is likewise not associated with any impact as the floor is manually deconstructed. Additionally, as rubber flooring products do not typically contain bio-based materials, biogenic carbon emissions and removals are not declared. Module D is not declared. In the interest of space and table readability, these modules are not included in the results presented below.

**Table 20.** Life Cycle Impact Assessment (LCIA) results for the PLAE **Achieve** flooring products over a 75-yr time horizon. Results reported in MJ are calculated using lower heating values. All values are rounded to three significant digits.

Impact Category	A1	A2	A3	A4	A5	B2	B4	C2	C4
<b>CML-IA</b>									
GWP (kg CO <sub>2</sub> eq)	10.4	1.50	2.32	3.15	0.199	8.37	106	0.571	8.26
	7.4%	1.1%	1.7%	2.2%	0.14%	6%	75%	0.41%	5.9%
AP (kg SO <sub>2</sub> eq)	5.19x10 <sup>-2</sup>	5.86x10 <sup>-3</sup>	5.86x10 <sup>-3</sup>	1.67x10 <sup>-2</sup>	1.08x10 <sup>-4</sup>	3.91x10 <sup>-2</sup>	0.340	2.66x10 <sup>-3</sup>	1.90x10 <sup>-3</sup>
	11%	1.3%	1.3%	3.6%	0.023%	8.4%	73%	0.57%	0.41%
EP (kg (PO <sub>4</sub> ) <sup>3-</sup> eq)	2.17x10 <sup>-2</sup>	1.36x10 <sup>-3</sup>	3.60x10 <sup>-3</sup>	3.23x10 <sup>-3</sup>	8.87x10 <sup>-4</sup>	1.49x10 <sup>-2</sup>	0.278	5.70x10 <sup>-4</sup>	3.81x10 <sup>-2</sup>
	6%	0.37%	1%	0.89%	0.24%	4.1%	77%	0.16%	11%
POCP (kg C <sub>2</sub> H <sub>4</sub> eq)	6.71x10 <sup>-3</sup>	2.00x10 <sup>-4</sup>	5.98x10 <sup>-4</sup>	5.25x10 <sup>-4</sup>	1.75x10 <sup>-5</sup>	2.62x10 <sup>-3</sup>	3.96x10 <sup>-2</sup>	8.78x10 <sup>-5</sup>	1.77x10 <sup>-3</sup>
	13%	0.38%	1.1%	1%	0.034%	5%	76%	0.17%	3.4%
ODP (kg CFC-11 eq)	1.70x10 <sup>-6</sup>	2.62x10 <sup>-7</sup>	8.67x10 <sup>-8</sup>	5.45x10 <sup>-7</sup>	3.48x10 <sup>-9</sup>	4.13x10 <sup>-7</sup>	1.09x10 <sup>-5</sup>	9.88x10 <sup>-8</sup>	3.86x10 <sup>-8</sup>
	12%	1.9%	0.61%	3.9%	0.025%	2.9%	78%	0.7%	0.27%
ADPE (kg Sb eq)	2.05x10 <sup>-4</sup>	5.22x10 <sup>-6</sup>	7.79x10 <sup>-6</sup>	1.05x10 <sup>-5</sup>	2.66x10 <sup>-8</sup>	1.68x10 <sup>-4</sup>	9.21x10 <sup>-4</sup>	5.02x10 <sup>-7</sup>	9.47x10 <sup>-7</sup>
	16%	0.4%	0.59%	0.8%	0.002%	13%	70%	0.038%	0.072%
ADPF (MJ eq)	186	22.3	36.7	46.3	0.290	186	1,220	7.82	4.37
	11%	1.3%	2.1%	2.7%	0.017%	11%	71%	0.46%	0.26%
<b>TRACI 2.1</b>									
GWP (kg CO <sub>2</sub> eq)	10.4	1.50	2.23	3.15	0.187	8.29	98.8	0.571	6.68
	7.9%	1.1%	1.7%	2.4%	0.14%	6.3%	75%	0.43%	5.1%
AP (kg SO <sub>2</sub> eq)	5.14x10 <sup>-2</sup>	6.85x10 <sup>-3</sup>	6.20x10 <sup>-3</sup>	1.89x10 <sup>-2</sup>	1.34x10 <sup>-4</sup>	4.02x10 <sup>-2</sup>	0.357	3.29x10 <sup>-3</sup>	2.37x10 <sup>-3</sup>
	11%	1.4%	1.3%	3.9%	0.028%	8.3%	73%	0.68%	0.49%
EP (kg N eq)	4.45x10 <sup>-2</sup>	1.64x10 <sup>-3</sup>	8.03x10 <sup>-3</sup>	3.51x10 <sup>-3</sup>	2.42x10 <sup>-3</sup>	2.94x10 <sup>-2</sup>	0.648	4.19x10 <sup>-4</sup>	0.101
	5.3%	0.2%	0.96%	0.42%	0.29%	3.5%	77%	0.05%	12%
SFP (kg O <sub>3</sub> eq)	0.689	0.165	9.51x10 <sup>-2</sup>	0.424	3.62x10 <sup>-3</sup>	0.467	6.02	9.32x10 <sup>-2</sup>	3.67x10 <sup>-2</sup>
	8.6%	2.1%	1.2%	5.3%	0.045%	5.8%	75%	1.2%	0.46%
ODP (kg CFC-11 eq)	1.97x10 <sup>-6</sup>	3.48x10 <sup>-7</sup>	1.10x10 <sup>-7</sup>	7.25x10 <sup>-7</sup>	4.63x10 <sup>-9</sup>	5.08x10 <sup>-7</sup>	1.34x10 <sup>-5</sup>	1.32x10 <sup>-7</sup>	5.15x10 <sup>-8</sup>
	11%	2%	0.64%	4.2%	0.027%	3%	78%	0.77%	0.3%
FFD (MJ eq)	22.3	3.18	5.21	6.62	4.28x10 <sup>-2</sup>	24.8	156	1.18	0.547
	10%	1.4%	2.4%	3%	0.019%	11%	71%	0.54%	0.25%

**Table 21.** Resource use and waste flows for the PLAE **Achieve** flooring products over a 75-yr time horizon. Results reported in MJ are calculated using lower heating values. All values are rounded to three significant digits.

Parameter	A1	A2	A3	A4	A5	B2	B4	C2	C4
<b>Resources</b>									
RPR <sub>E</sub> (MJ)	7.44	0.255	1.81	0.517	2.52x10 <sup>-3</sup>	17.8	41.0	2.99x10 <sup>-2</sup>	0.201
	11%	0.37%	2.6%	0.75%	0.0037%	26%	59%	0.043%	0.29%
RPR <sub>M</sub> (MJ)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	0%	0%	0%	0%	0%	0%	0%	0%	0%
NRPR <sub>E</sub> (MJ)	INA	INA	INA	INA	INA	INA	INA	INA	INA
NRPR <sub>M</sub> (MJ)	INA	INA	INA	INA	INA	INA	INA	INA	INA
SM (kg)	9.57	0.00	0.00	0.00	0.00	0.00	38.3	0.00	0.00
	20%	0%	0%	0%	0%	0%	80%	0%	0%
RSF/NRSF (MJ)	Neg.	Neg.	Neg.	Neg.	Neg.	Neg.	Neg.	Neg.	Neg.
RE (MJ)	Neg.	Neg.	Neg.	Neg.	Neg.	Neg.	Neg.	Neg.	Neg.
FW (m <sup>3</sup> )	0.685	1.56x10 <sup>-2</sup>	5.37x10 <sup>-2</sup>	3.15x10 <sup>-2</sup>	2.25x10 <sup>-4</sup>	1.16	3.20	2.47x10 <sup>-3</sup>	1.05x10 <sup>-2</sup>
	13%	0.3%	1%	0.61%	0.0044%	23%	62%	0.048%	0.2%
<b>Wastes</b>									
HWD (kg)	2.31x10 <sup>-4</sup>	5.96x10 <sup>-5</sup>	2.59x10 <sup>-5</sup>	1.19x10 <sup>-4</sup>	8.15x10 <sup>-7</sup>	1.00x10 <sup>-4</sup>	1.89x10 <sup>-3</sup>	2.13x10 <sup>-5</sup>	1.51x10 <sup>-5</sup>
	9.4%	2.4%	1.1%	4.8%	0.033%	4.1%	77%	0.86%	0.61%
NHWD (kg)	1.06	1.15	0.733	2.26	0.184	0.782	77.9	3.98x10 <sup>-2</sup>	14.0
	1.1%	1.2%	0.75%	2.3%	0.19%	0.8%	79%	0.041%	14%
HLRW (kg)	1.89x10 <sup>-4</sup>	1.14x10 <sup>-6</sup>	3.66x10 <sup>-5</sup>	2.31x10 <sup>-6</sup>	1.18x10 <sup>-8</sup>	2.19x10 <sup>-5</sup>	9.19x10 <sup>-4</sup>	1.24x10 <sup>-7</sup>	1.08x10 <sup>-6</sup>
	16%	0.098%	3.1%	0.2%	0.001%	1.9%	79%	0.011%	0.092%
ILLRW (kg)	4.87x10 <sup>-4</sup>	1.46x10 <sup>-4</sup>	1.94x10 <sup>-4</sup>	3.05x10 <sup>-4</sup>	1.92x10 <sup>-6</sup>	1.35x10 <sup>-4</sup>	4.85x10 <sup>-3</sup>	5.53x10 <sup>-5</sup>	2.31x10 <sup>-5</sup>
	7.9%	2.4%	3.1%	4.9%	0.031%	2.2%	78%	0.89%	0.37%
CRU (kg)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
MR (kg)	0.00	0.00	0.00	0.00	0.186	0.00	0.744	0.00	0.00
	0%	0%	0%	0%	20%	0%	80%	0%	0%
MER (kg)	Neg.	Neg.	Neg.	Neg.	Neg.	Neg.	Neg.	Neg.	Neg.
EE (MJ)	Neg.	Neg.	Neg.	Neg.	Neg.	Neg.	Neg.	Neg.	Neg.

