

Environmental Product Declaration

In accordance with ISO 14025:2006, ISO 21930:2017 & EN 15804:2012+A2:2019



Environmental Product Declaration for Polished Concrete Flooring Products produced by Curecrete Distribution, Inc. at their facility in Springville, Utah.

ADMINISTRATIVE INFORMATION

International Certified Environmental Product Declaration

Declared Product	This Environmental Product Declaration (EPD) covers polished concrete flooring products produced by Curecrete Distribution, Inc., functional unit: One square meter (1 m ²) of polished concrete flooring surface for a period of 60 years.	
Declaration Owner	Curecrete Distribution, Inc. 1203 Spring Creek Place Springville, UT 84663, USA https://curecrete.com/	
Program Operator	Labeling Sustainability 200 S.Rosemary West Palm Beach, FL https://www.labelingsustainability.com	
Product Category Rule	Part B: Product Category Rule for Polished Concrete Flooring Systems by Labeling Sustainability PCR Program Operator: Labeling Sustainability PCR review was conducted by:	
ISO Standards	ISO 21930:2017 Sustainability in buildings and civil engineering works - Core rules for environmental product declarations of construction products and services ISO 14040:2006 Environmental Management - Life Cycle Assessment - Principles and Framework ISO 14044:2006 Environmental Management - Life Cycle Assessment - Requirements and Guidelines	
EN Standard	EN 15804:2012 + A2:2019 Sustainability of construction works - Environmental product declarations - Core rules for the product category of construction products	
Market of Applicability	North America	
EPD Scope	Cradle-to-grave	
EPD Type	Manufacturer-Specific EPD	
LCIA Method and Version	TRACI 2.1, IPCC 2013 (AR5), EF v3.1 EN 15804	
Independent LCA Reviewer and EPD Verifier	This declaration was independently verified in accordance with ISO 14025:2006 Independent verification of the declaration, according to ISO 14025:2006 External :X Third Party Verifier Hammad Ur Rehman	
Date of Issue	16 October 2025	
Period of Validity	5 years; valid until 16 October 2030	
EPD Number	CURDIS1016202500	



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COMPANY DESCRIPTION

Curecrete Distribution, Inc. is headquartered in Springville, Utah, USA, where it manufactures and distributes its flagship products, including the Ashford Formula and RetroPlate System, as well as its extensive line of supporting products for concrete applications and enhancement. Even as a family-owned and operated business, Curecrete's products are shipped to technical field representatives, distributors, applicators, and job sites worldwide.

As the originator of the concrete densification and concrete polishing concepts, Curecrete has single-handedly built the concrete densification and concrete polishing industries as it is known today. Through the years, Curecrete has continually directed and led both industries with its second-to-none products and exceptional network of team members around the globe. Curecrete continues to lead with proven products, results, and constant innovation.

STUDY GOAL

The intended application of the background life cycle assessment (LCA) study was to comply with the procedures for creating a Type III environmental product declaration (EPD) and publish the EPD for public review on the website, <https://www.labelingsustainability.com/>. This level of study is in accordance with the Product Category Rule (PCR) Part B: Polished Concrete Flooring Systems published by Labeling Sustainability, ISO 21930:2017 Sustainability in buildings and civil engineering works - Core rules for environmental product declarations of construction products and services, ISO 14044:2006 Environmental management, Life cycle assessment- Requirements and guidelines; and ISO 14040:2006 Environmental management, Life cycle assessment-Principles and framework. The performance of this study and its subsequent publishing are in alignment with the business-to-business (B2B) communication requirements for the environmental assessment of building products. This study does not intend to support comparative assertions and is intended to be disclosed to the public.

The project report was commissioned to differentiate Curecrete Distribution, Inc. from their competition for the following reasons: generate an advantage for the organization; offer customers information to help them make informed product decisions; identify and quantify the environmental impacts associated with Curecrete products to support future strategies for impact reduction based on measurable data and to strengthen Curecrete Distribution, Inc.'s license to operate in the community. The intended audience for this EPD report is Curecrete Distribution, Inc.'s employees, their suppliers, project specifiers of their products, architects, and engineers. The report is also available for policymakers, government officials interested in sustainability, academic professors, and LCA professionals. This EPD report does not include product comparisons from other facilities.



PRODUCT DESCRIPTION

Curecrete offers a comprehensive range of high-performance concrete treatment products specifically formulated to prepare, densify, protect, and maintain concrete surfaces. The product range includes advanced concrete densifiers, polishing systems, protective sealers, and specialized cleaners, engineered to deliver long-term durability and superior performance. Curecrete's solutions are trusted in commercial, industrial, and institutional settings around the world.

PRODUCT APPLICATIONS

Curecrete products are intended to be applied on concrete surfaces to enhance durability, appearance, and resistance to stains and wear. These products are suitable for use in commercial, industrial, and residential settings and are typically applied during or after the polishing process to new or existing concrete floors.

DECLARED PRODUCT

Functional unit:

1 m2 of polished concrete flooring surface for a period of 60 years with a **Salt and Pepper** aggregate exposure class (exposure scenario for the functional unit) and an appearance option of polish, using water as the grinding aid in the grinding process.

Aggregate Exposure Classification:

Table 1: **Aggregate exposure from the Concrete Polishing Council's "Exposed/Polished Concrete Aggregate Exposure Chart."**

Class	Name	Surface Exposure, %
A	Cement Fines (Cream Finish)	85-95% Cement Fine 5-15% Fine Aggregate
B	Fine Aggregate (Salt and Pepper)	85-95% Fine Aggregate 5-15% Blend of Cement Fines and Coarse Aggregate
C	Full Aggregate Exposure (Coarse Aggregate)	80-90% Full Aggregate 10-20% Blend of Cement Fines and Fine Aggregate





Figure 1: Illustration of aggregate exposure classes for the Concrete Polishing Council's "Exposed/Polished Concrete Aggregate Exposure Chart."

The following tables provide a list of all declared products considered in this EPD, along with key performance parameters.

Table 2: Declared products considered in this environmental product declaration.

Unique name/ID	Short description	Functional Unit (FU)	Density, wet kg/FU	Conversion factor to 1 kg, m2	bio-carbon content, kg C/FU dry basis
Ashford Formula	Densifier hardner 200 sq ft per gal	1 m2	0.232	4.31	2.16E-02
Retro Plate	Densifier hardner 200 sq ft per gal	1 m2	0.245	4.08	3.04E-02
CreteClean Plus	Concrete cleaner 64000 sq ft per gal	1 m2	0.000664	1506.02	1.06E-05
CreteClean Plus Single Dose	Concrete cleaner concentrate 160000 sq ft per gal	1 m2	0.000027	37037.04	4.88E-06
KickStart	Concrete refinement aid 400 sq ft per gal	1 m2	0.108	9.29	8.47E-03
RF Densify & Harden	Densifier hardner 200 sq ft per gal	1 m2	0.245	4.08	3.04E-02
RF Hard Surface Cleaner	Concrete cleaner 64000 sq ft per gal	1 m2	0.000664	1506.02	1.06E-05
RF Hard Surface Cleaner Single Dose	Concrete Cleaner concentrate 160000 sq ft per gal	1 m2	0.000027	37037.04	4.88E-06
RF Grind & Enhance	Concrete refinement aid 400 sq ft per gal	1 m2	0.108	9.29	8.47E-03



DESIGN COMPOSITION

The following table provides the percentage breakdown of the material composition of each product considered in this declaration.

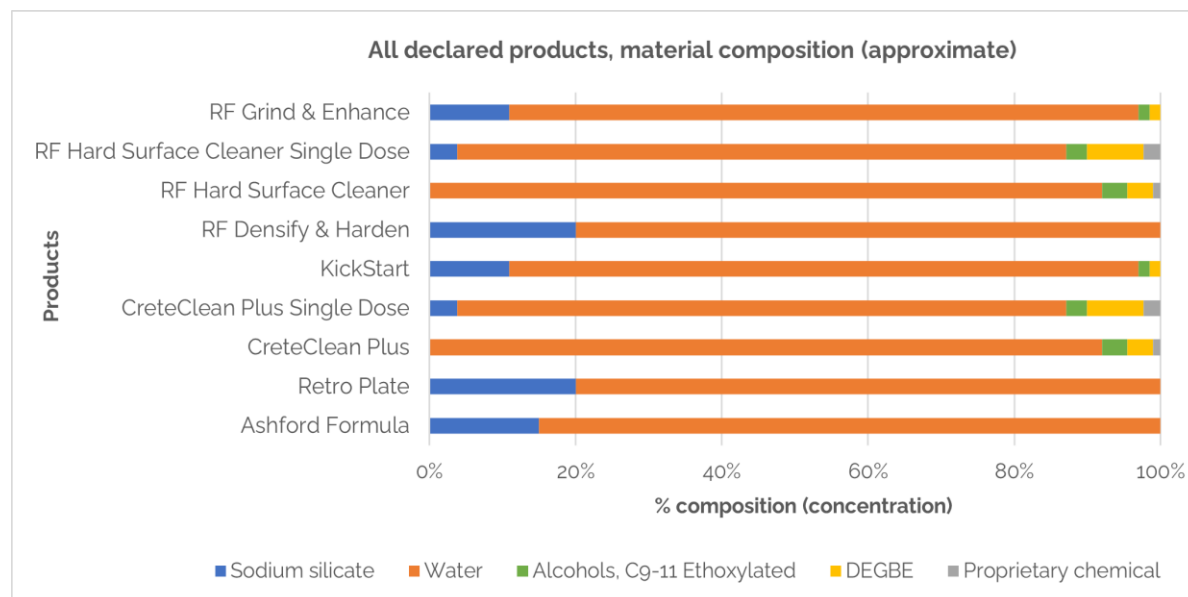


Figure 2: **Material composition - all declared products per 1 m2 of polished concrete flooring product.**

A1 RAW MATERIAL RECYCLED CONTENT AND MATERIAL LOSSES

The following table provides a list of raw material inputs (Module A1) across all considered products, their recyclable content, and assumed material losses.

Table 3: **Module A1 raw material inputs, the recyclability content, and assumed material losses (wet basis).**

Material - Inputs	Mix Category	Primary Content	Post Industrial Content	Post Consumer Content	Material Losses
Water	tap water	100%	0%	0%	2%
Sodium silicate	sodium silicate, solid	100%	0%	0%	2%
Alcohols, C9-11 Ethoxylated	ethoxylated alcohol (AE11)	100%	0%	0%	2%
DEGBE	diethylene glycol	100%	0%	0%	2%
Proprietary chemical	withheld	100%	0%	0%	2%



MANUFACTURING PROCESS

The following figure illustrates the production of polished concrete flooring products by Curecrete Distribution Inc. at its manufacturing facility in Springville, Utah.



Figure 3: **Process flow diagram for the production of polished concrete flooring products.**

The manufacturing process of Curecrete concrete polished products involves the formulation and pre-treatment of specialized chemicals designed for use on concrete surfaces. Key ingredients, including silicates, chemicals and water, are precisely measured and blended to produce high-performance densifiers, sealers, and cleaners. Following the mixing process, the formulations are filtered to ensure consistency and purity. They are then packaged in durable containers and labeled. Once packaged, the products are prepared for dispatch to job sites for application.

SYSTEM BOUNDARIES

The following figure depicts the cradle-to-grave system boundary considered in this study.

Life Cycle Impacts

A1-A3 PRODUCT STAGE	A4-A5 INSTALLATION PROCESS STAGE	B1-B7 USE STAGE	C1-C4 END OF LIFE STAGE	Module D BEYOND THE SYSTEM BOUNDARIES
A1 Raw material supply A2 Transport A3 Manufacturing	A4 Transport to site A5 Installation Process	B1 Use B2 Maintenance B3 Repaired B4 Replacement B5 Refurbishment B6 Operational energy use B7 Operational water use	C1 De-installation/ Demolition C2 Transport C3 Waste processing C4 Disposal of Waste	Reuse-Recovery- Recycling-potential
X	X	X	MNR	MNR

Figure 4: General life cycle phases for consideration in a construction works system. (X = declared module, MND = module not declared, MNR = module not relevant).

The following figure illustrates the system boundary considered in this EPD, as well as the general activities and input requirements for producing polished concrete flooring products. It is not intended to be exhaustive.

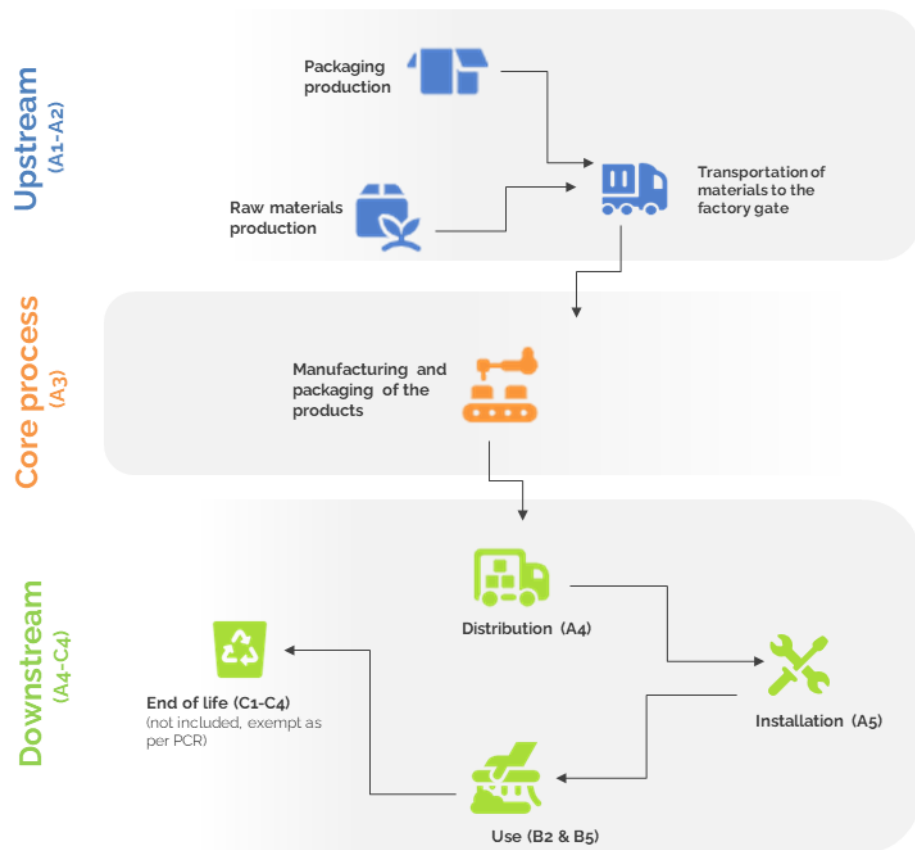


Figure 5: General system inputs considered in the product system and categorized by modules in scope.

The following life cycle stages are included and reported in this EPD:

- A1: Raw material supply (upstream)
- A2: Transport of raw materials to the factory gate
- A3: Manufacturing (core processes)
- A4: Transport to jobsite
- A5: Installation
- B2: Maintenance
- B5: Refurbishment

According to the reference PCR, the following life cycle stages or information modules were determined to be not relevant or exempt for the studied product system and, therefore, were not reported in this EPD.

- B1: Use
- B3: Repair
- B4: Replacement
- B6: Operational energy use
- B7: Operation water use
- C1: De-Construction/demolition
- C2: Transport to disposal site/waste processing
- C3: Waste processing
- C4: Disposal
- Module D: Benefits and loads beyond the system boundary

In addition, according to the relevant PCR, the following requirements are excluded from this study:

- Production, manufacture, and construction of A3 building/capital goods and infrastructure.
- Personnel-related activities (travel, furniture, office supplies).
- Energy use related to company management and sales activities.
- Packaging of incoming raw materials (e.g., plastic bags, pallets, etc.) is excluded as it accounts for less than 1% of the product's mass.
- Research and development activities.
- Long-term emissions.

REPORTING PERIOD

This study represents the production data for 12 months from March 1, 2023, to February 28, 2024, for the Curecrete manufacturing facility in Springville, Utah.



CUT-OFF CRITERIA

ISO 14044:2006 requires the LCA model to contain a minimum of 95% of the total inflows (mass and energy) to the upstream and core modules to be included in this study. The cut-off criteria were applied to all other processes unless otherwise noted above as follows. A 1% cut-off is considered for all renewable and non-renewable primary energy consumption and the total mass of inputs within a unit process where the total of the neglected inputs does not exceed 5%.

ALLOCATION

Where possible, allocation was avoided. When allocation was necessary, inputs and outputs were allocated on the basis of physical relationships, i.e., area basis. As a default, secondary ecoinvent datasets use a physical mass basis for allocation. Secondary materials used adhere to the polluter pays principle. Thus, the environmental impacts allocated to these materials are limited to the treatment and transportation required to use them as a material input.

The processing and recycling of the net amount of scrap exiting the system, defined as the difference between scrap outputs and secondary material inputs, fall outside the scope of this study. The system boundary of this EPD is determined in accordance with the modularity principle as outlined in ISO 21930. All environmental impacts are assigned to the life cycle stages in which they occur, without allocation to other stages.

COMPARABILITY

Environmental declarations from different programs (ISO 14025) may not be comparable. EPDs are comparable only if prepared from cradle-to-grave life cycle results and based on the same function, quantified by the same functional unit, and taking account of replacement based on the product reference service life (RSL) relative to an assumed building service life, can be used to assist purchasers and users in making informed comparisons between products. This EPD is meant for B2B communication.

No known flows are deliberately excluded from this EPD.

DATA SOURCES AND DATA QUALITY ASSESSMENT

No recovered on-site energy occurs at this facility.

The following statements explain how the above facility requirements/generation were derived:

Raw material transport:

Curecrete provided all primary information for the reporting year 2024, including comprehensive details on raw material consumption and logistics data for its manufacturing facility. The transportation of these materials was determined based on the actual distance from the manufacturers or distributors. Logistics for A2 requirements relied on primary data to document transportation specifics, including the exact distance, mode of transport, and location details such as city, state, and country.



Electricity:

The reported electricity consumption is based on primary data from Curecrete's utility bills for the reporting period. The allocation of electricity was initially determined by normalizing the annual electricity consumption to the functional unit, i.e., 1 m². Subsequently, this value was multiplied by the total production volume, measured in m², for each product covered in this study.

National production mix from imports, including medium voltage (production of transmission lines, as well as direct emissions and losses in the grid) of electricity applied to the manufacturing process (A3).

Electricity mix	Source	Amount	Unit
market for electricity, medium voltage/electricity, medium voltage/US-WECC/kWh	Ecoinvent 3.10.1	395.26	g CO ₂ -eq/kWh

Process/space heating:

The facility uses natural gas to support its manufacturing operations, with annual consumption reported based on utility bills provided by Curecrete Distribution Inc. The allocation methodology for propane is consistent with that used for electricity. The conversion factor used for mmBTU to MJ to represent the natural gas heating values in Mega joules (MJ) was 1 mmBTU equating to 1055.06 MJ of energy.

On-site machinery requirements:

Machinery at the facility uses propane to move the materials, calculated from direct purchase records for the 2024 reference year. The allocation methodology for propane follows the same approach as that of electricity. The conversion factor used for propane was determined as 1 m³ of propane equating to 93.2 MJ of energy.

Waste generation:

Waste generation values were obtained from primary waste hauling records, which only include bulk waste. Transportation defaults were used, as stated in reference to PCR, because the driver's route and ultimate destination are unknown. Therefore, the exact mileage could not be confirmed by the waste hauler.

Packaging:

Packaging materials account for approximately 7%–24% of the total mass of the main products, as per the functional unit. The packaging materials used for polished concrete flooring products include wooden pallets and plastic containers.

Recovered energy:

No on-site energy is recovered.

Module A1 material losses:

Default material losses, 2%, were used.

Direct A3 emissions accounting:

Direct emissions were modeled with the best available ecoinvent processes.



A4 Transport to the job site:

The overall distribution of the products includes both domestic and international markets. A portion of the products is distributed within the United States, while the remaining product volume is exported to international markets. The A4 transportation impacts were modeled based on the scenarios presented in Table 4.1 and Table 4.2.

For international distribution, finished products are transported by truck from the manufacturing facility to the railway terminal in Salt Lake City, Utah, and subsequently by rail freight to major U.S. seaports for global export. Thereafter, products are shipped via ocean freight to the following regions:

- Europe (Netherlands, Spain, Slovenia, Poland, and Turkey)
- Middle East (UAE and Saudi Arabia)
- Pacific-Asia (China, Japan, South Korea, Australia, New Zealand, and Brunei)

Once the product arrives at the destination port, customers collect it directly. The proportions allocated to each region are based on historical sales data and distribution patterns. Transportation distances for ocean freight used in this study were estimated using the average distances from U.S. ports to their respective destinations, thereby reflecting typical logistics flows.

Table 4.1: **A4 (Transport to the job site, domestic).**

Name	Value	Unit
Vehicle type used	diesel truck (EURO6) – 7.5-16 metric ton payload capacity	-
Fuel consumption	not available	l/100 km
Transport distance (for a jobsite within the U.S.)	241.40	km
Transport distance (to distribution and then to the job site within the U.S.)	334.31	km
Capacity utilization (including empty returns)	90% (loaded up and return empty)	%
Volume capacity utilization factor	1	-

Table 4.2: **A4 (Transport to the job site, international).**

Name	Value	Unit
Vehicle type used	diesel truck (EURO6) – 7.5-16 metric ton payload capacity	-
	diesel train	-
	sea container ship	-
Transport distance, truck	85	km
Avg. rail freight transport distance	1287	km
Avg. ocean freight distance, Europe	9435	km
Avg. ocean freight distance, Middle East	17142	km
Avg. ocean freight distance, Pacific-Asia	10860	km



A5 (Installation into the building):

The following table outlines the estimated requirements for installing 1 m² of polished concrete flooring product to achieve a **Salt and Pepper** aggregate exposure class (the exposure scenario for the functional unit) for a polished concrete surface. These figures are based on the data as documented in the reference PCR. A 5% product loss was assumed and modelled to compensate for the losses that occur in this stage. The disposal of the product packaging is included in this module.

Table 5: **A5 (Installation) Requirements and Waste Generation.**

Name	Value	Unit
Propane for equipment	0.19	l/FU
Diesel for Generator	0.38	l/FU
Diamond polishing pads	0.64	kg/FU
Product loss per functional unit	5	%
Water	7.95	l/FU
Waste concrete slurry	0.008	m ³ /FU
Polishing pads waste	0.64	kg/FU
Construction waste generated at the construction site during the product installation		
Ashford Formula	1.16E-02	kg/FU
Retro Plate	1.23E-02	kg/FU
CreteClean Plus	3.32E-05	kg/FU
CreteClean Plus Single Dose	1.35E-06	kg/FU
KickStart	5.38E-03	kg/FU
RF Densify & Harden	1.23E-02	kg/FU
RF Hard Surface Cleaner	3.32E-05	kg/FU
RF Hard Surface Cleaner Single Dose	1.35E-06	kg/FU
RF Grind & Enhance	5.38E-03	kg/FU
Packaging waste, worst-case (100% landfilled)		
Product	Plastic waste, kg	Steel waste, kg
Ashford Formula	1.05E-02	1.40E-05
Retro Plate	1.04E-02	1.10E-04
CreteClean Plus	3.26E-05	1.56E-07
CreteClean Plus Single Dose	1.60E-06	0.00E+00
KickStart	5.30E-03	0.00E+00
RF Densify & Harden	1.01E-02	0.00E+00
RF Hard Surface Cleaner	2.66E-05	0.00E+00
RF Hard Surface Cleaner Single Dose	1.63E-06	0.00E+00
RF Grind & Enhance	4.23E-03	0.00E+00
Biogenic carbon content – (plastic, steel)	n/a	kg/FU
Biogenic carbon content – wooden pallet	negligible	kg/FU

Note: Wooden pallets are excluded from packaging waste calculations, as they are considered reusable.

Use stage (B1-B7):

Default estimates based on the scenarios outlined in the PCR were applied, as shown in the following table. To achieve the required 60-year service life, a total of 21,840 cleaning events were estimated.



Table 6: **B2 (Maintenance) requirement for 60-year building service life.**

Name	Value	Unit
Water	1377.74	L/FU
Cleaning agent	1.32	kg/FU
Estimated building service life	60	yrs.

According to the reference PRC, life cycle stages including B1, B3, B4, B6, and B7 are determined to be irrelevant for the declared products and were therefore not considered for the studied product system. The impacts of module B5 (Refurbishment) were modeled based on the scenarios presented in the following table.

Table 7: **Values to calculate the refurbishment of B5 of the product in the building, considering Market Service Life and Technical Service Life.**

Traffic Scenario	Subtract	Polish Level	Technical Service Life (TSL)	Market Service Life (MSL)	Materials Needed
Low Foot Traffic (LFT)	Concrete	1	60 Years	20 Years	50% of original materials on reapplication
	Concrete	2			
	Concrete	3			
	Concrete	4			
High Foot Traffic (HFT)	Concrete	1	60 Years	10 Years	All materials 100%, except densifier
	Concrete	2			
	Concrete	3			
	Concrete	4			

End of life (C1-C4):

According to the reference PCR, the declaration of the end-of-life stages (C1-C4) is exempt for the declared products and was therefore not considered in this study.

Preferred waste management:

The disposal should follow industry standard practices and regional waste management regulations. Waste materials may be directed to municipal landfills or commercial incineration facilities, ensuring full compliance with local, state, and federal requirements.

DATA SOURCES

The manufacturer provides specific data for the product composition. The data represent the production of the declared product and were collected for EPD development during the study year. Background data is based on EPDs according to ISO 21930, EN 15804, and different LCA databases. The data quality of the raw materials in A1 is presented in the table below. There are no data gaps in the study; if any gaps are identified, they are addressed on a case-by-case basis.

Table 8: LCI inputs assumed for module A1 (i.e. raw material inputs).

Materials	Source	Data Quality	Year
tap water	Ecoinvent 3.10.1	database	2023
sodium silicate, solid	Ecoinvent 3.10.1	database	2023
ethoxylated alcohol (AE11)	Ecoinvent 3.10.1	database	2023
diethylene glycol	Ecoinvent 3.10.1	database	2023
Proprietary chemical (withheld)	Ecoinvent 3.10.1	database	2023

DATA QUALITY ASSESSMENT

Data quality/variability requirements, as specified in the PCR, are applied. This section describes the achieved data quality relative to the ISO 14044:2006 requirements. Data quality is evaluated based on its precision (measured, calculated, or estimated), completeness (e.g., unreported emissions), consistency (the degree of uniformity in the methodology applied within a study serving as a data source), and representativeness (geographical, temporal, and technological).

Precision:

Through measurement and calculation, the manufacturers collected and provided primary data on their annual production. The product-specific data derived from specific production processes was used for modeling the life cycle of the declared products. For accuracy, the LCA practitioner and 3rd Party Verifier validated the plant gate-to-gate data.

Completeness:

All relevant specific processes, including inputs (raw materials, energy, and ancillary materials) and outputs (emissions and production volume) were considered and modeled to represent the specified and declared products. The majority of relevant background materials and processes were sourced from the ecoinvent LCI datasets, which utilize relatively recent region-specific electricity inputs. The most relevant EPDs requiring key A1 inputs were also used where readily available.

Consistency:

To ensure consistency, the same modeling structure across the respective product systems was utilized for all inputs, which consisted of raw material inputs and ancillary material, energy flows, water resource inputs, product and co-products outputs, returned and recovered materials, emissions to air, water, and soil, and waste recycling and treatment. The same background LCI datasets from the ecoinvent database were used across all product systems. Cross-checks concerning the plausibility of mass and energy flows were continuously conducted. The LCA team conducted mass and energy balances at both the plant and process levels to maintain a high level of consistency.

Reproducibility:

Internal reproducibility is possible since the data and the models are stored and available in a machine-readable project file for all foreground and background processes. A considerable level of transparency is provided throughout the detailed LCA report as the specifications and material quantity make-up for the declared products are presented, and key primary and secondary LCI data sources



are summarized. The provision of more detailed publicly accessible data to allow full external reproducibility was not possible due to reasons of confidentiality.

Representativeness:

The representativeness of the data is summarized as follows:

- Time-related coverage of the primary collected data from the manufacturing processes, spanning from 2023-03-01 to 2024-02-28.
- Upstream (background) LCI data were either the PCR-specified default (if applicable) or more appropriate LCI datasets as found in the country-adjusted ecoinvent database.
- The geographical coverage for inputs required by the A3 facility is representative of its region of focus. Other upstream and background processes are based on US, North American, or global average data and adjusted to regional electricity mixes when relevant.
- Technological coverage is typical or average and specific to the participating facilities for all primary data.

Treatment of Missing Data:

In this study, missing data were not averaged as zeros; data gaps were addressed using default assumptions provided by the Product Category Rules (PCR). Secondary sources such as LCA databases (e.g., ecoinvent) and industry-specific literature were consulted when primary data was unavailable. In cases where neither primary nor secondary data was accessible, analogous processes or materials were selected as proxies, ensuring that their selection was well-reasoned and appropriately justified. Missing data were minimized to the extent possible. Any remaining data gaps were filled with conservative estimates that do not significantly influence the overall LCA results.