INA = Indicator not assessed | Neg. = Negligible

**Table 22.** Life Cycle Impact Assessment (LCIA) results for the PLAE **Forge** flooring products over a 75-yr time horizon. Results reported in MJ are calculated using lower heating values. All values are rounded to three significant digits.

Impact Category	A1	A2	A3	A4	A5	B2	B4	C2	C4
<b>CML-IA</b>									
GWP (kg CO <sub>2</sub> eq)	10.3	1.25	2.32	3.22	0.199	8.37	367	0.583	8.35
	2.6%	0.31%	0.58%	0.8%	0.049%	2.1%	91%	0.15%	2.1%
AP (kg SO <sub>2</sub> eq)	5.07x10 <sup>-2</sup>	4.87x10 <sup>-3</sup>	5.86x10 <sup>-3</sup>	1.70x10 <sup>-2</sup>	1.08x10 <sup>-4</sup>	3.91x10 <sup>-2</sup>	1.17	2.72x10 <sup>-3</sup>	1.93x10 <sup>-3</sup>
	3.9%	0.38%	0.46%	1.3%	0.0084%	3%	90%	0.21%	0.15%
EP (kg (PO <sub>4</sub> ) <sup>3-</sup> eq)	2.36x10 <sup>-2</sup>	1.13x10 <sup>-3</sup>	3.60x10 <sup>-3</sup>	3.30x10 <sup>-3</sup>	8.87x10 <sup>-4</sup>	1.49x10 <sup>-2</sup>	1.01	5.82x10 <sup>-4</sup>	3.93x10 <sup>-2</sup>
	2.1%	0.1%	0.33%	0.3%	0.081%	1.4%	92%	0.053%	3.6%
POCP (kg C <sub>2</sub> H <sub>4</sub> eq)	7.21x10 <sup>-3</sup>	1.66x10 <sup>-4</sup>	5.98x10 <sup>-4</sup>	5.36x10 <sup>-4</sup>	1.75x10 <sup>-5</sup>	2.62x10 <sup>-3</sup>	0.146	8.97x10 <sup>-5</sup>	1.79x10 <sup>-3</sup>
	4.5%	0.1%	0.38%	0.34%	0.011%	1.7%	92%	0.057%	1.1%
ODP (kg CFC-11 eq)	1.62x10 <sup>-6</sup>	2.17x10 <sup>-7</sup>	8.67x10 <sup>-8</sup>	5.56x10 <sup>-7</sup>	3.48x10 <sup>-9</sup>	4.13x10 <sup>-7</sup>	3.67x10 <sup>-5</sup>	1.01x10 <sup>-7</sup>	3.94x10 <sup>-8</sup>
	4.1%	0.55%	0.22%	1.4%	0.0088%	1%	92%	0.25%	0.099%
ADPE (kg Sb eq)	2.12x10 <sup>-4</sup>	4.34x10 <sup>-6</sup>	7.79x10 <sup>-6</sup>	1.07x10 <sup>-5</sup>	2.66x10 <sup>-8</sup>	1.68x10 <sup>-4</sup>	3.32x10 <sup>-3</sup>	5.13x10 <sup>-7</sup>	9.62x10 <sup>-7</sup>
	5.7%	0.12%	0.21%	0.29%	0.00072%	4.5%	89%	0.014%	0.026%
ADPF (MJ eq)	158	18.5	36.7	47.3	0.290	186	3,820	7.99	4.46
	3.7%	0.43%	0.86%	1.1%	0.0068%	4.3%	89%	0.19%	0.1%
<b>TRACI 2.1</b>									
GWP (kg CO <sub>2</sub> eq)	10.3	1.25	2.23	3.21	0.187	8.29	343	0.583	6.75
	2.7%	0.33%	0.59%	0.85%	0.05%	2.2%	91%	0.16%	1.8%
AP (kg SO <sub>2</sub> eq)	5.02x10 <sup>-2</sup>	5.69x10 <sup>-3</sup>	6.20x10 <sup>-3</sup>	1.93x10 <sup>-2</sup>	1.34x10 <sup>-4</sup>	4.02x10 <sup>-2</sup>	1.22	3.36x10 <sup>-3</sup>	2.41x10 <sup>-3</sup>
	3.7%	0.42%	0.46%	1.4%	0.01%	3%	91%	0.25%	0.18%
EP (kg N eq)	4.84x10 <sup>-2</sup>	1.36x10 <sup>-3</sup>	8.03x10 <sup>-3</sup>	3.59x10 <sup>-3</sup>	2.42x10 <sup>-3</sup>	2.94x10 <sup>-2</sup>	2.37	4.28x10 <sup>-4</sup>	0.105
	1.9%	0.053%	0.31%	0.14%	0.094%	1.1%	92%	0.017%	4.1%
SFP (kg O <sub>3</sub> eq)	0.694	0.137	9.51x10 <sup>-2</sup>	0.433	3.62x10 <sup>-3</sup>	0.467	20.9	9.53x10 <sup>-2</sup>	3.74x10 <sup>-2</sup>
	3%	0.6%	0.42%	1.9%	0.016%	2%	91%	0.42%	0.16%
ODP (kg CFC-11 eq)	1.80x10 <sup>-6</sup>	2.90x10 <sup>-7</sup>	1.10x10 <sup>-7</sup>	7.41x10 <sup>-7</sup>	4.63x10 <sup>-9</sup>	5.08x10 <sup>-7</sup>	4.39x10 <sup>-5</sup>	1.35x10 <sup>-7</sup>	5.26x10 <sup>-8</sup>
	3.8%	0.61%	0.23%	1.6%	0.0097%	1.1%	92%	0.28%	0.11%
FFD (MJ eq)	17.5	2.65	5.21	6.77	4.28x10 <sup>-2</sup>	24.8	475	1.20	0.559
	3.3%	0.5%	0.98%	1.3%	0.008%	4.6%	89%	0.23%	0.1%

**Table 23.** Resource use and waste flows for the PLAE **Forge** flooring products over a 75-yr time horizon. Results reported in MJ are calculated using lower heating values. All values are rounded to three significant digits.

Parameter	A1	A2	A3	A4	A5	B2	B4	C2	C4
<b>Resources</b>									
RPR <sub>E</sub> (MJ)	7.16	0.212	1.81	0.528	2.52x10 <sup>-3</sup>	17.8	139	3.05x10 <sup>-2</sup>	0.204
	4.3%	0.13%	1.1%	0.32%	0.0015%	11%	83%	0.018%	0.12%
RPR <sub>M</sub> (MJ)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	0%	0%	0%	0%	0%	0%	0%	0%	0%
NRPR <sub>E</sub> (MJ)	INA	INA	INA	INA	INA	INA	INA	INA	INA
NRPR <sub>M</sub> (MJ)	INA	INA	INA	INA	INA	INA	INA	INA	INA
SM (kg)	12.5	0.00	0.00	0.00	0.00	0.00	174	0.00	0.00
	6.7%	0%	0%	0%	0%	0%	93%	0%	0%
RSF/NRSF (MJ)	Neg.	Neg.	Neg.	Neg.	Neg.	Neg.	Neg.	Neg.	Neg.
RE (MJ)	Neg.	Neg.	Neg.	Neg.	Neg.	Neg.	Neg.	Neg.	Neg.
FW (m <sup>3</sup> )	0.690	1.29x10 <sup>-2</sup>	5.37x10 <sup>-2</sup>	3.22x10 <sup>-2</sup>	2.25x10 <sup>-4</sup>	1.16	11.2	2.52x10 <sup>-3</sup>	1.07x10 <sup>-2</sup>
	5.2%	0.098%	0.41%	0.24%	0.0017%	8.8%	85%	0.019%	0.081%
<b>Wastes</b>									
HWD (kg)	2.18x10 <sup>-4</sup>	4.96x10 <sup>-5</sup>	2.59x10 <sup>-5</sup>	1.22x10 <sup>-4</sup>	8.15x10 <sup>-7</sup>	1.00x10 <sup>-4</sup>	6.34x10 <sup>-3</sup>	2.18x10 <sup>-5</sup>	1.53x10 <sup>-5</sup>
	3.2%	0.72%	0.38%	1.8%	0.012%	1.5%	92%	0.32%	0.22%
NHWD (kg)	0.954	0.953	0.733	2.31	0.184	0.782	273	4.07x10 <sup>-2</sup>	14.4
	0.32%	0.32%	0.25%	0.79%	0.063%	0.27%	93%	0.014%	4.9%
HLRW (kg)	2.41x10 <sup>-4</sup>	9.50x10 <sup>-7</sup>	3.66x10 <sup>-5</sup>	2.35x10 <sup>-6</sup>	1.18x10 <sup>-8</sup>	2.19x10 <sup>-5</sup>	3.94x10 <sup>-3</sup>	1.26x10 <sup>-7</sup>	1.09x10 <sup>-6</sup>
	5.7%	0.022%	0.86%	0.055%	0.00028%	0.52%	93%	0.003%	0.026%
ILLRW (kg)	3.71x10 <sup>-4</sup>	1.22x10 <sup>-4</sup>	1.94x10 <sup>-4</sup>	3.11x10 <sup>-4</sup>	1.92x10 <sup>-6</sup>	1.35x10 <sup>-4</sup>	1.51x10 <sup>-2</sup>	5.65x10 <sup>-5</sup>	2.36x10 <sup>-5</sup>
	2.3%	0.74%	1.2%	1.9%	0.012%	0.83%	93%	0.35%	0.14%
CRU (kg)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
MR (kg)	0.00	0.00	0.00	0.00	0.186	0.00	2.60	0.00	0.00
	0%	0%	0%	0%	6.7%	0%	93%	0%	0%
MER (kg)	Neg.	Neg.	Neg.	Neg.	Neg.	Neg.	Neg.	Neg.	Neg.
EE (MJ)	Neg.	Neg.	Neg.	Neg.	Neg.	Neg.	Neg.	Neg.	Neg.

INA = Indicator not assessed | Neg. = Negligible

**Table 24.** Life Cycle Impact Assessment (LCIA) results for the PLAE *Silence* flooring products over a 75-yr time horizon. Results reported in MJ are calculated using lower heating values. All values are rounded to three significant digits.

Impact Category	A1	A2	A3	A4	A5	B2	B4	C2	C4
<b>CML-IA</b>									
GWP (kg CO <sub>2</sub> eq)	4.71	0.182	1.68	2.46	2.94x10 <sup>-2</sup>	8.37	226	0.455	6.64
	1.9%	0.073%	0.67%	0.98%	0.012%	3.3%	90%	0.18%	2.6%
AP (kg SO <sub>2</sub> eq)	2.40x10 <sup>-2</sup>	7.11x10 <sup>-4</sup>	3.63x10 <sup>-3</sup>	1.30x10 <sup>-2</sup>	2.23x10 <sup>-5</sup>	3.91x10 <sup>-2</sup>	0.630	2.12x10 <sup>-3</sup>	1.52x10 <sup>-3</sup>
	3.4%	0.099%	0.51%	1.8%	0.0031%	5.5%	88%	0.3%	0.21%
EP (kg (PO <sub>4</sub> ) <sup>3-</sup> eq)	9.26x10 <sup>-3</sup>	1.64x10 <sup>-4</sup>	2.60x10 <sup>-3</sup>	2.52x10 <sup>-3</sup>	2.17x10 <sup>-4</sup>	1.49x10 <sup>-2</sup>	0.634	4.54x10 <sup>-4</sup>	3.01x10 <sup>-2</sup>
	1.3%	0.024%	0.37%	0.36%	0.031%	2.1%	91%	0.065%	4.3%
POCP (kg C <sub>2</sub> H <sub>4</sub> eq)	3.88x10 <sup>-3</sup>	2.42x10 <sup>-5</sup>	3.14x10 <sup>-4</sup>	4.09x10 <sup>-4</sup>	1.61x10 <sup>-6</sup>	2.62x10 <sup>-3</sup>	8.58x10 <sup>-2</sup>	6.99x10 <sup>-5</sup>	1.43x10 <sup>-3</sup>
	4.1%	0.026%	0.33%	0.43%	0.0017%	2.8%	91%	0.074%	1.5%
ODP (kg CFC-11 eq)	8.27x10 <sup>-7</sup>	3.17x10 <sup>-8</sup>	6.74x10 <sup>-8</sup>	4.25x10 <sup>-7</sup>	7.49x10 <sup>-10</sup>	4.13x10 <sup>-7</sup>	2.04x10 <sup>-5</sup>	7.87x10 <sup>-8</sup>	3.08x10 <sup>-8</sup>
	3.7%	0.14%	0.3%	1.9%	0.0034%	1.8%	92%	0.35%	0.14%
ADPE (kg Sb eq)	1.18x10 <sup>-4</sup>	6.33x10 <sup>-7</sup>	4.43x10 <sup>-6</sup>	8.20x10 <sup>-6</sup>	5.75x10 <sup>-9</sup>	1.68x10 <sup>-4</sup>	1.85x10 <sup>-3</sup>	4.00x10 <sup>-7</sup>	7.58x10 <sup>-7</sup>
	5.5%	0.029%	0.21%	0.38%	0.00027%	7.8%	86%	0.019%	0.035%
ADPF (MJ eq)	76.1	2.70	21.4	36.1	6.27x10 <sup>-2</sup>	186	2,050	6.23	3.49
	3.2%	0.11%	0.9%	1.5%	0.0026%	7.8%	86%	0.26%	0.15%
<b>TRACI 2.1</b>									
GWP (kg CO <sub>2</sub> eq)	4.73	0.182	1.60	2.45	2.88x10 <sup>-2</sup>	8.29	207	0.455	5.37
	2.1%	0.079%	0.69%	1.1%	0.013%	3.6%	90%	0.2%	2.3%
AP (kg SO <sub>2</sub> eq)	2.38x10 <sup>-2</sup>	8.31x10 <sup>-4</sup>	3.85x10 <sup>-3</sup>	1.48x10 <sup>-2</sup>	2.76x10 <sup>-5</sup>	4.02x10 <sup>-2</sup>	0.669	2.62x10 <sup>-3</sup>	1.90x10 <sup>-3</sup>
	3.1%	0.11%	0.51%	1.9%	0.0036%	5.3%	88%	0.35%	0.25%
EP (kg N eq)	1.81x10 <sup>-2</sup>	1.99x10 <sup>-4</sup>	5.97x10 <sup>-3</sup>	2.74x10 <sup>-3</sup>	5.95x10 <sup>-4</sup>	2.94x10 <sup>-2</sup>	1.51	3.33x10 <sup>-4</sup>	8.01x10 <sup>-2</sup>
	1.1%	0.012%	0.36%	0.17%	0.036%	1.8%	92%	0.02%	4.9%
SFP (kg O <sub>3</sub> eq)	0.359	1.99x10 <sup>-2</sup>	6.22x10 <sup>-2</sup>	0.330	7.73x10 <sup>-4</sup>	0.467	12.3	7.42x10 <sup>-2</sup>	2.93x10 <sup>-2</sup>
	2.6%	0.15%	0.46%	2.4%	0.0057%	3.4%	90%	0.55%	0.22%
ODP (kg CFC-11 eq)	9.04x10 <sup>-7</sup>	4.23x10 <sup>-8</sup>	8.50x10 <sup>-8</sup>	5.66x10 <sup>-7</sup>	9.96x10 <sup>-10</sup>	5.08x10 <sup>-7</sup>	2.44x10 <sup>-5</sup>	1.05x10 <sup>-7</sup>	4.11x10 <sup>-8</sup>
	3.4%	0.16%	0.32%	2.1%	0.0037%	1.9%	92%	0.39%	0.15%
FFD (MJ eq)	9.00	0.386	3.11	5.16	9.27x10 <sup>-3</sup>	24.8	267	0.938	0.437
	2.9%	0.12%	1%	1.7%	0.003%	8%	86%	0.3%	0.14%

**Table 25.** Resource use and waste flows for the PLAE *Silence* flooring products over a 75-yr time horizon. Results reported in MJ are calculated using lower heating values. All values are rounded to three significant digits.