Sources of Data:

All manufacturing processes were based on primary data. For raw materials, facility-specific supplier-provided data was utilized whenever it was accessible. In the absence of primary data, relevant secondary data from the ecoinvent database were used to represent the production of raw materials.

Uncertainty:

Primary data was collected for over 95% of the processes involved. As such, uncertainty is considered low and does not significantly influence the overall LCA results. In instances where primary data were unavailable, representative datasets were employed that closely reflect the regional and temporal scope of the project.

ASSUMPTIONS AND ESTIMATES

All estimates and assumptions are within the requirements of the reference PCR and ISO 14040/44. Certain assumptions made in this study may have influenced the results:

- The selection of secondary datasets from the ecoinvent database plays a critical role in representing supply chain aspects of Curecrete products. Collaboration among LCA practitioners, Curecrete associates, and ecoinvent data experts was instrumental in identifying the most suitable datasets.
- The weights of each packaging material used were estimated based on industry averages.
- Region-specific electricity was used to model the electricity mix using the ecoinvent database v3.10.1
- The allocation of inputs and outputs is based on physical characteristics, i.e., area basis.

ENVIRONMENTAL INDICATORS AND INVENTORY METRICS

Per the PCR, this EPD supports the life cycle impact assessment indicators and inventory metrics as listed in the tables below. As specified in the PCR, the most recent US EPA Tool for the Reduction and Assessment of Chemical and Other Environmental Impacts (TRACI), impact categories were utilized as they provide a North American context for the mandatory category indicators to be included in the EPD. Additionally, mandatory impact categories specified in the EN 15804+A2:2019 standard are also declared and reported in this EPD.

Characterization factors were applied using established LCIA methods, including TRACI 2.1 (Bare et al., 2012), IPCC 2013 (AR5) and the baseline factors from EC-JRC (Environmental Footprint v3.1, EN 15804+A2) to convert inventory data into potential environmental impacts.

Table g: **Life cycle impact categories and life cycle inventory metrics.**

LCIA Indicator	Unit	Impact Category
Climate change: global warming potential (GWP100)	kg CO ₂ -eq	TRACI 2.1
Ozone depletion: ozone depletion potential (ODP)	kg CFC-11-eq	TRACI 2.1
Acidification: acidification potential (AP)	kg SO ₂ -eq	TRACI 2.1
Eutrophication: eutrophication potential (EP)	kg N-eq	TRACI 2.1
Smog formation potential (SFP)	kg O ₃ -eq	TRACI 2.1
Global Warming Potential total (GWP-total)	kg CO ₂ -eq	EN 15804+A2:2019
Global Warming Potential fossil fuels (GWP-fossil)	kg CO ₂ -eq	EN 15804+A2:2019
Global Warming Potential biogenic (GWP-biogenic)	kg CO ₂ -eq	EN 15804+A2:2019
Global Warming Potential land use and land use change (GWP-luluc)	kg CO ₂ -eq	EN 15804+A2:2019
Depletion potential of the stratospheric ozone layer (ODP)	kg CFC-11-eq	EN 15804+A2:2019
Acidification potential, Accumulated Exceedance (AP)	mol H ⁺ eq	EN 15804+A2:2019
Eutrophication potential, fraction of nutrients reaching freshwater end compartment (EP-freshwater)	kg P-eq	EN 15804+A2:2019



Eutrophication potential, fraction of nutrients reaching marine end compartment (EP-marine)	kg N-eq	EN 15804+A2:2019
Eutrophication potential, Accumulated Exceedance (EP-terrestrial)	mol N-eq	EN 15804+A2:2019
Formation potential of tropospheric ozone (POCP)	kg NMVOC-eq	EN 15804+A2:2019
Abiotic depletion potential for non-fossil resources (ADP-minerals & metals)	kg Sb-eq	EN 15804+A2:2019
Abiotic depletion for fossil resources potential (ADP-fossil)	MJ	EN 15804+A2:2019
Water (user) deprivation potential, deprivation-weighted water consumption (WDP)	m ³	EN 15804+A2:2019

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

Resource Indicator	Unit	Waste /Outflows Indicator	Unit
Renewable primary resources used as energy carrier (RPRE)	MJ	Hazardous waste disposed (HWD)	kg
Renewable primary resources with energy content used as materials (RPRM/ PERM)	MJ	Non-hazardous waste disposed (NHWD)	kg
Non-renewable primary resources used as energy carrier (NRPRE)	MJ	Radioactive waste disposed (RWD)	kg
Non-renewable primary resources with energy content used as materials (NRPRM/PENRM)	MJ	Materials for recycling (MR)	kg
Use of secondary material (SM)	kg	Components for re-use (CRU)	kg
Use of renewable secondary fuels (RSF)	MJ	Materials for energy recovery (MER)	kg
Use of non-renewable secondary fuels (NRSF)	MJ	Exported energy – electricity (EEel)	MJ
Recovered energy (RE)	MJ	Exported energy – heat (EEheat)	MJ
Use of net fresh water (FW)	m ³		

It should be noted that emerging LCA impact categories and inventory items are still under development and can have high levels of uncertainty that preclude international acceptance pending further development. Use caution when interpreting data in any of the following categories.



- Renewable primary energy resources as energy (fuel);
- Renewable primary resources as material;
- Non-renewable primary resources as energy (fuel);
- Non-renewable primary resources as material;
- Secondary Materials;
- Renewable secondary fuels;
- Non-renewable secondary fuels;
- Recovered energy;
- Abiotic depletion potential for non-fossil mineral resources.
- Land use-related impacts, for example, on biodiversity and/or soil fertility;
- Toxicological aspects;
- Emissions from land use change [GWP 100 (land-use change)];
- Hazardous waste disposed;
- Non-hazardous waste disposed;
- High-level radioactive waste;
- Intermediate and low-level radioactive waste;
- Components for reuse;
- Materials for recycling;
- Materials for energy recovery;
- Recovered energy is exported from the product system.

TOTAL IMPACT SUMMARY

The following table reports the total LCA results for each polished concrete flooring product produced at a given facility on a per-functional-unit basis.

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

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. Toxicity impacts shall be reported under "Additional Environmental Information".



a) Midpoint Impact Categories

Table 10: Total life cycle (across modules in scope) impact results for all declared products, on a per FU basis.

Application: Low Foot Traffic

Estimated Technical Service Life: 60 years

Impact category, TRACI 2.1	^a GWP100 (kg CO ₂ -eq)				
Products	Life cycle stage				
	A1-A3	A4	A5	B2	B5
Ashford Formula	1.04E-01	3.23E-02	4.68E+00	5.23E+00	0.00E+00
Retro Plate	1.41E-01	3.41E-02	4.69E+00	5.23E+00	0.00E+00
CreteClean Plus	5.78E-04	9.99E-05	4.67E+00	5.23E+00	0.00E+00
CreteClean Plus Single Dose	3.97E-04	3.87E-06	4.67E+00	5.23E+00	0.00E+00
KickStart	4.52E-02	1.50E-02	4.68E+00	5.23E+00	0.00E+00
RF Densify & Harden	1.41E-01	3.41E-02	4.69E+00	5.23E+00	0.00E+00
RF Hard Surface Cleaner	5.78E-04	9.99E-05	4.67E+00	5.23E+00	0.00E+00
RF Hard Surface Cleaner Single Dose	3.97E-04	3.87E-06	4.67E+00	5.23E+00	0.00E+00
RF Grind & Enhance	4.52E-02	1.50E-02	4.68E+00	5.23E+00	0.00E+00
ODP (kg CFC-11-eq)					
Ashford Formula	1.16E-09	4.91E-10	1.04E-07	1.18E-07	0.00E+00
Retro Plate	1.57E-09	5.18E-10	1.04E-07	1.18E-07	0.00E+00
CreteClean Plus	1.27E-11	2.00E-12	1.04E-07	1.18E-07	0.00E+00
CreteClean Plus Single Dose	6.49E-12	2.19E-12	1.04E-07	1.18E-07	0.00E+00
KickStart	6.80E-10	2.28E-10	1.04E-07	1.18E-07	0.00E+00
RF Densify & Harden	1.57E-09	5.18E-10	1.04E-07	1.18E-07	0.00E+00
RF Hard Surface Cleaner	1.27E-11	2.00E-12	1.04E-07	1.18E-07	0.00E+00
RF Hard Surface Cleaner Single Dose	6.49E-12	2.19E-12	1.04E-07	1.18E-07	0.00E+00
RF Grind & Enhance	6.80E-10	2.28E-10	1.04E-07	1.18E-07	0.00E+00
AP (kg SO ₂ -eq)					
Ashford Formula	4.30E-04	3.67E-04	2.34E-02	2.74E-02	0.00E+00
Retro Plate	5.82E-04	3.88E-04	2.34E-02	2.74E-02	0.00E+00
CreteClean Plus	1.12E-06	1.24E-06	2.33E-02	2.74E-02	0.00E+00
CreteClean Plus Single Dose	5.05E-07	4.23E-08	2.33E-02	2.74E-02	0.00E+00
KickStart	1.77E-04	1.71E-04	2.33E-02	2.74E-02	0.00E+00
RF Densify & Harden	5.82E-04	3.88E-04	2.34E-02	2.74E-02	0.00E+00
RF Hard Surface Cleaner	1.12E-06	1.24E-06	2.33E-02	2.74E-02	0.00E+00
RF Hard Surface Cleaner Single Dose	5.05E-07	4.23E-08	2.33E-02	2.74E-02	0.00E+00
RF Grind & Enhance	1.77E-04	1.71E-04	2.33E-02	2.74E-02	0.00E+00
EP (kg N-eq)					
Ashford Formula	6.97E-03	3.89E-05	3.55E+00	1.01E+01	0.00E+00
Retro Plate	7.23E-03	4.11E-05	3.55E+00	1.01E+01	0.00E+00
CreteClean Plus	6.18E-04	1.23E-07	3.55E+00	1.01E+01	0.00E+00



CreteClean Plus Single Dose	5.96E-04	4.62E-09	3.55E+00	1.01E+01	0.00E+00
KickStart	3.85E-03	1.81E-05	3.55E+00	1.01E+01	0.00E+00
RF Densify & Harden	7.23E-03	4.11E-05	3.55E+00	1.01E+01	0.00E+00
RF Hard Surface Cleaner	6.18E-04	1.23E-07	3.55E+00	1.01E+01	0.00E+00
RF Hard Surface Cleaner Single Dose	5.96E-04	4.62E-09	3.55E+00	1.01E+01	0.00E+00
RF Grind & Enhance	3.85E-03	1.81E-05	3.55E+00	1.01E+01	0.00E+00
SFP (kg O₃-eq)					
Ashford Formula	4.55E-03	7.70E-03	5.75E-01	3.16E-01	0.00E+00
Retro Plate	6.09E-03	8.13E-03	5.75E-01	3.16E-01	0.00E+00
CreteClean Plus	2.07E-05	2.60E-05	5.74E-01	3.16E-01	0.00E+00
CreteClean Plus Single Dose	1.17E-05	8.87E-07	5.74E-01	3.16E-01	0.00E+00
KickStart	2.03E-03	3.59E-03	5.75E-01	3.16E-01	0.00E+00
RF Densify & Harden	6.09E-03	8.13E-03	5.75E-01	3.16E-01	0.00E+00
RF Hard Surface Cleaner	2.07E-05	2.60E-05	5.74E-01	3.16E-01	0.00E+00
RF Hard Surface Cleaner Single Dose	1.17E-05	8.87E-07	5.74E-01	3.16E-01	0.00E+00
RF Grind & Enhance	2.03E-03	3.59E-03	5.75E-01	3.16E-01	0.00E+00
Impact category, EN 15804+A2	GWP-total (kg CO₂-eq)				
Products	Life cycle stage				
	A1-A3	A4	A5	B2	B5
Ashford Formula	2.30E-02	3.27E-02	4.76E+00	4.24E+00	0.00E+00
Retro Plate	2.61E-02	3.45E-02	4.76E+00	4.24E+00	0.00E+00
CreteClean Plus	5.81E-04	1.01E-04	4.75E+00	4.24E+00	0.00E+00
CreteClean Plus Single Dose	4.05E-04	3.92E-06	4.75E+00	4.24E+00	0.00E+00
KickStart	1.53E-02	1.52E-02	4.76E+00	4.24E+00	0.00E+00
RF Densify & Harden	2.61E-02	3.45E-02	4.76E+00	4.24E+00	0.00E+00
RF Hard Surface Cleaner	5.81E-04	1.01E-04	4.75E+00	4.24E+00	0.00E+00
RF Hard Surface Cleaner Single Dose	4.05E-04	3.92E-06	4.75E+00	4.24E+00	0.00E+00
RF Grind & Enhance	1.53E-02	1.52E-02	4.76E+00	4.24E+00	0.00E+00
GWP-fossil (kg CO₂-eq)					
Ashford Formula	5.37E-02	3.27E-02	4.76E+00	4.96E+00	0.00E+00
Retro Plate	7.01E-02	3.45E-02	4.76E+00	4.96E+00	0.00E+00
CreteClean Plus	5.64E-04	1.01E-04	4.75E+00	4.96E+00	0.00E+00
CreteClean Plus Single Dose	3.92E-04	3.92E-06	4.75E+00	4.96E+00	0.00E+00
KickStart	2.70E-02	1.52E-02	4.75E+00	4.96E+00	0.00E+00
RF Densify & Harden	7.01E-02	3.45E-02	4.76E+00	4.96E+00	0.00E+00
RF Hard Surface Cleaner	5.64E-04	1.01E-04	4.75E+00	4.96E+00	0.00E+00
RF Hard Surface Cleaner Single Dose	3.92E-04	3.92E-06	4.75E+00	4.96E+00	0.00E+00
RF Grind & Enhance	2.70E-02	1.52E-02	4.75E+00	4.96E+00	0.00E+00
GWP-biogenic (kg CO₂-eq)					
Ashford Formula	-1.15E-01	7.28E-06	-3.20E-03	-1.06E+00	0.00E+00
Retro Plate	1.02E-06	1.96E-08	2.52E-03	-1.06E+00	0.00E+00