Parameter	A1	A2	A3	A4	A5	B2	B4	C2	C4
<b>Resources</b>									
RPR <sub>E</sub> (MJ)	3.68	3.09x10 <sup>-2</sup>	2.16	0.403	4.82x10 <sup>-4</sup>	17.8	90.5	2.38x10 <sup>-2</sup>	0.161
	3.2%	0.027%	1.9%	0.35%	0.00042%	16%	79%	0.021%	0.14%
RPR <sub>M</sub> (MJ)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	0%	0%	0%	0%	0%	0%	0%	0%	0%
NRPR <sub>E</sub> (MJ)	INA	INA	INA	INA	INA	INA	INA	INA	INA
NRPR <sub>M</sub> (MJ)	INA	INA	INA	INA	INA	INA	INA	INA	INA
SM (kg)	10.4	0.00	0.00	0.00	0.00	0.00	146	0.00	0.00
	6.7%	0%	0%	0%	0%	0%	93%	0%	0%
RSF/NRSF (MJ)	Neg.	Neg.	Neg.	Neg.	Neg.	Neg.	Neg.	Neg.	Neg.
RE (MJ)	Neg.	Neg.	Neg.	Neg.	Neg.	Neg.	Neg.	Neg.	Neg.
FW (m <sup>3</sup> )	0.315	1.89x10 <sup>-3</sup>	1.24x10 <sup>-2</sup>	2.45x10 <sup>-2</sup>	4.40x10 <sup>-5</sup>	1.16	5.10	1.97x10 <sup>-3</sup>	8.45x10 <sup>-3</sup>
	4.8%	0.029%	0.19%	0.37%	0.00066%	18%	77%	0.03%	0.13%
<b>Wastes</b>									
HWD (kg)	8.74x10 <sup>-5</sup>	7.23x10 <sup>-6</sup>	2.15x10 <sup>-5</sup>	9.31x10 <sup>-5</sup>	1.71x10 <sup>-7</sup>	1.00x10 <sup>-4</sup>	3.34x10 <sup>-3</sup>	1.70x10 <sup>-5</sup>	1.21x10 <sup>-5</sup>
	2.4%	0.2%	0.58%	2.5%	0.0047%	2.7%	91%	0.46%	0.33%
NHWD (kg)	0.465	0.139	0.671	1.76	5.40x10 <sup>-2</sup>	0.782	200	3.17x10 <sup>-2</sup>	11.2
	0.22%	0.065%	0.31%	0.82%	0.025%	0.36%	93%	0.015%	5.2%
HLRW (kg)	1.76x10 <sup>-5</sup>	1.39x10 <sup>-7</sup>	3.42x10 <sup>-5</sup>	1.80x10 <sup>-6</sup>	2.18x10 <sup>-9</sup>	2.19x10 <sup>-5</sup>	7.67x10 <sup>-4</sup>	9.85x10 <sup>-8</sup>	8.66x10 <sup>-7</sup>
	2.1%	0.016%	4.1%	0.21%	0.00026%	2.6%	91%	0.012%	0.1%
ILLRW (kg)	1.29x10 <sup>-4</sup>	1.78x10 <sup>-5</sup>	1.83x10 <sup>-4</sup>	2.38x10 <sup>-4</sup>	4.14x10 <sup>-7</sup>	1.35x10 <sup>-4</sup>	8.84x10 <sup>-3</sup>	4.41x10 <sup>-5</sup>	1.84x10 <sup>-5</sup>
	1.3%	0.18%	1.9%	2.5%	0.0043%	1.4%	92%	0.46%	0.19%
CRU (kg)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
MR (kg)	0.00	0.00	0.00	0.00	1.73x10 <sup>-2</sup>	0.00	0.243	0.00	0.00
	0%	0%	0%	0%	6.7%	0%	93%	0%	0%
MER (kg)	Neg.	Neg.	Neg.	Neg.	Neg.	Neg.	Neg.	Neg.	Neg.
EE (MJ)	Neg.	Neg.	Neg.	Neg.	Neg.	Neg.	Neg.	Neg.	Neg.

INA = Indicator not assessed | Neg. = Negligible

**Table 26.** Life Cycle Impact Assessment (LCIA) results for the PLAE *Earthflex – High color* flooring products over a 75-yr time horizon. Results reported in MJ are calculated using lower heating values. All values are rounded to three significant digits.

Impact Category	A1	A2	A3	A4	A5	B2	B4	C2	C4
<b>CML-IA</b>									
GWP (kg CO <sub>2</sub> eq)	8.20	1.36	0.938	2.02	0.100	8.37	71.4	0.342	4.89
	8.4%	1.4%	0.96%	2.1%	0.1%	8.6%	73%	0.35%	5%
AP (kg SO <sub>2</sub> eq)	4.28x10 <sup>-2</sup>	5.31x10 <sup>-3</sup>	2.91x10 <sup>-3</sup>	1.07x10 <sup>-2</sup>	2.09x10 <sup>-4</sup>	3.91x10 <sup>-2</sup>	0.259	1.60x10 <sup>-3</sup>	1.13x10 <sup>-3</sup>
	12%	1.5%	0.8%	3%	0.058%	11%	71%	0.44%	0.31%
EP (kg (PO <sub>4</sub> ) <sup>3-</sup> eq)	1.45x10 <sup>-2</sup>	1.23x10 <sup>-3</sup>	1.60x10 <sup>-3</sup>	2.08x10 <sup>-3</sup>	1.23x10 <sup>-3</sup>	1.49x10 <sup>-2</sup>	0.176	3.42x10 <sup>-4</sup>	2.32x10 <sup>-2</sup>
	6.2%	0.52%	0.68%	0.88%	0.52%	6.3%	75%	0.15%	9.8%
POCP (kg C <sub>2</sub> H <sub>4</sub> eq)	5.15x10 <sup>-3</sup>	1.81x10 <sup>-4</sup>	2.36x10 <sup>-4</sup>	3.37x10 <sup>-4</sup>	1.97x10 <sup>-5</sup>	2.62x10 <sup>-3</sup>	2.81x10 <sup>-2</sup>	5.26x10 <sup>-5</sup>	1.05x10 <sup>-3</sup>
	14%	0.48%	0.63%	0.89%	0.052%	6.9%	74%	0.14%	2.8%
ODP (kg CFC-11 eq)	1.65x10 <sup>-6</sup>	2.37x10 <sup>-7</sup>	5.97x10 <sup>-8</sup>	3.49x10 <sup>-7</sup>	7.26x10 <sup>-9</sup>	4.13x10 <sup>-7</sup>	9.53x10 <sup>-6</sup>	5.93x10 <sup>-8</sup>	2.31x10 <sup>-8</sup>
	13%	1.9%	0.48%	2.8%	0.059%	3.3%	77%	0.48%	0.19%
ADPE (kg Sb eq)	1.75x10 <sup>-4</sup>	4.73x10 <sup>-6</sup>	3.59x10 <sup>-6</sup>	6.75x10 <sup>-6</sup>	5.19x10 <sup>-8</sup>	1.68x10 <sup>-4</sup>	7.65x10 <sup>-4</sup>	3.01x10 <sup>-7</sup>	5.64x10 <sup>-7</sup>
	16%	0.42%	0.32%	0.6%	0.0046%	15%	68%	0.027%	0.05%
ADPF (MJ eq)	176	20.2	11.8	29.7	0.601	186	982	4.69	2.61
	12%	1.4%	0.84%	2.1%	0.043%	13%	69%	0.33%	0.19%
<b>TRACI 2.1</b>									
GWP (kg CO <sub>2</sub> eq)	8.19	1.36	0.904	2.02	8.80x10 <sup>-2</sup>	8.29	67.4	0.342	3.95
	8.8%	1.5%	0.98%	2.2%	0.095%	9%	73%	0.37%	4.3%
AP (kg SO <sub>2</sub> eq)	4.24x10 <sup>-2</sup>	6.21x10 <sup>-3</sup>	3.18x10 <sup>-3</sup>	1.21x10 <sup>-2</sup>	2.58x10 <sup>-4</sup>	4.02x10 <sup>-2</sup>	0.270	1.97x10 <sup>-3</sup>	1.41x10 <sup>-3</sup>
	11%	1.6%	0.84%	3.2%	0.068%	11%	71%	0.52%	0.37%
EP (kg N eq)	2.89x10 <sup>-2</sup>	1.49x10 <sup>-3</sup>	3.35x10 <sup>-3</sup>	2.25x10 <sup>-3</sup>	3.34x10 <sup>-3</sup>	2.94x10 <sup>-2</sup>	0.405	2.51x10 <sup>-4</sup>	6.16x10 <sup>-2</sup>
	5.4%	0.28%	0.63%	0.42%	0.62%	5.5%	76%	0.047%	12%
SFP (kg O <sub>3</sub> eq)	0.572	0.149	5.78x10 <sup>-2</sup>	0.272	7.10x10 <sup>-3</sup>	0.467	4.54	5.59x10 <sup>-2</sup>	2.19x10 <sup>-2</sup>
	9.3%	2.4%	0.94%	4.4%	0.12%	7.6%	74%	0.91%	0.36%
ODP (kg CFC-11 eq)	1.98x10 <sup>-6</sup>	3.16x10 <sup>-7</sup>	7.67x10 <sup>-8</sup>	4.65x10 <sup>-7</sup>	9.66x10 <sup>-9</sup>	5.08x10 <sup>-7</sup>	1.18x10 <sup>-5</sup>	7.90x10 <sup>-8</sup>	3.09x10 <sup>-8</sup>
	13%	2.1%	0.5%	3%	0.063%	3.3%	77%	0.52%	0.2%
FFD (MJ eq)	22.6	2.88	1.64	4.25	8.90x10 <sup>-2</sup>	24.8	130	0.706	0.328
	12%	1.5%	0.87%	2.3%	0.048%	13%	69%	0.38%	0.18%



**Table 27.** Resource use and waste flows for the PLAE *Earthflex – High color* flooring products over a 75-yr time horizon. Results reported in MJ are calculated using lower heating values. All values are rounded to three significant digits.