CreteClean Plus	1.10E-05	8.57E-10	2.52E-03	-1.06E+00	0.00E+00
CreteClean Plus Single Dose	-3.12E-02	3.19E-06	9.61E-04	-1.06E+00	0.00E+00
KickStart	-1.15E-01	7.28E-06	-3.20E-03	-1.06E+00	0.00E+00
RF Densify & Harden	1.02E-06	1.96E-08	2.52E-03	-1.06E+00	0.00E+00
RF Hard Surface Cleaner	1.10E-05	8.57E-10	2.52E-03	-1.06E+00	0.00E+00
RF Hard Surface Cleaner Single Dose	-3.12E-02	3.19E-06	9.61E-04	-1.06E+00	0.00E+00
RF Grind & Enhance	-1.15E-01	7.28E-06	-3.20E-03	-1.06E+00	0.00E+00
GWP-luluc (kg CO₂-eq)					
Ashford Formula	5.00E-02	1.65E-05	5.18E-03	3.39E-01	0.00E+00
Retro Plate	7.05E-02	1.74E-05	6.20E-03	3.39E-01	0.00E+00
CreteClean Plus	1.63E-05	5.17E-08	2.68E-03	3.39E-01	0.00E+00
CreteClean Plus Single Dose	2.18E-06	1.96E-09	2.68E-03	3.39E-01	0.00E+00
KickStart	1.95E-02	7.66E-06	3.65E-03	3.39E-01	0.00E+00
RF Densify & Harden	7.05E-02	1.74E-05	6.20E-03	3.39E-01	0.00E+00
RF Hard Surface Cleaner	1.63E-05	5.17E-08	2.68E-03	3.39E-01	0.00E+00
RF Hard Surface Cleaner Single Dose	2.18E-06	1.96E-09	2.68E-03	3.39E-01	0.00E+00
RF Grind & Enhance	1.95E-02	7.66E-06	3.65E-03	3.39E-01	0.00E+00
ODP (kg CFC 11-eq)					
Ashford Formula	1.11E-09	4.78E-10	9.90E-08	1.11E-07	0.00E+00
Retro Plate	1.50E-09	5.05E-10	9.90E-08	1.11E-07	0.00E+00
CreteClean Plus	1.00E-11	2.00E-12	9.89E-08	1.11E-07	0.00E+00
CreteClean Plus Single Dose	5.00E-12	0.00E+00	9.89E-08	1.11E-07	0.00E+00
KickStart	6.66E-10	2.22E-10	9.90E-08	1.11E-07	0.00E+00
RF Densify & Harden	1.50E-09	5.05E-10	9.90E-08	1.11E-07	0.00E+00
RF Hard Surface Cleaner	1.00E-11	2.00E-12	9.89E-08	1.11E-07	0.00E+00
RF Hard Surface Cleaner Single Dose	5.00E-12	0.00E+00	9.89E-08	1.11E-07	0.00E+00
RF Grind & Enhance	6.66E-10	2.22E-10	9.90E-08	1.11E-07	0.00E+00
AP (mol H⁺ -eq)					
Ashford Formula	5.74E-04	4.27E-04	2.59E-02	3.32E-02	0.00E+00
Retro Plate	7.83E-04	4.51E-04	2.59E-02	3.32E-02	0.00E+00
CreteClean Plus	1.30E-06	1.44E-06	2.59E-02	3.32E-02	0.00E+00
CreteClean Plus Single Dose	5.75E-07	4.92E-08	2.59E-02	3.32E-02	0.00E+00
KickStart	2.41E-04	1.99E-04	2.59E-02	3.32E-02	0.00E+00
RF Densify & Harden	7.83E-04	4.51E-04	2.59E-02	3.32E-02	0.00E+00
RF Hard Surface Cleaner	1.30E-06	1.44E-06	2.59E-02	3.32E-02	0.00E+00
RF Hard Surface Cleaner Single Dose	5.75E-07	4.92E-08	2.59E-02	3.32E-02	0.00E+00
RF Grind & Enhance	2.41E-04	1.99E-04	2.59E-02	3.32E-02	0.00E+00
EPfreshwater (kg P-eq)					
Ashford Formula	2.22E-05	2.23E-06	8.45E-04	1.73E-03	0.00E+00
Retro Plate	2.84E-05	2.35E-06	8.45E-04	1.73E-03	0.00E+00
CreteClean Plus	1.64E-07	6.80E-09	8.43E-04	1.73E-03	0.00E+00
CreteClean Plus Single Dose	1.14E-07	2.69E-10	8.43E-04	1.73E-03	0.00E+00
KickStart	1.01E-05	1.04E-06	8.44E-04	1.73E-03	0.00E+00
RF Densify & Harden	2.84E-05	2.35E-06	8.45E-04	1.73E-03	0.00E+00



RF Hard Surface Cleaner	1.64E-07	6.80E-09	8.43E-04	1.73E-03	0.00E+00
RF Hard Surface Cleaner Single Dose	1.14E-07	2.69E-10	8.43E-04	1.73E-03	0.00E+00
RF Grind & Enhance	1.01E-05	1.04E-06	8.44E-04	1.73E-03	0.00E+00
EPmarine (kg N-eq)					
Ashford Formula	4.98E-04	1.18E-04	8.78E-03	9.72E-03	0.00E+00
Retro Plate	6.97E-04	1.25E-04	8.79E-03	9.72E-03	0.00E+00
CreteClean Plus	5.33E-07	3.99E-07	8.73E-03	9.72E-03	0.00E+00
CreteClean Plus Single Dose	2.38E-07	1.36E-08	8.73E-03	9.72E-03	0.00E+00
KickStart	1.96E-04	5.50E-05	8.75E-03	9.72E-03	0.00E+00
RF Densify & Harden	6.97E-04	1.25E-04	8.79E-03	9.72E-03	0.00E+00
RF Hard Surface Cleaner	5.33E-07	3.99E-07	8.73E-03	9.72E-03	0.00E+00
RF Hard Surface Cleaner Single Dose	2.38E-07	1.36E-08	8.73E-03	9.72E-03	0.00E+00
RF Grind & Enhance	1.96E-04	5.50E-05	8.75E-03	9.72E-03	0.00E+00
EPterrestrial (mole N-eq)					
Ashford Formula	1.93E-03	1.30E-03	9.46E-02	6.96E-02	0.00E+00
Retro Plate	2.66E-03	1.38E-03	9.47E-02	6.96E-02	0.00E+00
CreteClean Plus	3.44E-06	4.41E-06	9.44E-02	6.96E-02	0.00E+00
CreteClean Plus Single Dose	1.80E-06	1.50E-07	9.44E-02	6.96E-02	0.00E+00
KickStart	7.82E-04	6.08E-04	9.45E-02	6.96E-02	0.00E+00
RF Densify & Harden	2.66E-03	1.38E-03	9.47E-02	6.96E-02	0.00E+00
RF Hard Surface Cleaner	3.44E-06	4.41E-06	9.44E-02	6.96E-02	0.00E+00
RF Hard Surface Cleaner Single Dose	1.80E-06	1.50E-07	9.44E-02	6.96E-02	0.00E+00
RF Grind & Enhance	7.82E-04	6.08E-04	9.45E-02	6.96E-02	0.00E+00
POCP (kg NMVOC-eq)					
Ashford Formula	3.03E-04	3.81E-04	3.18E-02	2.10E-02	0.00E+00
Retro Plate	4.09E-04	4.02E-04	3.18E-02	2.10E-02	0.00E+00
CreteClean Plus	1.73E-06	1.27E-06	3.17E-02	2.10E-02	0.00E+00
CreteClean Plus Single Dose	9.68E-07	4.41E-08	3.17E-02	2.10E-02	0.00E+00
KickStart	1.51E-04	1.78E-04	3.17E-02	2.10E-02	0.00E+00
RF Densify & Harden	4.09E-04	4.02E-04	3.18E-02	2.10E-02	0.00E+00
RF Hard Surface Cleaner	1.73E-06	1.27E-06	3.17E-02	2.10E-02	0.00E+00
RF Hard Surface Cleaner Single Dose	9.68E-07	4.41E-08	3.17E-02	2.10E-02	0.00E+00
RF Grind & Enhance	1.51E-04	1.78E-04	3.17E-02	2.10E-02	0.00E+00
ADPminerals (kg Sb-eq)					
Ashford Formula	7.07E-07	7.33E-08	2.26E-05	6.14E-05	0.00E+00
Retro Plate	9.94E-07	7.74E-08	2.26E-05	6.14E-05	0.00E+00
CreteClean Plus	1.67E-09	2.15E-10	2.26E-05	6.14E-05	0.00E+00
CreteClean Plus Single Dose	4.67E-10	9.00E-12	2.26E-05	6.14E-05	0.00E+00
KickStart	3.20E-07	3.40E-08	2.26E-05	6.14E-05	0.00E+00
RF Densify & Harden	9.94E-07	7.74E-08	2.26E-05	6.14E-05	0.00E+00
RF Hard Surface Cleaner	1.67E-09	2.15E-10	2.26E-05	6.14E-05	0.00E+00
RF Hard Surface Cleaner Single Dose	4.67E-10	9.00E-12	2.26E-05	6.14E-05	0.00E+00
RF Grind & Enhance	3.20E-07	3.40E-08	2.26E-05	6.14E-05	0.00E+00



ADPfossil (MJ)					
Ashford Formula	6.17E-01	4.24E-01	7.04E+01	7.80E+01	0.00E+00
Retro Plate	7.83E-01	4.49E-01	7.04E+01	7.80E+01	0.00E+00
CreteClean Plus	9.95E-03	1.31E-03	7.04E+01	7.80E+01	0.00E+00
CreteClean Plus Single Dose	6.26E-03	5.11E-05	7.04E+01	7.80E+01	0.00E+00
KickStart	4.28E-01	1.97E-01	7.04E+01	7.80E+01	0.00E+00
RF Densify & Harden	7.83E-01	4.49E-01	7.04E+01	7.80E+01	0.00E+00
RF Hard Surface Cleaner	9.95E-03	1.31E-03	7.04E+01	7.80E+01	0.00E+00
RF Hard Surface Cleaner Single Dose	6.26E-03	5.11E-05	7.04E+01	7.80E+01	0.00E+00
RF Grind & Enhance	4.28E-01	1.97E-01	7.04E+01	7.80E+01	0.00E+00
WDP (m3)					
Ashford Formula	1.98E-01	1.91E-03	6.89E-01	5.86E+00	0.00E+00
Retro Plate	2.77E-01	2.02E-03	6.93E-01	5.86E+00	0.00E+00
CreteClean Plus	1.28E-04	5.90E-06	6.79E-01	5.86E+00	0.00E+00
CreteClean Plus Single Dose	6.45E-05	2.30E-07	6.79E-01	5.86E+00	0.00E+00
KickStart	7.62E-02	8.90E-04	6.83E-01	5.86E+00	0.00E+00
RF Densify & Harden	2.77E-01	2.02E-03	6.93E-01	5.86E+00	0.00E+00
RF Hard Surface Cleaner	1.28E-04	5.90E-06	6.79E-01	5.86E+00	0.00E+00
RF Hard Surface Cleaner Single Dose	6.45E-05	2.30E-07	6.79E-01	5.86E+00	0.00E+00
RF Grind & Enhance	7.62E-02	8.90E-04	6.83E-01	5.86E+00	0.00E+00

^aThe LCI indicator (GWP 100) did not include biogenic carbon removals & emissions (GWP-biogenic) and emissions from land use and land use change (GWP-LULUC).



Table 11: Total life cycle (across modules in scope) impact results for all declared products, on a per FU basis.

Application: High Foot Traffic

Estimated Technical Service Life: 60 years

Impact category, TRACI 2.1	^a GWP100 (kg CO ₂ -eq)				
Products	Life cycle stage				
	A1-A3	A4	A5	B2	B5
Ashford Formula	1.04E-01	3.23E-02	4.68E+00	5.23E+00	0.00E+00
Retro Plate	1.41E-01	3.41E-02	4.69E+00	5.23E+00	0.00E+00
CreteClean Plus	5.78E-04	9.99E-05	4.67E+00	5.23E+00	0.00E+00
CreteClean Plus Single Dose	3.97E-04	3.87E-06	4.67E+00	5.23E+00	0.00E+00
KickStart	4.52E-02	1.50E-02	4.68E+00	5.23E+00	0.00E+00
RF Densify & Harden	1.41E-01	3.41E-02	4.69E+00	5.23E+00	0.00E+00
RF Hard Surface Cleaner	5.78E-04	9.99E-05	4.67E+00	5.23E+00	0.00E+00
RF Hard Surface Cleaner Single Dose	3.97E-04	3.87E-06	4.67E+00	5.23E+00	0.00E+00
RF Grind & Enhance	4.52E-02	1.50E-02	4.68E+00	5.23E+00	0.00E+00
ODP (kg CFC-11-eq)					
Ashford Formula	1.16E-09	4.91E-10	1.04E-07	1.18E-07	0.00E+00
Retro Plate	1.57E-09	5.18E-10	1.04E-07	1.18E-07	0.00E+00
CreteClean Plus	1.27E-11	2.00E-12	1.04E-07	1.18E-07	0.00E+00
CreteClean Plus Single Dose	6.49E-12	2.19E-12	1.04E-07	1.18E-07	0.00E+00
KickStart	6.80E-10	2.28E-10	1.04E-07	1.18E-07	0.00E+00
RF Densify & Harden	1.57E-09	5.18E-10	1.04E-07	1.18E-07	0.00E+00
RF Hard Surface Cleaner	1.27E-11	2.00E-12	1.04E-07	1.18E-07	0.00E+00
RF Hard Surface Cleaner Single Dose	6.49E-12	2.19E-12	1.04E-07	1.18E-07	0.00E+00
RF Grind & Enhance	6.80E-10	2.28E-10	1.04E-07	1.18E-07	0.00E+00
AP (kg SO ₂ -eq)					
Ashford Formula	4.30E-04	3.67E-04	2.34E-02	2.74E-02	0.00E+00
Retro Plate	5.82E-04	3.88E-04	2.34E-02	2.74E-02	0.00E+00
CreteClean Plus	1.12E-06	1.24E-06	2.33E-02	2.74E-02	0.00E+00
CreteClean Plus Single Dose	5.05E-07	4.23E-08	2.33E-02	2.74E-02	0.00E+00
KickStart	1.77E-04	1.71E-04	2.33E-02	2.74E-02	0.00E+00
RF Densify & Harden	5.82E-04	3.88E-04	2.34E-02	2.74E-02	0.00E+00
RF Hard Surface Cleaner	1.12E-06	1.24E-06	2.33E-02	2.74E-02	0.00E+00
RF Hard Surface Cleaner Single Dose	5.05E-07	4.23E-08	2.33E-02	2.74E-02	0.00E+00
RF Grind & Enhance	1.77E-04	1.71E-04	2.33E-02	2.74E-02	0.00E+00
EP (kg N-eq)					
Ashford Formula	6.97E-03	3.89E-05	3.55E+00	1.01E+01	0.00E+00
Retro Plate	7.23E-03	4.11E-05	3.55E+00	1.01E+01	0.00E+00
CreteClean Plus	6.18E-04	1.23E-07	3.55E+00	1.01E+01	0.00E+00



CreteClean Plus Single Dose	5.96E-04	4.62E-09	3.55E+00	1.01E+01	0.00E+00
KickStart	3.85E-03	1.81E-05	3.55E+00	1.01E+01	0.00E+00
RF Densify & Harden	7.23E-03	4.11E-05	3.55E+00	1.01E+01	0.00E+00
RF Hard Surface Cleaner	6.18E-04	1.23E-07	3.55E+00	1.01E+01	0.00E+00
RF Hard Surface Cleaner Single Dose	5.96E-04	4.62E-09	3.55E+00	1.01E+01	0.00E+00
RF Grind & Enhance	3.85E-03	1.81E-05	3.55E+00	1.01E+01	0.00E+00
SFP (kg O ₃ -eq)					
Ashford Formula	4.55E-03	7.70E-03	5.75E-01	3.16E-01	0.00E+00
Retro Plate	6.09E-03	8.13E-03	5.75E-01	3.16E-01	0.00E+00
CreteClean Plus	2.07E-05	2.60E-05	5.74E-01	3.16E-01	0.00E+00
CreteClean Plus Single Dose	1.17E-05	8.87E-07	5.74E-01	3.16E-01	0.00E+00
KickStart	2.03E-03	3.59E-03	5.75E-01	3.16E-01	0.00E+00
RF Densify & Harden	6.09E-03	8.13E-03	5.75E-01	3.16E-01	0.00E+00
RF Hard Surface Cleaner	2.07E-05	2.60E-05	5.74E-01	3.16E-01	0.00E+00
RF Hard Surface Cleaner Single Dose	1.17E-05	8.87E-07	5.74E-01	3.16E-01	0.00E+00
RF Grind & Enhance	2.03E-03	3.59E-03	5.75E-01	3.16E-01	0.00E+00
Impact category, EN 15804+A2	GWP-total (kg CO ₂ -eq)				
Products	Life cycle stage				
	A1-A3	A4	A5	B2	B5
Ashford Formula	2.30E-02	3.27E-02	4.76E+00	4.24E+00	0.00E+00
Retro Plate	2.61E-02	3.45E-02	4.76E+00	4.24E+00	0.00E+00
CreteClean Plus	5.81E-04	1.01E-04	4.75E+00	4.24E+00	0.00E+00
CreteClean Plus Single Dose	4.05E-04	3.92E-06	4.75E+00	4.24E+00	0.00E+00
KickStart	1.53E-02	1.52E-02	4.76E+00	4.24E+00	0.00E+00
RF Densify & Harden	2.61E-02	3.45E-02	4.76E+00	4.24E+00	0.00E+00
RF Hard Surface Cleaner	5.81E-04	1.01E-04	4.75E+00	4.24E+00	0.00E+00
RF Hard Surface Cleaner Single Dose	4.05E-04	3.92E-06	4.75E+00	4.24E+00	0.00E+00
RF Grind & Enhance	1.53E-02	1.52E-02	4.76E+00	4.24E+00	0.00E+00
GWP-fossil (kg CO ₂ -eq)					
Ashford Formula	5.37E-02	3.27E-02	4.76E+00	4.96E+00	0.00E+00
Retro Plate	7.01E-02	3.45E-02	4.76E+00	4.96E+00	0.00E+00
CreteClean Plus	5.64E-04	1.01E-04	4.75E+00	4.96E+00	0.00E+00
CreteClean Plus Single Dose	3.92E-04	3.92E-06	4.75E+00	4.96E+00	0.00E+00
KickStart	2.70E-02	1.52E-02	4.75E+00	4.96E+00	0.00E+00
RF Densify & Harden	7.01E-02	3.45E-02	4.76E+00	4.96E+00	0.00E+00
RF Hard Surface Cleaner	5.64E-04	1.01E-04	4.75E+00	4.96E+00	0.00E+00
RF Hard Surface Cleaner Single Dose	3.92E-04	3.92E-06	4.75E+00	4.96E+00	0.00E+00
RF Grind & Enhance	2.70E-02	1.52E-02	4.75E+00	4.96E+00	0.00E+00
GWP-biogenic (kg CO ₂ -eq)					
Ashford Formula	-1.15E-01	7.28E-06	-3.20E-03	-1.06E+00	0.00E+00
Retro Plate	1.02E-06	1.96E-08	2.52E-03	-1.06E+00	0.00E+00



CreteClean Plus	1.10E-05	8.57E-10	2.52E-03	-1.06E+00	0.00E+00
CreteClean Plus Single Dose	-3.12E-02	3.19E-06	9.61E-04	-1.06E+00	0.00E+00
KickStart	-1.15E-01	7.28E-06	-3.20E-03	-1.06E+00	0.00E+00
RF Densify & Harden	1.02E-06	1.96E-08	2.52E-03	-1.06E+00	0.00E+00
RF Hard Surface Cleaner	1.10E-05	8.57E-10	2.52E-03	-1.06E+00	0.00E+00
RF Hard Surface Cleaner Single Dose	-3.12E-02	3.19E-06	9.61E-04	-1.06E+00	0.00E+00
RF Grind & Enhance	-1.15E-01	7.28E-06	-3.20E-03	-1.06E+00	0.00E+00
GWP-luluc (kg CO₂-eq)					
Ashford Formula	5.00E-02	1.65E-05	5.18E-03	3.39E-01	0.00E+00
Retro Plate	7.05E-02	1.74E-05	6.20E-03	3.39E-01	0.00E+00
CreteClean Plus	1.63E-05	5.17E-08	2.68E-03	3.39E-01	0.00E+00
CreteClean Plus Single Dose	2.18E-06	1.96E-09	2.68E-03	3.39E-01	0.00E+00
KickStart	1.95E-02	7.66E-06	3.65E-03	3.39E-01	0.00E+00
RF Densify & Harden	7.05E-02	1.74E-05	6.20E-03	3.39E-01	0.00E+00
RF Hard Surface Cleaner	1.63E-05	5.17E-08	2.68E-03	3.39E-01	0.00E+00
RF Hard Surface Cleaner Single Dose	2.18E-06	1.96E-09	2.68E-03	3.39E-01	0.00E+00
RF Grind & Enhance	1.95E-02	7.66E-06	3.65E-03	3.39E-01	0.00E+00
ODP (kg CFC 11-eq)					
Ashford Formula	1.11E-09	4.78E-10	9.90E-08	1.11E-07	0.00E+00
Retro Plate	1.50E-09	5.05E-10	9.90E-08	1.11E-07	0.00E+00
CreteClean Plus	1.00E-11	2.00E-12	9.89E-08	1.11E-07	0.00E+00
CreteClean Plus Single Dose	5.00E-12	0.00E+00	9.89E-08	1.11E-07	0.00E+00
KickStart	6.66E-10	2.22E-10	9.90E-08	1.11E-07	0.00E+00
RF Densify & Harden	1.50E-09	5.05E-10	9.90E-08	1.11E-07	0.00E+00
RF Hard Surface Cleaner	1.00E-11	2.00E-12	9.89E-08	1.11E-07	0.00E+00
RF Hard Surface Cleaner Single Dose	5.00E-12	0.00E+00	9.89E-08	1.11E-07	0.00E+00
RF Grind & Enhance	6.66E-10	2.22E-10	9.90E-08	1.11E-07	0.00E+00
AP (mol H⁺ -eq)					
Ashford Formula	5.74E-04	4.27E-04	2.59E-02	3.32E-02	0.00E+00
Retro Plate	7.83E-04	4.51E-04	2.59E-02	3.32E-02	0.00E+00
CreteClean Plus	1.30E-06	1.44E-06	2.59E-02	3.32E-02	0.00E+00
CreteClean Plus Single Dose	5.75E-07	4.92E-08	2.59E-02	3.32E-02	0.00E+00
KickStart	2.41E-04	1.99E-04	2.59E-02	3.32E-02	0.00E+00
RF Densify & Harden	7.83E-04	4.51E-04	2.59E-02	3.32E-02	0.00E+00
RF Hard Surface Cleaner	1.30E-06	1.44E-06	2.59E-02	3.32E-02	0.00E+00
RF Hard Surface Cleaner Single Dose	5.75E-07	4.92E-08	2.59E-02	3.32E-02	0.00E+00
RF Grind & Enhance	2.41E-04	1.99E-04	2.59E-02	3.32E-02	0.00E+00
EPfreshwater (kg P-eq)					
Ashford Formula	2.22E-05	2.23E-06	8.45E-04	1.73E-03	0.00E+00
Retro Plate	2.84E-05	2.35E-06	8.45E-04	1.73E-03	0.00E+00
CreteClean Plus	1.64E-07	6.80E-09	8.43E-04	1.73E-03	0.00E+00
CreteClean Plus Single Dose	1.14E-07	2.69E-10	8.43E-04	1.73E-03	0.00E+00
KickStart	1.01E-05	1.04E-06	8.44E-04	1.73E-03	0.00E+00
RF Densify & Harden	2.84E-05	2.35E-06	8.45E-04	1.73E-03	0.00E+00



RF Hard Surface Cleaner	1.64E-07	6.80E-09	8.43E-04	1.73E-03	0.00E+00
RF Hard Surface Cleaner Single Dose	1.14E-07	2.69E-10	8.43E-04	1.73E-03	0.00E+00
RF Grind & Enhance	1.01E-05	1.04E-06	8.44E-04	1.73E-03	0.00E+00
EPmarine (kg N-eq)					
Ashford Formula	4.98E-04	1.18E-04	8.78E-03	9.72E-03	0.00E+00
Retro Plate	6.97E-04	1.25E-04	8.79E-03	9.72E-03	0.00E+00
CreteClean Plus	5.33E-07	3.99E-07	8.73E-03	9.72E-03	0.00E+00
CreteClean Plus Single Dose	2.38E-07	1.36E-08	8.73E-03	9.72E-03	0.00E+00
KickStart	1.96E-04	5.50E-05	8.75E-03	9.72E-03	0.00E+00
RF Densify & Harden	6.97E-04	1.25E-04	8.79E-03	9.72E-03	0.00E+00
RF Hard Surface Cleaner	5.33E-07	3.99E-07	8.73E-03	9.72E-03	0.00E+00
RF Hard Surface Cleaner Single Dose	2.38E-07	1.36E-08	8.73E-03	9.72E-03	0.00E+00
RF Grind & Enhance	1.96E-04	5.50E-05	8.75E-03	9.72E-03	0.00E+00
EPterrestrial (mole N-eq)					
Ashford Formula	1.93E-03	1.30E-03	9.46E-02	6.96E-02	0.00E+00
Retro Plate	2.66E-03	1.38E-03	9.47E-02	6.96E-02	0.00E+00
CreteClean Plus	3.44E-06	4.41E-06	9.44E-02	6.96E-02	0.00E+00
CreteClean Plus Single Dose	1.80E-06	1.50E-07	9.44E-02	6.96E-02	0.00E+00
KickStart	7.82E-04	6.08E-04	9.45E-02	6.96E-02	0.00E+00
RF Densify & Harden	2.66E-03	1.38E-03	9.47E-02	6.96E-02	0.00E+00
RF Hard Surface Cleaner	3.44E-06	4.41E-06	9.44E-02	6.96E-02	0.00E+00
RF Hard Surface Cleaner Single Dose	1.80E-06	1.50E-07	9.44E-02	6.96E-02	0.00E+00
RF Grind & Enhance	7.82E-04	6.08E-04	9.45E-02	6.96E-02	0.00E+00
POCP (kg NMVOC-eq)					
Ashford Formula	3.03E-04	3.81E-04	3.18E-02	2.10E-02	0.00E+00
Retro Plate	4.09E-04	4.02E-04	3.18E-02	2.10E-02	0.00E+00
CreteClean Plus	1.73E-06	1.27E-06	3.17E-02	2.10E-02	0.00E+00
CreteClean Plus Single Dose	9.68E-07	4.41E-08	3.17E-02	2.10E-02	0.00E+00
KickStart	1.51E-04	1.78E-04	3.17E-02	2.10E-02	0.00E+00
RF Densify & Harden	4.09E-04	4.02E-04	3.18E-02	2.10E-02	0.00E+00
RF Hard Surface Cleaner	1.73E-06	1.27E-06	3.17E-02	2.10E-02	0.00E+00
RF Hard Surface Cleaner Single Dose	9.68E-07	4.41E-08	3.17E-02	2.10E-02	0.00E+00
RF Grind & Enhance	1.51E-04	1.78E-04	3.17E-02	2.10E-02	0.00E+00
ADPminerals (kg Sb-eq)					
Ashford Formula	7.07E-07	7.33E-08	2.26E-05	6.14E-05	0.00E+00
Retro Plate	9.94E-07	7.74E-08	2.26E-05	6.14E-05	0.00E+00
CreteClean Plus	1.67E-09	2.15E-10	2.26E-05	6.14E-05	0.00E+00
CreteClean Plus Single Dose	4.67E-10	9.00E-12	2.26E-05	6.14E-05	0.00E+00
KickStart	3.20E-07	3.40E-08	2.26E-05	6.14E-05	0.00E+00
RF Densify & Harden	9.94E-07	7.74E-08	2.26E-05	6.14E-05	0.00E+00
RF Hard Surface Cleaner	1.67E-09	2.15E-10	2.26E-05	6.14E-05	0.00E+00
RF Hard Surface Cleaner Single Dose	4.67E-10	9.00E-12	2.26E-05	6.14E-05	0.00E+00
RF Grind & Enhance	3.20E-07	3.40E-08	2.26E-05	6.14E-05	0.00E+00



ADPfossil (MJ)					
Ashford Formula	6.17E-01	4.24E-01	7.04E+01	7.80E+01	0.00E+00
Retro Plate	7.83E-01	4.49E-01	7.04E+01	7.80E+01	0.00E+00
CreteClean Plus	9.95E-03	1.31E-03	7.04E+01	7.80E+01	0.00E+00
CreteClean Plus Single Dose	6.26E-03	5.11E-05	7.04E+01	7.80E+01	0.00E+00
KickStart	4.28E-01	1.97E-01	7.04E+01	7.80E+01	0.00E+00
RF Densify & Harden	7.83E-01	4.49E-01	7.04E+01	7.80E+01	0.00E+00
RF Hard Surface Cleaner	9.95E-03	1.31E-03	7.04E+01	7.80E+01	0.00E+00
RF Hard Surface Cleaner Single Dose	6.26E-03	5.11E-05	7.04E+01	7.80E+01	0.00E+00
RF Grind & Enhance	4.28E-01	1.97E-01	7.04E+01	7.80E+01	0.00E+00
WDP (m3)					
Ashford Formula	1.98E-01	1.91E-03	6.89E-01	5.86E+00	0.00E+00
Retro Plate	2.77E-01	2.02E-03	6.93E-01	5.86E+00	0.00E+00
CreteClean Plus	1.28E-04	5.90E-06	6.79E-01	5.86E+00	0.00E+00
CreteClean Plus Single Dose	6.45E-05	2.30E-07	6.79E-01	5.86E+00	0.00E+00
KickStart	7.62E-02	8.90E-04	6.83E-01	5.86E+00	0.00E+00
RF Densify & Harden	2.77E-01	2.02E-03	6.93E-01	5.86E+00	0.00E+00
RF Hard Surface Cleaner	1.28E-04	5.90E-06	6.79E-01	5.86E+00	0.00E+00
RF Hard Surface Cleaner Single Dose	6.45E-05	2.30E-07	6.79E-01	5.86E+00	0.00E+00
RF Grind & Enhance	7.62E-02	8.90E-04	6.83E-01	5.86E+00	0.00E+00



Table 12: Total life cycle (across modules in scope) impact results for all declared products, on a per FU basis.