Parameter	A1	A2	A3	A4	A5	B2	B4	C2	C4
<b>Resources</b>									
RPR <sub>E</sub> (MJ)	6.64	0.231	19.9	0.331	4.53x10 <sup>-3</sup>	17.8	109	1.79x10 <sup>-2</sup>	0.119
	4.3%	0.15%	13%	0.22%	0.0029%	12%	71%	0.012%	0.078%
RPR <sub>M</sub> (MJ)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	0%	0%	0%	0%	0%	0%	0%	0%	0%
NRPR <sub>E</sub> (MJ)	INA	INA	INA	INA	INA	INA	INA	INA	INA
NRPR <sub>M</sub> (MJ)	INA	INA	INA	INA	INA	INA	INA	INA	INA
SM (kg)	1.31	0.00	0.00	0.00	0.00	0.00	5.24	0.00	0.00
	20%	0%	0%	0%	0%	0%	80%	0%	0%
RSF/NRSF (MJ)	Neg.	Neg.	Neg.	Neg.	Neg.	Neg.	Neg.	Neg.	Neg.
RE (MJ)	Neg.	Neg.	Neg.	Neg.	Neg.	Neg.	Neg.	Neg.	Neg.
FW (m <sup>3</sup> )	0.534	1.41x10 <sup>-2</sup>	1.92x10 <sup>-2</sup>	2.02x10 <sup>-2</sup>	3.66x10 <sup>-4</sup>	1.16	2.38	1.48x10 <sup>-3</sup>	6.26x10 <sup>-3</sup>
	13%	0.34%	0.46%	0.49%	0.0088%	28%	58%	0.036%	0.15%
<b>Wastes</b>									
HWD (kg)	2.08x10 <sup>-4</sup>	5.40x10 <sup>-5</sup>	1.63x10 <sup>-5</sup>	7.66x10 <sup>-5</sup>	1.50x10 <sup>-6</sup>	1.00x10 <sup>-4</sup>	1.51x10 <sup>-3</sup>	1.28x10 <sup>-5</sup>	8.98x10 <sup>-6</sup>
	10%	2.7%	0.82%	3.9%	0.076%	5%	76%	0.64%	0.45%
NHWD (kg)	0.884	1.04	0.329	1.45	0.458	0.782	50.4	2.39x10 <sup>-2</sup>	8.43
	1.4%	1.6%	0.52%	2.3%	0.72%	1.2%	79%	0.037%	13%
HLRW (kg)	4.16x10 <sup>-5</sup>	1.04x10 <sup>-6</sup>	1.21x10 <sup>-5</sup>	1.48x10 <sup>-6</sup>	2.07x10 <sup>-8</sup>	2.19x10 <sup>-5</sup>	2.28x10 <sup>-4</sup>	7.42x10 <sup>-8</sup>	6.40x10 <sup>-7</sup>
	14%	0.34%	3.9%	0.48%	0.0068%	7.1%	74%	0.024%	0.21%
ILLRW (kg)	5.55x10 <sup>-4</sup>	1.33x10 <sup>-4</sup>	7.49x10 <sup>-5</sup>	1.96x10 <sup>-4</sup>	4.05x10 <sup>-6</sup>	1.35x10 <sup>-4</sup>	4.04x10 <sup>-3</sup>	3.32x10 <sup>-5</sup>	1.38x10 <sup>-5</sup>
	11%	2.6%	1.4%	3.8%	0.078%	2.6%	78%	0.64%	0.27%
CRU (kg)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
MR (kg)	0.00	0.00	0.00	0.00	0.282	0.00	1.13	0.00	0.00
	0%	0%	0%	0%	20%	0%	80%	0%	0%
MER (kg)	Neg.	Neg.	Neg.	Neg.	Neg.	Neg.	Neg.	Neg.	Neg.
EE (MJ)	Neg.	Neg.	Neg.	Neg.	Neg.	Neg.	Neg.	Neg.	Neg.

INA = Indicator not assessed | Neg. = Negligible

**Table 28.** Life Cycle Impact Assessment (LCIA) results for the PLAE *Earthflex – Low color* flooring products over a 75-yr time horizon. Results reported in MJ are calculated using lower heating values. All values are rounded to three significant digits.

Impact Category	A1	A2	A3	A4	A5	B2	B4	C2	C4
<b>CML-IA</b>									
GWP (kg CO <sub>2</sub> eq)	6.19	0.673	0.938	2.02	0.100	8.37	60.7	0.342	4.90
	7.4%	0.8%	1.1%	2.4%	0.12%	9.9%	72%	0.41%	5.8%
AP (kg SO <sub>2</sub> eq)	3.08x10 <sup>-2</sup>	2.62x10 <sup>-3</sup>	2.91x10 <sup>-3</sup>	1.07x10 <sup>-2</sup>	2.09x10 <sup>-4</sup>	3.91x10 <sup>-2</sup>	0.200	1.60x10 <sup>-3</sup>	1.13x10 <sup>-3</sup>
	11%	0.91%	1%	3.7%	0.072%	14%	69%	0.55%	0.39%
EP (kg (PO <sub>4</sub> ) <sup>3-</sup> eq)	1.40x10 <sup>-2</sup>	6.06x10 <sup>-4</sup>	1.60x10 <sup>-3</sup>	2.08x10 <sup>-3</sup>	1.23x10 <sup>-3</sup>	1.49x10 <sup>-2</sup>	0.172	3.42x10 <sup>-4</sup>	2.31x10 <sup>-2</sup>
	6.1%	0.26%	0.7%	0.9%	0.54%	6.5%	75%	0.15%	10%
POCP (kg C <sub>2</sub> H <sub>4</sub> eq)	4.31x10 <sup>-3</sup>	8.94x10 <sup>-5</sup>	2.36x10 <sup>-4</sup>	3.37x10 <sup>-4</sup>	1.97x10 <sup>-5</sup>	2.62x10 <sup>-3</sup>	2.44x10 <sup>-2</sup>	5.26x10 <sup>-5</sup>	1.05x10 <sup>-3</sup>
	13%	0.27%	0.71%	1%	0.06%	7.9%	74%	0.16%	3.2%
ODP (kg CFC-11 eq)	9.80x10 <sup>-7</sup>	1.17x10 <sup>-7</sup>	5.97x10 <sup>-8</sup>	3.49x10 <sup>-7</sup>	7.26x10 <sup>-9</sup>	4.13x10 <sup>-7</sup>	6.38x10 <sup>-6</sup>	5.93x10 <sup>-8</sup>	2.31x10 <sup>-8</sup>
	12%	1.4%	0.71%	4.2%	0.087%	4.9%	76%	0.71%	0.28%
ADPE (kg Sb eq)	1.28x10 <sup>-4</sup>	2.33x10 <sup>-6</sup>	3.59x10 <sup>-6</sup>	6.75x10 <sup>-6</sup>	5.19x10 <sup>-8</sup>	1.68x10 <sup>-4</sup>	5.66x10 <sup>-4</sup>	3.01x10 <sup>-7</sup>	5.65x10 <sup>-7</sup>
	15%	0.27%	0.41%	0.77%	0.0059%	19%	65%	0.034%	0.065%
ADPF (MJ eq)	96.6	9.97	11.8	29.7	0.601	186	624	4.69	2.62
	10%	1%	1.2%	3.1%	0.062%	19%	65%	0.49%	0.27%
<b>TRACI 2.1</b>									
GWP (kg CO <sub>2</sub> eq)	6.20	0.672	0.904	2.02	8.80x10 <sup>-2</sup>	8.29	56.8	0.342	3.96
	7.8%	0.85%	1.1%	2.5%	0.11%	10%	72%	0.43%	5%
AP (kg SO <sub>2</sub> eq)	3.05x10 <sup>-2</sup>	3.06x10 <sup>-3</sup>	3.18x10 <sup>-3</sup>	1.21x10 <sup>-2</sup>	2.58x10 <sup>-4</sup>	4.02x10 <sup>-2</sup>	0.210	1.97x10 <sup>-3</sup>	1.42x10 <sup>-3</sup>
	10%	1%	1%	4%	0.085%	13%	69%	0.65%	0.47%
EP (kg N eq)	2.87x10 <sup>-2</sup>	7.34x10 <sup>-4</sup>	3.35x10 <sup>-3</sup>	2.25x10 <sup>-3</sup>	3.34x10 <sup>-3</sup>	2.94x10 <sup>-2</sup>	0.400	2.51x10 <sup>-4</sup>	6.15x10 <sup>-2</sup>
	5.4%	0.14%	0.63%	0.42%	0.63%	5.5%	76%	0.047%	12%
SFP (kg O <sub>3</sub> eq)	0.418	7.35x10 <sup>-2</sup>	5.78x10 <sup>-2</sup>	0.272	7.10x10 <sup>-3</sup>	0.467	3.62	5.59x10 <sup>-2</sup>	2.20x10 <sup>-2</sup>
	8.4%	1.5%	1.2%	5.4%	0.14%	9.3%	73%	1.1%	0.44%
ODP (kg CFC-11 eq)	1.10x10 <sup>-6</sup>	1.56x10 <sup>-7</sup>	7.67x10 <sup>-8</sup>	4.65x10 <sup>-7</sup>	9.66x10 <sup>-9</sup>	5.08x10 <sup>-7</sup>	7.66x10 <sup>-6</sup>	7.90x10 <sup>-8</sup>	3.09x10 <sup>-8</sup>
	11%	1.5%	0.76%	4.6%	0.096%	5%	76%	0.78%	0.31%
FFD (MJ eq)	10.8	1.42	1.64	4.25	8.90x10 <sup>-2</sup>	24.8	77.0	0.706	0.328
	8.9%	1.2%	1.4%	3.5%	0.074%	20%	64%	0.58%	0.27%

**Table 29.** Resource use and waste flows for the PLAE *Earthflex – Low color* flooring products over a 75-yr time horizon. Results reported in MJ are calculated using lower heating values. All values are rounded to three significant digits.