Application: Low Foot Traffic

Estimated Market Service Life: 20 years

Impact category, TRACI 2.1	^a GWP100 (kg CO ₂ -eq)				
Products	Life cycle stage				
	A1-A3	A4	A5	B2	B5
Ashford Formula	1.04E-01	3.23E-02	4.68E+00	5.23E+00	7.23E+00
Retro Plate	1.41E-01	3.41E-02	4.69E+00	5.23E+00	7.29E+00
CreteClean Plus	5.78E-04	9.99E-05	4.67E+00	5.23E+00	7.01E+00
CreteClean Plus Single Dose	3.97E-04	3.87E-06	4.67E+00	5.23E+00	7.01E+00
KickStart	4.52E-02	1.50E-02	4.68E+00	5.23E+00	7.11E+00
RF Densify & Harden	1.41E-01	3.41E-02	4.69E+00	5.23E+00	7.32E+00
RF Hard Surface Cleaner	5.78E-04	9.99E-05	4.67E+00	5.23E+00	7.01E+00
RF Hard Surface Cleaner Single Dose	3.97E-04	3.87E-06	4.67E+00	5.23E+00	7.01E+00
RF Grind & Enhance	4.52E-02	1.50E-02	4.68E+00	5.23E+00	7.18E+00
ODP (kg CFC-11-eq)					
Ashford Formula	1.16E-09	4.91E-10	1.04E-07	1.18E-07	1.58E-07
Retro Plate	1.57E-09	5.18E-10	1.04E-07	1.18E-07	1.59E-07
CreteClean Plus	1.27E-11	2.00E-12	1.04E-07	1.18E-07	1.56E-07
CreteClean Plus Single Dose	6.49E-12	2.19E-12	1.04E-07	1.18E-07	1.56E-07
KickStart	6.80E-10	2.28E-10	1.04E-07	1.18E-07	1.57E-07
RF Densify & Harden	1.57E-09	5.18E-10	1.04E-07	1.18E-07	1.59E-07
RF Hard Surface Cleaner	1.27E-11	2.00E-12	1.04E-07	1.18E-07	1.56E-07
RF Hard Surface Cleaner Single Dose	6.49E-12	2.19E-12	1.04E-07	1.18E-07	1.56E-07
RF Grind & Enhance	6.80E-10	2.28E-10	1.04E-07	1.18E-07	1.58E-07
AP (kg SO ₂ -eq)					
Ashford Formula	4.30E-04	3.67E-04	2.34E-02	2.74E-02	3.63E-02
Retro Plate	5.82E-04	3.88E-04	2.34E-02	2.74E-02	3.65E-02
CreteClean Plus	1.12E-06	1.24E-06	2.33E-02	2.74E-02	3.50E-02
CreteClean Plus Single Dose	5.05E-07	4.23E-08	2.33E-02	2.74E-02	3.50E-02
KickStart	1.77E-04	1.71E-04	2.33E-02	2.74E-02	3.55E-02
RF Densify & Harden	5.82E-04	3.88E-04	2.34E-02	2.74E-02	3.66E-02
RF Hard Surface Cleaner	1.12E-06	1.24E-06	2.33E-02	2.74E-02	3.50E-02
RF Hard Surface Cleaner Single Dose	5.05E-07	4.23E-08	2.33E-02	2.74E-02	3.50E-02
RF Grind & Enhance	1.77E-04	1.71E-04	2.33E-02	2.74E-02	3.58E-02
EP (kg N-eq)					
Ashford Formula	6.97E-03	3.89E-05	3.55E+00	1.01E+01	5.34E+00
Retro Plate	7.23E-03	4.11E-05	3.55E+00	1.01E+01	5.34E+00
CreteClean Plus	6.18E-04	1.23E-07	3.55E+00	1.01E+01	5.33E+00
CreteClean Plus Single Dose	5.96E-04	4.62E-09	3.55E+00	1.01E+01	5.33E+00



KickStart	3.85E-03	1.81E-05	3.55E+00	1.01E+01	5.33E+00
RF Densify & Harden	7.23E-03	4.11E-05	3.55E+00	1.01E+01	5.34E+00
RF Hard Surface Cleaner	6.18E-04	1.23E-07	3.55E+00	1.01E+01	5.33E+00
RF Hard Surface Cleaner Single Dose	5.96E-04	4.62E-09	3.55E+00	1.01E+01	5.33E+00
RF Grind & Enhance	3.85E-03	1.81E-05	3.55E+00	1.01E+01	5.34E+00
SFP (kg O ₃ -eq)					
Ashford Formula	4.55E-03	7.70E-03	5.75E-01	3.16E-01	8.81E-01
Retro Plate	6.09E-03	8.13E-03	5.75E-01	3.16E-01	8.84E-01
CreteClean Plus	2.07E-05	2.60E-05	5.74E-01	3.16E-01	8.61E-01
CreteClean Plus Single Dose	1.17E-05	8.87E-07	5.74E-01	3.16E-01	8.61E-01
KickStart	2.03E-03	3.59E-03	5.75E-01	3.16E-01	8.70E-01
RF Densify & Harden	6.09E-03	8.13E-03	5.75E-01	3.16E-01	8.85E-01
RF Hard Surface Cleaner	2.07E-05	2.60E-05	5.74E-01	3.16E-01	8.61E-01
RF Hard Surface Cleaner Single Dose	1.17E-05	8.87E-07	5.74E-01	3.16E-01	8.61E-01
RF Grind & Enhance	2.03E-03	3.59E-03	5.75E-01	3.16E-01	8.74E-01
Impact category, EN 15804+A2	GWP-total (kg CO ₂ -eq)				
Products	Life cycle stage				
	A1-A3	A4	A5	B2	B5
Ashford Formula	2.30E-02	3.27E-02	4.76E+00	4.24E+00	7.23E+00
Retro Plate	2.61E-02	3.45E-02	4.76E+00	4.24E+00	7.24E+00
CreteClean Plus	5.81E-04	1.01E-04	4.75E+00	4.24E+00	7.13E+00
CreteClean Plus Single Dose	4.05E-04	3.92E-06	4.75E+00	4.24E+00	7.13E+00
KickStart	1.53E-02	1.52E-02	4.76E+00	4.24E+00	7.18E+00
RF Densify & Harden	2.61E-02	3.45E-02	4.76E+00	4.24E+00	7.24E+00
RF Hard Surface Cleaner	5.81E-04	1.01E-04	4.75E+00	4.24E+00	7.13E+00
RF Hard Surface Cleaner Single Dose	4.05E-04	3.92E-06	4.75E+00	4.24E+00	7.13E+00
RF Grind & Enhance	1.53E-02	1.52E-02	4.76E+00	4.24E+00	7.18E+00
GWP-fossil (kg CO ₂ -eq)					
Ashford Formula	5.37E-02	3.27E-02	4.76E+00	4.96E+00	7.27E+00
Retro Plate	7.01E-02	3.45E-02	4.76E+00	4.96E+00	7.30E+00
CreteClean Plus	5.64E-04	1.01E-04	4.75E+00	4.96E+00	7.12E+00
CreteClean Plus Single Dose	3.92E-04	3.92E-06	4.75E+00	4.96E+00	7.12E+00
KickStart	2.70E-02	1.52E-02	4.75E+00	4.96E+00	7.19E+00
RF Densify & Harden	7.01E-02	3.45E-02	4.76E+00	4.96E+00	7.30E+00
RF Hard Surface Cleaner	5.64E-04	1.01E-04	4.75E+00	4.96E+00	7.12E+00
RF Hard Surface Cleaner Single Dose	3.92E-04	3.92E-06	4.75E+00	4.96E+00	7.12E+00
RF Grind & Enhance	2.70E-02	1.52E-02	4.75E+00	4.96E+00	7.19E+00
GWP-biogenic (kg CO ₂ -eq)					
Ashford Formula	-1.15E-01	7.28E-06	-3.20E-03	-1.06E+00	-1.23E-01
Retro Plate	1.02E-06	1.96E-08	2.52E-03	-1.06E+00	-1.77E-01
CreteClean Plus	1.10E-05	8.57E-10	2.52E-03	-1.06E+00	3.79E-03
CreteClean Plus Single Dose	-3.12E-02	3.19E-06	9.61E-04	-1.06E+00	3.80E-03



KickStart	-1.15E-01	7.28E-06	-3.20E-03	-1.06E+00	-4.54E-02
RF Densify & Harden	1.02E-06	1.96E-08	2.52E-03	-1.06E+00	-1.77E-01
RF Hard Surface Cleaner	1.10E-05	8.57E-10	2.52E-03	-1.06E+00	3.79E-03
RF Hard Surface Cleaner Single Dose	-3.12E-02	3.19E-06	9.61E-04	-1.06E+00	3.80E-03
RF Grind & Enhance	-1.15E-01	7.28E-06	-3.20E-03	-1.06E+00	-4.54E-02
GWP-luluc (kg CO₂-eq)					
Ashford Formula	5.00E-02	1.65E-05	5.18E-03	3.39E-01	8.28E-02
Retro Plate	7.05E-02	1.74E-05	6.20E-03	3.39E-01	1.15E-01
CreteClean Plus	1.63E-05	5.17E-08	2.68E-03	3.39E-01	4.04E-03
CreteClean Plus Single Dose	2.18E-06	1.96E-09	2.68E-03	3.39E-01	4.02E-03
KickStart	1.95E-02	7.66E-06	3.65E-03	3.39E-01	3.48E-02
RF Densify & Harden	7.05E-02	1.74E-05	6.20E-03	3.39E-01	1.15E-01
RF Hard Surface Cleaner	1.63E-05	5.17E-08	2.68E-03	3.39E-01	4.04E-03
RF Hard Surface Cleaner Single Dose	2.18E-06	1.96E-09	2.68E-03	3.39E-01	4.02E-03
RF Grind & Enhance	1.95E-02	7.66E-06	3.65E-03	3.39E-01	3.48E-02
ODP (kg CFC 11-eq)					
Ashford Formula	1.11E-09	4.78E-10	9.90E-08	1.11E-07	1.51E-07
Retro Plate	1.50E-09	5.05E-10	9.90E-08	1.11E-07	1.52E-07
CreteClean Plus	1.00E-11	2.00E-12	9.89E-08	1.11E-07	1.48E-07
CreteClean Plus Single Dose	5.00E-12	0.00E+00	9.89E-08	1.11E-07	1.48E-07
KickStart	6.66E-10	2.22E-10	9.90E-08	1.11E-07	1.50E-07
RF Densify & Harden	1.50E-09	5.05E-10	9.90E-08	1.11E-07	1.52E-07
RF Hard Surface Cleaner	1.00E-11	2.00E-12	9.89E-08	1.11E-07	1.48E-07
RF Hard Surface Cleaner Single Dose	5.00E-12	0.00E+00	9.89E-08	1.11E-07	1.48E-07
RF Grind & Enhance	6.66E-10	2.22E-10	9.90E-08	1.11E-07	1.50E-07
AP (mol H⁺ -eq)					
Ashford Formula	5.74E-04	4.27E-04	2.59E-02	3.32E-02	4.04E-02
Retro Plate	7.83E-04	4.51E-04	2.59E-02	3.32E-02	4.07E-02
CreteClean Plus	1.30E-06	1.44E-06	2.59E-02	3.32E-02	3.88E-02
CreteClean Plus Single Dose	5.75E-07	4.92E-08	2.59E-02	3.32E-02	3.88E-02
KickStart	2.41E-04	1.99E-04	2.59E-02	3.32E-02	3.95E-02
RF Densify & Harden	7.83E-04	4.51E-04	2.59E-02	3.32E-02	4.07E-02
RF Hard Surface Cleaner	1.30E-06	1.44E-06	2.59E-02	3.32E-02	3.88E-02
RF Hard Surface Cleaner Single Dose	5.75E-07	4.92E-08	2.59E-02	3.32E-02	3.88E-02
RF Grind & Enhance	2.41E-04	1.99E-04	2.59E-02	3.32E-02	3.95E-02
EPfreshwater (kg P-eq)					
Ashford Formula	2.22E-05	2.23E-06	8.45E-04	1.73E-03	1.30E-03
Retro Plate	2.84E-05	2.35E-06	8.45E-04	1.73E-03	1.31E-03
CreteClean Plus	1.64E-07	6.80E-09	8.43E-04	1.73E-03	1.27E-03
CreteClean Plus Single Dose	1.14E-07	2.69E-10	8.43E-04	1.73E-03	1.27E-03
KickStart	1.01E-05	1.04E-06	8.44E-04	1.73E-03	1.28E-03
RF Densify & Harden	2.84E-05	2.35E-06	8.45E-04	1.73E-03	1.31E-03
RF Hard Surface Cleaner	1.64E-07	6.80E-09	8.43E-04	1.73E-03	1.27E-03



RF Hard Surface Cleaner Single Dose	1.14E-07	2.69E-10	8.43E-04	1.73E-03	1.27E-03
RF Grind & Enhance	1.01E-05	1.04E-06	8.44E-04	1.73E-03	1.28E-03
EPmarine (kg N-eq)					
Ashford Formula	4.98E-04	1.18E-04	8.78E-03	9.72E-03	1.41E-02
Retro Plate	6.97E-04	1.25E-04	8.79E-03	9.72E-03	1.44E-02
CreteClean Plus	5.33E-07	3.99E-07	8.73E-03	9.72E-03	1.31E-02
CreteClean Plus Single Dose	2.38E-07	1.36E-08	8.73E-03	9.72E-03	1.31E-02
KickStart	1.96E-04	5.50E-05	8.75E-03	9.72E-03	1.35E-02
RF Densify & Harden	6.97E-04	1.25E-04	8.79E-03	9.72E-03	1.44E-02
RF Hard Surface Cleaner	5.33E-07	3.99E-07	8.73E-03	9.72E-03	1.31E-02
RF Hard Surface Cleaner Single Dose	2.38E-07	1.36E-08	8.73E-03	9.72E-03	1.31E-02
RF Grind & Enhance	1.96E-04	5.50E-05	8.75E-03	9.72E-03	1.35E-02
EPterrestrial (mole N-eq)					
Ashford Formula	1.93E-03	1.30E-03	9.46E-02	6.96E-02	1.47E-01
Retro Plate	2.66E-03	1.38E-03	9.47E-02	6.96E-02	1.48E-01
CreteClean Plus	3.44E-06	4.41E-06	9.44E-02	6.96E-02	1.42E-01
CreteClean Plus Single Dose	1.80E-06	1.50E-07	9.44E-02	6.96E-02	1.42E-01
KickStart	7.82E-04	6.08E-04	9.45E-02	6.96E-02	1.44E-01
RF Densify & Harden	2.66E-03	1.38E-03	9.47E-02	6.96E-02	1.48E-01
RF Hard Surface Cleaner	3.44E-06	4.41E-06	9.44E-02	6.96E-02	1.42E-01
RF Hard Surface Cleaner Single Dose	1.80E-06	1.50E-07	9.44E-02	6.96E-02	1.42E-01
RF Grind & Enhance	7.82E-04	6.08E-04	9.45E-02	6.96E-02	1.44E-01
POCP (kg NMVOC-eq)					
Ashford Formula	3.03E-04	3.81E-04	3.18E-02	2.10E-02	4.87E-02
Retro Plate	4.09E-04	4.02E-04	3.18E-02	2.10E-02	4.89E-02
CreteClean Plus	1.73E-06	1.27E-06	3.17E-02	2.10E-02	4.76E-02
CreteClean Plus Single Dose	9.68E-07	4.41E-08	3.17E-02	2.10E-02	4.76E-02
KickStart	1.51E-04	1.78E-04	3.17E-02	2.10E-02	4.81E-02
RF Densify & Harden	4.09E-04	4.02E-04	3.18E-02	2.10E-02	4.89E-02
RF Hard Surface Cleaner	1.73E-06	1.27E-06	3.17E-02	2.10E-02	4.76E-02
RF Hard Surface Cleaner Single Dose	9.68E-07	4.41E-08	3.17E-02	2.10E-02	4.76E-02
RF Grind & Enhance	1.51E-04	1.78E-04	3.17E-02	2.10E-02	4.81E-02
ADPminerals (kg Sb-eq)					
Ashford Formula	7.07E-07	7.33E-08	2.26E-05	6.14E-05	3.51E-05
Retro Plate	9.94E-07	7.74E-08	2.26E-05	6.14E-05	3.55E-05
CreteClean Plus	1.67E-09	2.15E-10	2.26E-05	6.14E-05	3.38E-05
CreteClean Plus Single Dose	4.67E-10	9.00E-12	2.26E-05	6.14E-05	3.38E-05
KickStart	3.20E-07	3.40E-08	2.26E-05	6.14E-05	3.44E-05
RF Densify & Harden	9.94E-07	7.74E-08	2.26E-05	6.14E-05	3.55E-05
RF Hard Surface Cleaner	1.67E-09	2.15E-10	2.26E-05	6.14E-05	3.38E-05
RF Hard Surface Cleaner Single Dose	4.67E-10	9.00E-12	2.26E-05	6.14E-05	3.38E-05
RF Grind & Enhance	3.20E-07	3.40E-08	2.26E-05	6.14E-05	3.44E-05
ADPfossil (MJ)					
Ashford Formula	6.17E-01	4.24E-01	7.04E+01	7.80E+01	1.07E+02



Retro Plate	7.83E-01	4.49E-01	7.04E+01	7.80E+01	1.08E+02
CreteClean Plus	9.95E-03	1.31E-03	7.04E+01	7.80E+01	1.06E+02
CreteClean Plus Single Dose	6.26E-03	5.11E-05	7.04E+01	7.80E+01	1.06E+02
KickStart	4.28E-01	1.97E-01	7.04E+01	7.80E+01	1.07E+02
RF Densify & Harden	7.83E-01	4.49E-01	7.04E+01	7.80E+01	1.08E+02
RF Hard Surface Cleaner	9.95E-03	1.31E-03	7.04E+01	7.80E+01	1.06E+02
RF Hard Surface Cleaner Single Dose	6.26E-03	5.11E-05	7.04E+01	7.80E+01	1.06E+02
RF Grind & Enhance	4.28E-01	1.97E-01	7.04E+01	7.80E+01	1.07E+02
WDP (m3)					
Ashford Formula	1.98E-01	1.91E-03	6.89E-01	5.86E+00	1.33E+00
Retro Plate	2.77E-01	2.02E-03	6.93E-01	5.86E+00	1.46E+00
CreteClean Plus	1.28E-04	5.90E-06	6.79E-01	5.86E+00	1.02E+00
CreteClean Plus Single Dose	6.45E-05	2.30E-07	6.79E-01	5.86E+00	1.02E+00
KickStart	7.62E-02	8.90E-04	6.83E-01	5.86E+00	1.14E+00
RF Densify & Harden	2.77E-01	2.02E-03	6.93E-01	5.86E+00	1.46E+00
RF Hard Surface Cleaner	1.28E-04	5.90E-06	6.79E-01	5.86E+00	1.02E+00
RF Hard Surface Cleaner Single Dose	6.45E-05	2.30E-07	6.79E-01	5.86E+00	1.02E+00
RF Grind & Enhance	7.62E-02	8.90E-04	6.83E-01	5.86E+00	1.14E+00



Table 13: Total life cycle (across modules in scope) impact results for all declared products, on a per FU basis.

Application: High Foot Traffic

Estimated Market Service Life: 10 years

Impact category, TRACI 2.1	^a GWP100 (kg CO ₂ -eq)				
Products	Life cycle stage				
	A1-A3	A4	A5	B2	B5
Ashford Formula	1.04E-01	3.23E-02	4.68E+00	5.23E+00	0.00E+00
Retro Plate	1.41E-01	3.41E-02	4.69E+00	5.23E+00	0.00E+00
CreteClean Plus	5.78E-04	9.99E-05	4.67E+00	5.23E+00	2.80E+01
CreteClean Plus Single Dose	3.97E-04	3.87E-06	4.67E+00	5.23E+00	2.80E+01
KickStart	4.52E-02	1.50E-02	4.68E+00	5.23E+00	2.87E+01
RF Densify & Harden	1.41E-01	3.41E-02	4.69E+00	5.23E+00	0.00E+00
RF Hard Surface Cleaner	5.78E-04	9.99E-05	4.67E+00	5.23E+00	2.80E+01
RF Hard Surface Cleaner Single Dose	3.97E-04	3.87E-06	4.67E+00	5.23E+00	2.80E+01
RF Grind & Enhance	4.52E-02	1.50E-02	4.68E+00	5.23E+00	2.87E+01
ODP (kg CFC-11-eq)					
Ashford Formula	1.16E-09	4.91E-10	1.04E-07	1.18E-07	0.00E+00
Retro Plate	1.57E-09	5.18E-10	1.04E-07	1.18E-07	0.00E+00
CreteClean Plus	1.27E-11	2.00E-12	1.04E-07	1.18E-07	6.22E-07
CreteClean Plus Single Dose	6.49E-12	2.19E-12	1.04E-07	1.18E-07	6.22E-07
KickStart	6.80E-10	2.28E-10	1.04E-07	1.18E-07	6.32E-07
RF Densify & Harden	1.57E-09	5.18E-10	1.04E-07	1.18E-07	0.00E+00
RF Hard Surface Cleaner	1.27E-11	2.00E-12	1.04E-07	1.18E-07	6.22E-07
RF Hard Surface Cleaner Single Dose	6.49E-12	2.19E-12	1.04E-07	1.18E-07	6.24E-07
RF Grind & Enhance	6.80E-10	2.28E-10	1.04E-07	1.18E-07	6.32E-07
AP (kg SO ₂ -eq)					
Ashford Formula	4.30E-04	3.67E-04	2.34E-02	2.74E-02	0.00E+00
Retro Plate	5.82E-04	3.88E-04	2.34E-02	2.74E-02	0.00E+00
CreteClean Plus	1.12E-06	1.24E-06	2.33E-02	2.74E-02	1.40E-01
CreteClean Plus Single Dose	5.05E-07	4.23E-08	2.33E-02	2.74E-02	1.40E-01
KickStart	1.77E-04	1.71E-04	2.33E-02	2.74E-02	1.43E-01
RF Densify & Harden	5.82E-04	3.88E-04	2.34E-02	2.74E-02	0.00E+00
RF Hard Surface Cleaner	1.12E-06	1.24E-06	2.33E-02	2.74E-02	1.40E-01
RF Hard Surface Cleaner Single Dose	5.05E-07	4.23E-08	2.33E-02	2.74E-02	1.40E-01
RF Grind & Enhance	1.77E-04	1.71E-04	2.33E-02	2.74E-02	1.43E-01
EP (kg N-eq)					
Ashford Formula	6.97E-03	3.89E-05	3.55E+00	1.01E+01	0.00E+00
Retro Plate	7.23E-03	4.11E-05	3.55E+00	1.01E+01	0.00E+00
CreteClean Plus	6.18E-04	1.23E-07	3.55E+00	1.01E+01	2.13E+01



CreteClean Plus Single Dose	5.96E-04	4.62E-09	3.55E+00	1.01E+01	2.13E+01
KickStart	3.85E-03	1.81E-05	3.55E+00	1.01E+01	2.14E+01
RF Densify & Harden	7.23E-03	4.11E-05	3.55E+00	1.01E+01	0.00E+00
RF Hard Surface Cleaner	6.18E-04	1.23E-07	3.55E+00	1.01E+01	2.13E+01
RF Hard Surface Cleaner Single Dose	5.96E-04	4.62E-09	3.55E+00	1.01E+01	2.13E+01
RF Grind & Enhance	3.85E-03	1.81E-05	3.55E+00	1.01E+01	2.14E+01
SFP (kg O₃-eq)					
Ashford Formula	4.55E-03	7.70E-03	5.75E-01	3.16E-01	0.00E+00
Retro Plate	6.09E-03	8.13E-03	5.75E-01	3.16E-01	0.00E+00
CreteClean Plus	2.07E-05	2.60E-05	5.74E-01	3.16E-01	3.45E+00
CreteClean Plus Single Dose	1.17E-05	8.87E-07	5.74E-01	3.16E-01	3.45E+00
KickStart	2.03E-03	3.59E-03	5.75E-01	3.16E-01	3.49E+00
RF Densify & Harden	6.09E-03	8.13E-03	5.75E-01	3.16E-01	0.00E+00
RF Hard Surface Cleaner	2.07E-05	2.60E-05	5.74E-01	3.16E-01	3.45E+00
RF Hard Surface Cleaner Single Dose	1.17E-05	8.87E-07	5.74E-01	3.16E-01	3.45E+00
RF Grind & Enhance	2.03E-03	3.59E-03	5.75E-01	3.16E-01	3.49E+00
Impact category, EN 15804+A2	GWP-total (kg CO₂-eq)				
Products	Life cycle stage				
	A1-A3	A4	A5	B2	B5
Ashford Formula	2.30E-02	3.27E-02	4.76E+00	4.24E+00	0.00E+00
Retro Plate	2.61E-02	3.45E-02	4.76E+00	4.24E+00	0.00E+00
CreteClean Plus	5.81E-04	1.01E-04	4.75E+00	4.24E+00	2.85E+01
CreteClean Plus Single Dose	4.05E-04	3.92E-06	4.75E+00	4.24E+00	2.85E+01
KickStart	1.53E-02	1.52E-02	4.76E+00	4.24E+00	2.87E+01
RF Densify & Harden	2.61E-02	3.45E-02	4.76E+00	4.24E+00	0.00E+00
RF Hard Surface Cleaner	5.81E-04	1.01E-04	4.75E+00	4.24E+00	2.85E+01
RF Hard Surface Cleaner Single Dose	4.05E-04	3.92E-06	4.75E+00	4.24E+00	2.85E+01
RF Grind & Enhance	1.53E-02	1.52E-02	4.76E+00	4.24E+00	2.87E+01
GWP-fossil (kg CO₂-eq)					
Ashford Formula	5.37E-02	3.27E-02	4.76E+00	4.96E+00	0.00E+00
Retro Plate	7.01E-02	3.45E-02	4.76E+00	4.96E+00	0.00E+00
CreteClean Plus	5.64E-04	1.01E-04	4.75E+00	4.96E+00	2.85E+01
CreteClean Plus Single Dose	3.92E-04	3.92E-06	4.75E+00	4.96E+00	2.85E+01
KickStart	2.70E-02	1.52E-02	4.75E+00	4.96E+00	2.88E+01
RF Densify & Harden	7.01E-02	3.45E-02	4.76E+00	4.96E+00	0.00E+00
RF Hard Surface Cleaner	5.64E-04	1.01E-04	4.75E+00	4.96E+00	2.85E+01
RF Hard Surface Cleaner Single Dose	3.92E-04	3.92E-06	4.75E+00	4.96E+00	2.85E+01
RF Grind & Enhance	2.70E-02	1.52E-02	4.75E+00	4.96E+00	2.88E+01
GWP-biogenic (kg CO₂-eq)					
Ashford Formula	-1.15E-01	7.28E-06	-3.20E-03	-1.06E+00	0.00E+00
Retro Plate	1.02E-06	1.96E-08	2.52E-03	-1.06E+00	0.00E+00