Parameter	A1	A2	A3	A4	A5	B2	B4	C2	C4
<b>Resources</b>									
RPR <sub>E</sub> (MJ)	4.36	0.114	19.9	0.331	4.53x10 <sup>-3</sup>	17.8	99.2	1.79x10 <sup>-2</sup>	0.120
	3.1%	0.08%	14%	0.23%	0.0032%	13%	70%	0.013%	0.084%
RPR <sub>M</sub> (MJ)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	0%	0%	0%	0%	0%	0%	0%	0%	0%
NRPR <sub>E</sub> (MJ)	INA	INA	INA	INA	INA	INA	INA	INA	INA
NRPR <sub>M</sub> (MJ)	INA	INA	INA	INA	INA	INA	INA	INA	INA
SM (kg)	7.04	0.00	0.00	0.00	0.00	0.00	28.2	0.00	0.00
	20%	0%	0%	0%	0%	0%	80%	0%	0%
RSF/NRSF (MJ)	Neg.	Neg.	Neg.	Neg.	Neg.	Neg.	Neg.	Neg.	Neg.
RE (MJ)	Neg.	Neg.	Neg.	Neg.	Neg.	Neg.	Neg.	Neg.	Neg.
FW (m <sup>3</sup> )	0.415	6.96x10 <sup>-3</sup>	1.92x10 <sup>-2</sup>	2.02x10 <sup>-2</sup>	3.66x10 <sup>-4</sup>	1.16	1.88	1.48x10 <sup>-3</sup>	6.27x10 <sup>-3</sup>
	12%	0.2%	0.55%	0.58%	0.01%	33%	54%	0.042%	0.18%
<b>Wastes</b>									
HWD (kg)	1.32x10 <sup>-4</sup>	2.67x10 <sup>-5</sup>	1.63x10 <sup>-5</sup>	7.66x10 <sup>-5</sup>	1.50x10 <sup>-6</sup>	1.00x10 <sup>-4</sup>	1.10x10 <sup>-3</sup>	1.28x10 <sup>-5</sup>	9.00x10 <sup>-6</sup>
	9%	1.8%	1.1%	5.2%	0.1%	6.8%	75%	0.86%	0.61%
NHWD (kg)	0.617	0.513	0.329	1.45	0.458	0.782	47.3	2.39x10 <sup>-2</sup>	8.43
	1%	0.86%	0.55%	2.4%	0.77%	1.3%	79%	0.04%	14%
HLRW (kg)	1.37x10 <sup>-4</sup>	5.11x10 <sup>-7</sup>	1.21x10 <sup>-5</sup>	1.48x10 <sup>-6</sup>	2.07x10 <sup>-8</sup>	2.19x10 <sup>-5</sup>	6.06x10 <sup>-4</sup>	7.42x10 <sup>-8</sup>	6.42x10 <sup>-7</sup>
	18%	0.066%	1.5%	0.19%	0.0027%	2.8%	78%	0.0095%	0.082%
ILLRW (kg)	2.33x10 <sup>-4</sup>	6.54x10 <sup>-5</sup>	7.49x10 <sup>-5</sup>	1.96x10 <sup>-4</sup>	4.05x10 <sup>-6</sup>	1.35x10 <sup>-4</sup>	2.48x10 <sup>-3</sup>	3.32x10 <sup>-5</sup>	1.39x10 <sup>-5</sup>
	7.2%	2%	2.3%	6%	0.13%	4.2%	77%	1%	0.43%
CRU (kg)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
MR (kg)	0.00	0.00	0.00	0.00	0.282	0.00	1.13	0.00	0.00
	0%	0%	0%	0%	20%	0%	80%	0%	0%
MER (kg)	Neg.	Neg.	Neg.	Neg.	Neg.	Neg.	Neg.	Neg.	Neg.
EE (MJ)	Neg.	Neg.	Neg.	Neg.	Neg.	Neg.	Neg.	Neg.	Neg.

INA = Indicator not assessed | Neg. = Negligible

**Table 30.** Life Cycle Impact Assessment (LCIA) results for the PLAE *Aspire - High color* flooring products over a 75-yr time horizon. Results reported in MJ are calculated using lower heating values. All values are rounded to three significant digits.

Impact Category	A1	A2	A3	A4	A5	B2	B4	C2	C4
<b>CML-IA</b>									
GWP (kg CO <sub>2</sub> eq)	55.6	7.16	0.932	17.8	7.97x10 <sup>-2</sup>	8.37	363	3.28	47.4
	11%	1.4%	0.18%	3.5%	0.016%	1.7%	72%	0.65%	9.4%
AP (kg SO <sub>2</sub> eq)	0.275	2.79x10 <sup>-2</sup>	2.98x10 <sup>-3</sup>	9.40x10 <sup>-2</sup>	1.88x10 <sup>-4</sup>	3.91x10 <sup>-2</sup>	1.17	1.53x10 <sup>-2</sup>	1.09x10 <sup>-2</sup>
	17%	1.7%	0.18%	5.7%	0.011%	2.4%	72%	0.93%	0.67%
EP (kg (PO <sub>4</sub> ) <sup>3-</sup> eq)	0.123	6.46x10 <sup>-3</sup>	1.48x10 <sup>-3</sup>	1.82x10 <sup>-2</sup>	1.26x10 <sup>-3</sup>	1.49x10 <sup>-2</sup>	1.03	3.28x10 <sup>-3</sup>	0.220
	8.7%	0.46%	0.1%	1.3%	0.089%	1.1%	73%	0.23%	16%
POCP (kg C <sub>2</sub> H <sub>4</sub> eq)	3.73x10 <sup>-2</sup>	9.52x10 <sup>-4</sup>	2.58x10 <sup>-4</sup>	2.96x10 <sup>-3</sup>	1.28x10 <sup>-5</sup>	2.62x10 <sup>-3</sup>	0.143	5.05x10 <sup>-4</sup>	1.02x10 <sup>-2</sup>
	19%	0.48%	0.13%	1.5%	0.0064%	1.3%	72%	0.25%	5.1%
ODP (kg CFC-11 eq)	9.18x10 <sup>-6</sup>	1.25x10 <sup>-6</sup>	5.55x10 <sup>-8</sup>	3.07x10 <sup>-6</sup>	6.59x10 <sup>-9</sup>	4.13x10 <sup>-7</sup>	3.95x10 <sup>-5</sup>	5.68x10 <sup>-7</sup>	2.22x10 <sup>-7</sup>
	17%	2.3%	0.1%	5.7%	0.012%	0.76%	73%	1%	0.41%
ADPE (kg Sb eq)	1.13x10 <sup>-3</sup>	2.49x10 <sup>-5</sup>	3.59x10 <sup>-6</sup>	5.93x10 <sup>-5</sup>	4.75x10 <sup>-8</sup>	1.68x10 <sup>-4</sup>	3.37x10 <sup>-3</sup>	2.89x10 <sup>-6</sup>	5.44x10 <sup>-6</sup>
	24%	0.52%	0.075%	1.2%	0.001%	3.5%	71%	0.061%	0.11%
ADPF (MJ eq)	923	106	12.9	261	0.547	186	3,780	45.0	25.1
	17%	2%	0.24%	4.9%	0.01%	3.5%	71%	0.84%	0.47%
<b>TRACI 2.1</b>									
GWP (kg CO <sub>2</sub> eq)	55.6	7.15	0.900	17.7	7.38x10 <sup>-2</sup>	8.29	338	3.28	38.3
	12%	1.5%	0.19%	3.8%	0.016%	1.8%	72%	0.7%	8.2%
AP (kg SO <sub>2</sub> eq)	0.272	3.26x10 <sup>-2</sup>	3.23x10 <sup>-3</sup>	0.107	2.32x10 <sup>-4</sup>	4.02x10 <sup>-2</sup>	1.23	1.89x10 <sup>-2</sup>	1.36x10 <sup>-2</sup>
	16%	1.9%	0.19%	6.2%	0.013%	2.3%	72%	1.1%	0.79%
EP (kg N eq)	0.252	7.82x10 <sup>-3</sup>	3.06x10 <sup>-3</sup>	1.98x10 <sup>-2</sup>	3.44x10 <sup>-3</sup>	2.94x10 <sup>-2</sup>	2.40	2.41x10 <sup>-3</sup>	0.585
	7.6%	0.24%	0.093%	0.6%	0.1%	0.89%	73%	0.073%	18%
SFP (kg O <sub>3</sub> eq)	3.72	0.783	5.84x10 <sup>-2</sup>	2.39	6.47x10 <sup>-3</sup>	0.467	21.2	0.536	0.211
	13%	2.7%	0.2%	8.1%	0.022%	1.6%	72%	1.8%	0.72%
ODP (kg CFC-11 eq)	1.05x10 <sup>-5</sup>	1.66x10 <sup>-6</sup>	7.15x10 <sup>-8</sup>	4.09x10 <sup>-6</sup>	8.77x10 <sup>-9</sup>	5.08x10 <sup>-7</sup>	4.77x10 <sup>-5</sup>	7.57x10 <sup>-7</sup>	2.96x10 <sup>-7</sup>
	16%	2.5%	0.11%	6.2%	0.013%	0.78%	73%	1.2%	0.45%
FFD (MJ eq)	106	15.2	1.78	37.4	8.11x10 <sup>-2</sup>	24.8	469	6.77	3.15
	16%	2.3%	0.27%	5.6%	0.012%	3.7%	71%	1%	0.47%

**Table 31.** Resource use and waste flows for the PLAE *Aspire – High color* flooring products over a 75-yr time horizon. Results reported in MJ are calculated using lower heating values. All values are rounded to three significant digits.

Parameter	A1	A2	A3	A4	A5	B2	B4	C2	C4
<b>Resources</b>									
RPR <sub>E</sub> (MJ)	39.4	1.21	19.8	2.91	4.00x10 <sup>-3</sup>	17.8	178	0.172	1.15
	15%	0.47%	7.6%	1.1%	0.0015%	6.9%	68%	0.066%	0.44%
RPR <sub>M</sub> (MJ)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	0%	0%	0%	0%	0%	0%	0%	0%	0%
NRPR <sub>E</sub> (MJ)	INA	INA	INA	INA	INA	INA	INA	INA	INA
NRPR <sub>M</sub> (MJ)	INA	INA	INA	INA	INA	INA	INA	INA	INA
SM (kg)	62.1	0.00	0.00	0.00	0.00	0.00	171	0.00	0.00
	27%	0%	0%	0%	0%	0%	73%	0%	0%
RSF/NRSF (MJ)	Neg.	Neg.	Neg.	Neg.	Neg.	Neg.	Neg.	Neg.	Neg.
RE (MJ)	Neg.	Neg.	Neg.	Neg.	Neg.	Neg.	Neg.	Neg.	Neg.
FW (m <sup>3</sup> )	3.70	7.42x10 <sup>-2</sup>	2.22x10 <sup>-2</sup>	0.178	3.28x10 <sup>-4</sup>	1.16	11.1	1.42x10 <sup>-2</sup>	6.05x10 <sup>-2</sup>
	23%	0.45%	0.14%	1.1%	0.002%	7.1%	68%	0.087%	0.37%
<b>Wastes</b>									
HWD (kg)	1.24x10 <sup>-3</sup>	2.84x10 <sup>-4</sup>	1.55x10 <sup>-5</sup>	6.74x10 <sup>-4</sup>	1.37x10 <sup>-6</sup>	1.00x10 <sup>-4</sup>	6.67x10 <sup>-3</sup>	1.22x10 <sup>-4</sup>	8.68x10 <sup>-5</sup>
	13%	3.1%	0.17%	7.3%	0.015%	1.1%	73%	1.3%	0.94%
NHWD (kg)	5.15	5.46	0.321	12.7	0.454	0.782	289	0.229	80.8
	1.3%	1.4%	0.081%	3.2%	0.11%	0.2%	73%	0.058%	20%
HLRW (kg)	1.20x10 <sup>-3</sup>	5.44x10 <sup>-6</sup>	1.23x10 <sup>-5</sup>	1.30x10 <sup>-5</sup>	1.81x10 <sup>-8</sup>	2.19x10 <sup>-5</sup>	3.40x10 <sup>-3</sup>	7.12x10 <sup>-7</sup>	6.19x10 <sup>-6</sup>
	26%	0.12%	0.26%	0.28%	0.00039%	0.47%	73%	0.015%	0.13%
ILLRW (kg)	2.44x10 <sup>-3</sup>	6.97x10 <sup>-4</sup>	7.49x10 <sup>-5</sup>	1.72x10 <sup>-3</sup>	3.67x10 <sup>-6</sup>	1.35x10 <sup>-4</sup>	1.48x10 <sup>-2</sup>	3.18x10 <sup>-4</sup>	1.33x10 <sup>-4</sup>
	12%	3.4%	0.37%	8.5%	0.018%	0.67%	73%	1.6%	0.65%
CRU (kg)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
MR (kg)	0.00	0.00	0.00	0.00	0.195	0.00	0.535	0.00	0.00
	0%	0%	0%	0%	27%	0%	73%	0%	0%
MER (kg)	Neg.	Neg.	Neg.	Neg.	Neg.	Neg.	Neg.	Neg.	Neg.
EE (MJ)	Neg.	Neg.	Neg.	Neg.	Neg.	Neg.	Neg.	Neg.	Neg.

INA = Indicator not assessed | Neg. = Negligible

**Table 32.** Life Cycle Impact Assessment (LCIA) results for the PLAE *Aspire – Low color* flooring products over a 75-yr time horizon. Results reported in MJ are calculated using lower heating values. All values are rounded to three significant digits.

Impact Category	A1	A2	A3	A4	A5	B2	B4	C2	C4
<b>CML-IA</b>									
GWP (kg CO <sub>2</sub> eq)	51.8	5.95	0.932	17.8	7.97x10 <sup>-2</sup>	8.37	350	3.28	47.4
	11%	1.2%	0.19%	3.7%	0.016%	1.7%	72%	0.68%	9.8%
AP (kg SO <sub>2</sub> eq)	0.253	2.32x10 <sup>-2</sup>	2.98x10 <sup>-3</sup>	9.40x10 <sup>-2</sup>	1.88x10 <sup>-4</sup>	3.91x10 <sup>-2</sup>	1.10	1.53x10 <sup>-2</sup>	1.09x10 <sup>-2</sup>
	16%	1.5%	0.19%	6.1%	0.012%	2.5%	71%	0.99%	0.71%
EP (kg (PO <sub>4</sub> ) <sup>3-</sup> eq)	0.121	5.36x10 <sup>-3</sup>	1.48x10 <sup>-3</sup>	1.82x10 <sup>-2</sup>	1.26x10 <sup>-3</sup>	1.49x10 <sup>-2</sup>	1.02	3.28x10 <sup>-3</sup>	0.220
	8.6%	0.38%	0.1%	1.3%	0.09%	1.1%	73%	0.23%	16%
POCP (kg C <sub>2</sub> H <sub>4</sub> eq)	3.56x10 <sup>-2</sup>	7.91x10 <sup>-4</sup>	2.58x10 <sup>-4</sup>	2.96x10 <sup>-3</sup>	1.28x10 <sup>-5</sup>	2.62x10 <sup>-3</sup>	0.138	5.05x10 <sup>-4</sup>	1.02x10 <sup>-2</sup>
	19%	0.41%	0.13%	1.5%	0.0067%	1.4%	72%	0.26%	5.3%
ODP (kg CFC-11 eq)	7.95x10 <sup>-6</sup>	1.03x10 <sup>-6</sup>	5.55x10 <sup>-8</sup>	3.07x10 <sup>-6</sup>	6.59x10 <sup>-9</sup>	4.13x10 <sup>-7</sup>	3.55x10 <sup>-5</sup>	5.68x10 <sup>-7</sup>	2.22x10 <sup>-7</sup>
	16%	2.1%	0.11%	6.3%	0.013%	0.85%	73%	1.2%	0.45%
ADPE (kg Sb eq)	1.04x10 <sup>-3</sup>	2.07x10 <sup>-5</sup>	3.59x10 <sup>-6</sup>	5.93x10 <sup>-5</sup>	4.75x10 <sup>-8</sup>	1.68x10 <sup>-4</sup>	3.11x10 <sup>-3</sup>	2.89x10 <sup>-6</sup>	5.44x10 <sup>-6</sup>
	24%	0.47%	0.081%	1.3%	0.0011%	3.8%	71%	0.065%	0.12%
ADPF (MJ eq)	779	88.2	12.9	261	0.547	186	3,330	45.0	25.1
	16%	1.9%	0.27%	5.5%	0.012%	3.9%	70%	0.95%	0.53%
<b>TRACI 2.1</b>									
GWP (kg CO <sub>2</sub> eq)	51.9	5.94	0.900	17.7	7.38x10 <sup>-2</sup>	8.29	325	3.28	38.3
	11%	1.3%	0.2%	3.9%	0.016%	1.8%	72%	0.73%	8.5%
AP (kg SO <sub>2</sub> eq)	0.251	2.71x10 <sup>-2</sup>	3.23x10 <sup>-3</sup>	0.107	2.32x10 <sup>-4</sup>	4.02x10 <sup>-2</sup>	1.16	1.89x10 <sup>-2</sup>	1.36x10 <sup>-2</sup>
	16%	1.7%	0.2%	6.6%	0.014%	2.5%	72%	1.2%	0.84%
EP (kg N eq)	0.251	6.49x10 <sup>-3</sup>	3.06x10 <sup>-3</sup>	1.98x10 <sup>-2</sup>	3.44x10 <sup>-3</sup>	2.94x10 <sup>-2</sup>	2.39	2.41x10 <sup>-3</sup>	0.584
	7.6%	0.2%	0.093%	0.6%	0.1%	0.89%	73%	0.073%	18%
SFP (kg O <sub>3</sub> eq)	3.43	0.651	5.84x10 <sup>-2</sup>	2.39	6.47x10 <sup>-3</sup>	0.467	20.0	0.536	0.211
	12%	2.3%	0.21%	8.6%	0.023%	1.7%	72%	1.9%	0.76%
ODP (kg CFC-11 eq)	8.85x10 <sup>-6</sup>	1.38x10 <sup>-6</sup>	7.15x10 <sup>-8</sup>	4.09x10 <sup>-6</sup>	8.77x10 <sup>-9</sup>	5.08x10 <sup>-7</sup>	4.25x10 <sup>-5</sup>	7.57x10 <sup>-7</sup>	2.96x10 <sup>-7</sup>
	15%	2.4%	0.12%	7%	0.015%	0.87%	73%	1.3%	0.51%
FFD (MJ eq)	85.1	12.6	1.78	37.4	8.11x10 <sup>-2</sup>	24.8	404	6.77	3.15
	15%	2.2%	0.31%	6.5%	0.014%	4.3%	70%	1.2%	0.55%

**Table 33.** Resource use and waste flows for the PLAE *Aspire – Low color* flooring products over a 75-yr time horizon. Results reported in MJ are calculated using lower heating values. All values are rounded to three significant digits.

Parameter	A1	A2	A3	A4	A5	B2	B4	C2	C4
<b>Resources</b>									
RPR <sub>E</sub> (MJ)	35.3	1.01	19.8	2.91	4.00x10 <sup>-3</sup>	17.8	166	0.172	1.16
	14%	0.41%	8.1%	1.2%	0.0016%	7.3%	68%	0.07%	0.47%
RPR <sub>M</sub> (MJ)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	0%	0%	0%	0%	0%	0%	0%	0%	0%
NRPR <sub>E</sub> (MJ)	INA	INA	INA	INA	INA	INA	INA	INA	INA
NRPR <sub>M</sub> (MJ)	INA	INA	INA	INA	INA	INA	INA	INA	INA
SM (kg)	72.1	0.00	0.00	0.00	0.00	0.00	198	0.00	0.00
	27%	0%	0%	0%	0%	0%	73%	0%	0%
RSF/NRSF (MJ)	Neg.	Neg.	Neg.	Neg.	Neg.	Neg.	Neg.	Neg.	Neg.
RE (MJ)	Neg.	Neg.	Neg.	Neg.	Neg.	Neg.	Neg.	Neg.	Neg.
FW (m <sup>3</sup> )	3.47	6.16x10 <sup>-2</sup>	2.22x10 <sup>-2</sup>	0.178	3.28x10 <sup>-4</sup>	1.16	10.5	1.42x10 <sup>-2</sup>	6.06x10 <sup>-2</sup>
	22%	0.4%	0.14%	1.1%	0.0021%	7.5%	68%	0.092%	0.39%
<b>Wastes</b>									
HWD (kg)	1.11x10 <sup>-3</sup>	2.36x10 <sup>-4</sup>	1.55x10 <sup>-5</sup>	6.74x10 <sup>-4</sup>	1.37x10 <sup>-6</sup>	1.00x10 <sup>-4</sup>	6.16x10 <sup>-3</sup>	1.22x10 <sup>-4</sup>	8.69x10 <sup>-5</sup>
	13%	2.8%	0.18%	7.9%	0.016%	1.2%	72%	1.4%	1%
NHWD (kg)	4.73	4.54	0.321	12.7	0.454	0.782	285	0.229	80.8
	1.2%	1.2%	0.082%	3.3%	0.12%	0.2%	73%	0.059%	21%
HLRW (kg)	1.37x10 <sup>-3</sup>	4.52x10 <sup>-6</sup>	1.23x10 <sup>-5</sup>	1.30x10 <sup>-5</sup>	1.81x10 <sup>-8</sup>	2.19x10 <sup>-5</sup>	3.86x10 <sup>-3</sup>	7.12x10 <sup>-7</sup>	6.20x10 <sup>-6</sup>
	26%	0.086%	0.23%	0.25%	0.00034%	0.42%	73%	0.013%	0.12%
ILLRW (kg)	1.87x10 <sup>-3</sup>	5.79x10 <sup>-4</sup>	7.49x10 <sup>-5</sup>	1.72x10 <sup>-3</sup>	3.67x10 <sup>-6</sup>	1.35x10 <sup>-4</sup>	1.29x10 <sup>-2</sup>	3.18x10 <sup>-4</sup>	1.33x10 <sup>-4</sup>
	11%	3.3%	0.42%	9.7%	0.021%	0.76%	73%	1.8%	0.75%
CRU (kg)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
MR (kg)	0.00	0.00	0.00	0.00	0.195	0.00	0.535	0.00	0.00
	0%	0%	0%	0%	27%	0%	73%	0%	0%
MER (kg)	Neg.	Neg.	Neg.	Neg.	Neg.	Neg.	Neg.	Neg.	Neg.
EE (MJ)	Neg.	Neg.	Neg.	Neg.	Neg.	Neg.	Neg.	Neg.	Neg.

INA = Indicator not assessed | Neg. = Negligible

## 6. LCA: Interpretation

The contributions to total impact indicator results are dominated by the product replacement phase (B4) of the assessment. Of the remaining life cycle phases, the raw material extraction and processing and product maintenance (B2) are the largest contributors to the overall impacts, followed by product distribution (A4), disposal (C4) and product manufacturing (A3).

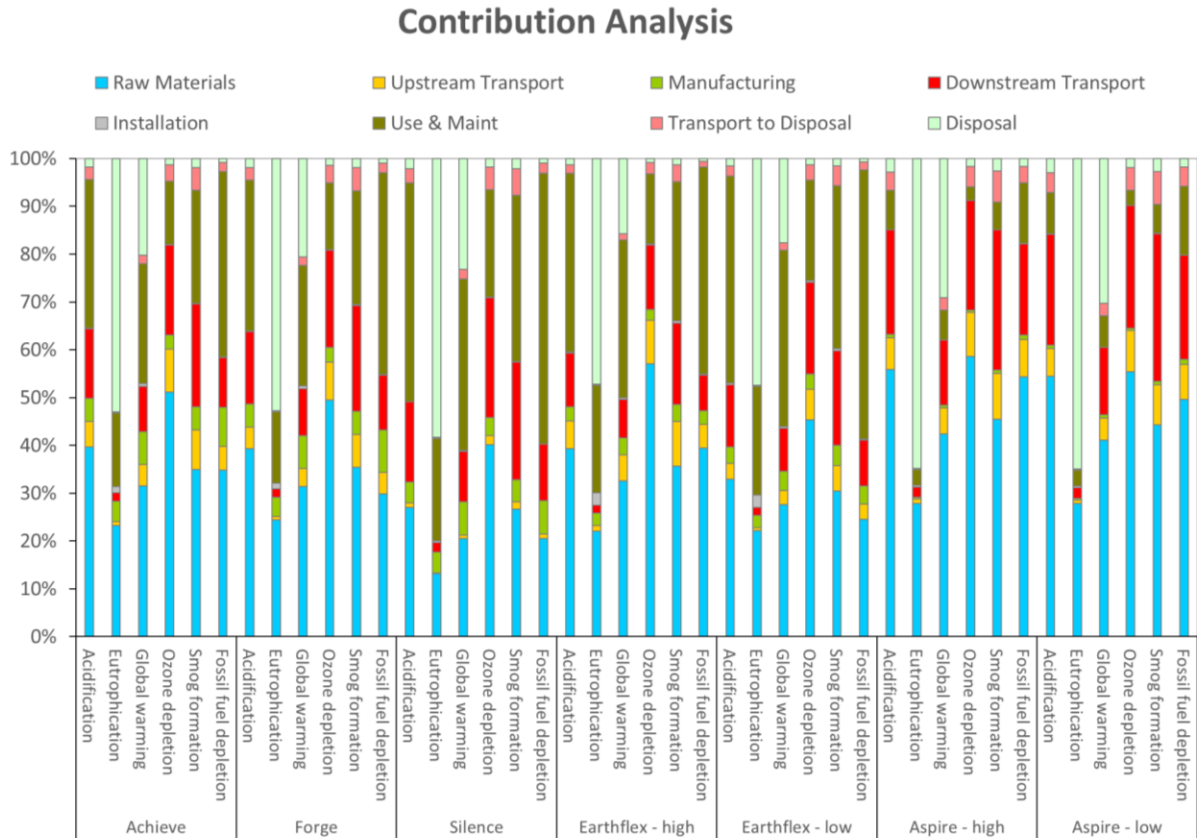


Figure 2. Contribution analysis for the PLAE Rubber flooring products – TRACI v2.1. (excluding product replacements)

## 7. Additional Environmental Information

### 7.1 ENVIRONMENT AND HEALTH DURING INSTALLATION

The PLAE flooring products meet the requirements of FloorScore® CDPH/EHLB Standard Method v1.2-2017 (California Section 01350)

### 7.2 ENVIRONMENTAL ACTIVITIES AND CERTIFICATIONS

For more information on PLAE's certifications and environmental initiatives please view the website at [www.plae.us](http://www.plae.us)



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