CreteClean Plus	1.10E-05	8.57E-10	2.52E-03	-1.06E+00	1.51E-02
CreteClean Plus Single Dose	-3.12E-02	3.19E-06	9.61E-04	-1.06E+00	1.52E-02
KickStart	-1.15E-01	7.28E-06	-3.20E-03	-1.06E+00	-1.82E-01
RF Densify & Harden	1.02E-06	1.96E-08	2.52E-03	-1.06E+00	0.00E+00
RF Hard Surface Cleaner	1.10E-05	8.57E-10	2.52E-03	-1.06E+00	1.51E-02
RF Hard Surface Cleaner Single Dose	-3.12E-02	3.19E-06	9.61E-04	-1.06E+00	1.52E-02
RF Grind & Enhance	-1.15E-01	7.28E-06	-3.20E-03	-1.06E+00	-1.82E-01
GWP-luluc (kg CO₂-eq)					
Ashford Formula	5.00E-02	1.65E-05	5.18E-03	3.39E-01	0.00E+00
Retro Plate	7.05E-02	1.74E-05	6.20E-03	3.39E-01	0.00E+00
CreteClean Plus	1.63E-05	5.17E-08	2.68E-03	3.39E-01	1.62E-02
CreteClean Plus Single Dose	2.18E-06	1.96E-09	2.68E-03	3.39E-01	1.61E-02
KickStart	1.95E-02	7.66E-06	3.65E-03	3.39E-01	1.39E-01
RF Densify & Harden	7.05E-02	1.74E-05	6.20E-03	3.39E-01	0.00E+00
RF Hard Surface Cleaner	1.63E-05	5.17E-08	2.68E-03	3.39E-01	1.62E-02
RF Hard Surface Cleaner Single Dose	2.18E-06	1.96E-09	2.68E-03	3.39E-01	1.61E-02
RF Grind & Enhance	1.95E-02	7.66E-06	3.65E-03	3.39E-01	1.39E-01
ODP (kg CFC 11-eq)					
Ashford Formula	1.11E-09	4.78E-10	9.90E-08	1.11E-07	0.00E+00
Retro Plate	1.50E-09	5.05E-10	9.90E-08	1.11E-07	0.00E+00
CreteClean Plus	1.00E-11	2.00E-12	9.89E-08	1.11E-07	5.94E-07
CreteClean Plus Single Dose	5.00E-12	0.00E+00	9.89E-08	1.11E-07	5.94E-07
KickStart	6.66E-10	2.22E-10	9.90E-08	1.11E-07	5.99E-07
RF Densify & Harden	1.50E-09	5.05E-10	9.90E-08	1.11E-07	0.00E+00
RF Hard Surface Cleaner	1.00E-11	2.00E-12	9.89E-08	1.11E-07	5.94E-07
RF Hard Surface Cleaner Single Dose	5.00E-12	0.00E+00	9.89E-08	1.11E-07	5.94E-07
RF Grind & Enhance	6.66E-10	2.22E-10	9.90E-08	1.11E-07	5.99E-07
AP (mol H⁺ -eq)					
Ashford Formula	5.74E-04	4.27E-04	2.59E-02	3.32E-02	0.00E+00
Retro Plate	7.83E-04	4.51E-04	2.59E-02	3.32E-02	0.00E+00
CreteClean Plus	1.30E-06	1.44E-06	2.59E-02	3.32E-02	1.55E-01
CreteClean Plus Single Dose	5.75E-07	4.92E-08	2.59E-02	3.32E-02	1.55E-01
KickStart	2.41E-04	1.99E-04	2.59E-02	3.32E-02	1.58E-01
RF Densify & Harden	7.83E-04	4.51E-04	2.59E-02	3.32E-02	0.00E+00
RF Hard Surface Cleaner	1.30E-06	1.44E-06	2.59E-02	3.32E-02	1.55E-01
RF Hard Surface Cleaner Single Dose	5.75E-07	4.92E-08	2.59E-02	3.32E-02	1.55E-01
RF Grind & Enhance	2.41E-04	1.99E-04	2.59E-02	3.32E-02	1.58E-01
EPfreshwater (kg P-eq)					
Ashford Formula	2.22E-05	2.23E-06	8.45E-04	1.73E-03	0.00E+00
Retro Plate	2.84E-05	2.35E-06	8.45E-04	1.73E-03	0.00E+00
CreteClean Plus	1.64E-07	6.80E-09	8.43E-04	1.73E-03	5.06E-03
CreteClean Plus Single Dose	1.14E-07	2.69E-10	8.43E-04	1.73E-03	5.06E-03
KickStart	1.01E-05	1.04E-06	8.44E-04	1.73E-03	5.13E-03
RF Densify & Harden	2.84E-05	2.35E-06	8.45E-04	1.73E-03	0.00E+00



RF Hard Surface Cleaner	1.64E-07	6.80E-09	8.43E-04	1.73E-03	5.06E-03
RF Hard Surface Cleaner Single Dose	1.14E-07	2.69E-10	8.43E-04	1.73E-03	5.06E-03
RF Grind & Enhance	1.01E-05	1.04E-06	8.44E-04	1.73E-03	5.13E-03
EPmarine (kg N-eq)					
Ashford Formula	4.98E-04	1.18E-04	8.78E-03	9.72E-03	0.00E+00
Retro Plate	6.97E-04	1.25E-04	8.79E-03	9.72E-03	0.00E+00
CreteClean Plus	5.33E-07	3.99E-07	8.73E-03	9.72E-03	5.24E-02
CreteClean Plus Single Dose	2.38E-07	1.36E-08	8.73E-03	9.72E-03	5.24E-02
KickStart	1.96E-04	5.50E-05	8.75E-03	9.72E-03	5.40E-02
RF Densify & Harden	6.97E-04	1.25E-04	8.79E-03	9.72E-03	0.00E+00
RF Hard Surface Cleaner	5.33E-07	3.99E-07	8.73E-03	9.72E-03	5.24E-02
RF Hard Surface Cleaner Single Dose	2.38E-07	1.36E-08	8.73E-03	9.72E-03	5.24E-02
RF Grind & Enhance	1.96E-04	5.50E-05	8.75E-03	9.72E-03	5.40E-02
EPterrestrial (mole N-eq)					
Ashford Formula	1.93E-03	1.30E-03	9.46E-02	6.96E-02	0.00E+00
Retro Plate	2.66E-03	1.38E-03	9.47E-02	6.96E-02	0.00E+00
CreteClean Plus	3.44E-06	4.41E-06	9.44E-02	6.96E-02	5.67E-01
CreteClean Plus Single Dose	1.80E-06	1.50E-07	9.44E-02	6.96E-02	5.66E-01
KickStart	7.82E-04	6.08E-04	9.45E-02	6.96E-02	5.75E-01
RF Densify & Harden	2.66E-03	1.38E-03	9.47E-02	6.96E-02	0.00E+00
RF Hard Surface Cleaner	3.44E-06	4.41E-06	9.44E-02	6.96E-02	5.67E-01
RF Hard Surface Cleaner Single Dose	1.80E-06	1.50E-07	9.44E-02	6.96E-02	5.66E-01
RF Grind & Enhance	7.82E-04	6.08E-04	9.45E-02	6.96E-02	5.75E-01
POCP (kg NMVOC-eq)					
Ashford Formula	3.03E-04	3.81E-04	3.18E-02	2.10E-02	0.00E+00
Retro Plate	4.09E-04	4.02E-04	3.18E-02	2.10E-02	0.00E+00
CreteClean Plus	1.73E-06	1.27E-06	3.17E-02	2.10E-02	1.90E-01
CreteClean Plus Single Dose	9.68E-07	4.41E-08	3.17E-02	2.10E-02	1.90E-01
KickStart	1.51E-04	1.78E-04	3.17E-02	2.10E-02	1.92E-01
RF Densify & Harden	4.09E-04	4.02E-04	3.18E-02	2.10E-02	0.00E+00
RF Hard Surface Cleaner	1.73E-06	1.27E-06	3.17E-02	2.10E-02	1.90E-01
RF Hard Surface Cleaner Single Dose	9.68E-07	4.41E-08	3.17E-02	2.10E-02	1.90E-01
RF Grind & Enhance	1.51E-04	1.78E-04	3.17E-02	2.10E-02	1.92E-01
ADPminerals (kg Sb-eq)					
Ashford Formula	7.07E-07	7.33E-08	2.26E-05	6.14E-05	0.00E+00
Retro Plate	9.94E-07	7.74E-08	2.26E-05	6.14E-05	0.00E+00
CreteClean Plus	1.67E-09	2.15E-10	2.26E-05	6.14E-05	1.35E-04
CreteClean Plus Single Dose	4.67E-10	9.00E-12	2.26E-05	6.14E-05	1.35E-04
KickStart	3.20E-07	3.40E-08	2.26E-05	6.14E-05	1.38E-04
RF Densify & Harden	9.94E-07	7.74E-08	2.26E-05	6.14E-05	0.00E+00
RF Hard Surface Cleaner	1.67E-09	2.15E-10	2.26E-05	6.14E-05	1.35E-04
RF Hard Surface Cleaner Single Dose	4.67E-10	9.00E-12	2.26E-05	6.14E-05	1.35E-04
RF Grind & Enhance	3.20E-07	3.40E-08	2.26E-05	6.14E-05	1.38E-04



ADPfossil (MJ)					
Ashford Formula	6.17E-01	4.24E-01	7.04E+01	7.80E+01	0.00E+00
Retro Plate	7.83E-01	4.49E-01	7.04E+01	7.80E+01	0.00E+00
CreteClean Plus	9.95E-03	1.31E-03	7.04E+01	7.80E+01	4.22E+02
CreteClean Plus Single Dose	6.26E-03	5.11E-05	7.04E+01	7.80E+01	4.22E+02
KickStart	4.28E-01	1.97E-01	7.04E+01	7.80E+01	4.26E+02
RF Densify & Harden	7.83E-01	4.49E-01	7.04E+01	7.80E+01	0.00E+00
RF Hard Surface Cleaner	9.95E-03	1.31E-03	7.04E+01	7.80E+01	4.22E+02
RF Hard Surface Cleaner Single Dose	6.26E-03	5.11E-05	7.04E+01	7.80E+01	4.22E+02
RF Grind & Enhance	4.28E-01	1.97E-01	7.04E+01	7.80E+01	4.26E+02
WDP (m3)					
Ashford Formula	1.98E-01	1.91E-03	6.89E-01	5.86E+00	0.00E+00
Retro Plate	2.77E-01	2.02E-03	6.93E-01	5.86E+00	0.00E+00
CreteClean Plus	1.28E-04	5.90E-06	6.79E-01	5.86E+00	4.08E+00
CreteClean Plus Single Dose	6.45E-05	2.30E-07	6.79E-01	5.86E+00	4.08E+00
KickStart	7.62E-02	8.90E-04	6.83E-01	5.86E+00	4.56E+00
RF Densify & Harden	2.77E-01	2.02E-03	6.93E-01	5.86E+00	0.00E+00
RF Hard Surface Cleaner	1.28E-04	5.90E-06	6.79E-01	5.86E+00	4.08E+00
RF Hard Surface Cleaner Single Dose	6.45E-05	2.30E-07	6.79E-01	5.86E+00	4.08E+00
RF Grind & Enhance	7.62E-02	8.90E-04	6.83E-01	5.86E+00	4.56E+00



b) Resource Inventory Metrics:

Table 14: Total life cycle (across modules in scope) impact results for all declared products, on a per FU basis.

Application: Low Foot Traffic

Estimated Technical Service Life: 60 years

Indicator/LCI Metric	RPRE (MJ)				
	Life cycle stage				
Products	A1-A3	A4	A5	B2	B5
Ashford Formula	1.49E+00	6.36E-03	2.59E+00	1.77E+01	0.00E+00
Retro Plate	2.07E+00	6.72E-03	2.61E+00	1.77E+01	0.00E+00
CreteClean Plus	1.21E-03	1.97E-05	2.51E+00	1.77E+01	0.00E+00
CreteClean Plus Single Dose	5.41E-04	7.64E-07	2.51E+00	1.77E+01	0.00E+00
KickStart	5.50E-01	2.96E-03	2.54E+00	1.77E+01	0.00E+00
RF Densify & Harden	2.07E+00	6.72E-03	2.61E+00	1.77E+01	0.00E+00
RF Hard Surface Cleaner	1.21E-03	1.97E-05	2.51E+00	1.77E+01	0.00E+00
RF Hard Surface Cleaner Single Dose	5.41E-04	7.64E-07	2.51E+00	1.77E+01	0.00E+00
RF Grind & Enhance	5.50E-01	2.96E-03	2.54E+00	1.77E+01	0.00E+00
RPRM (MJ)					
Ashford Formula	6.45E-01	0.00E+00	3.22E-02	8.01E+00	0.00E+00
Retro Plate	9.06E-01	0.00E+00	4.53E-02	8.01E+00	0.00E+00
CreteClean Plus	3.86E-04	0.00E+00	1.93E-05	8.01E+00	0.00E+00
CreteClean Plus Single Dose	2.10E-04	0.00E+00	1.05E-05	8.01E+00	0.00E+00
KickStart	2.32E-01	0.00E+00	1.16E-02	8.01E+00	0.00E+00
RF Densify & Harden	9.06E-01	0.00E+00	4.53E-02	8.01E+00	0.00E+00
RF Hard Surface Cleaner	3.86E-04	0.00E+00	1.93E-05	8.01E+00	0.00E+00
RF Hard Surface Cleaner Single Dose	2.10E-04	0.00E+00	1.05E-05	8.01E+00	0.00E+00
RF Grind & Enhance	2.32E-01	0.00E+00	1.16E-02	8.01E+00	0.00E+00
NRPRE (MJ)					
Ashford Formula	6.84E-01	4.24E-01	6.60E+01	7.07E+01	0.00E+00
Retro Plate	8.79E-01	4.49E-01	6.60E+01	7.07E+01	0.00E+00
CreteClean Plus	8.35E-03	1.31E-03	6.63E+01	7.07E+01	0.00E+00
CreteClean Plus Single Dose	6.01E-03	5.11E-05	6.63E+01	7.07E+01	0.00E+00
KickStart	3.52E-01	1.97E-01	6.61E+01	7.07E+01	0.00E+00
RF Densify & Harden	8.79E-01	4.49E-01	6.60E+01	7.07E+01	0.00E+00
RF Hard Surface Cleaner	8.35E-03	1.31E-03	6.63E+01	7.07E+01	0.00E+00
RF Hard Surface Cleaner Single Dose	6.01E-03	5.11E-05	6.63E+01	7.07E+01	0.00E+00
RF Grind & Enhance	3.52E-01	1.97E-01	6.61E+01	7.07E+01	0.00E+00
NRPRM (MJ)					
Ashford Formula	3.27E-03	0.00E+00	4.45E+00	8.18E+00	0.00E+00
Retro Plate	2.87E-03	0.00E+00	4.44E+00	8.18E+00	0.00E+00
CreteClean Plus	1.62E-03	0.00E+00	4.12E+00	8.18E+00	0.00E+00



CreteClean Plus Single Dose	2.49E-04	0.00E+00	4.12E+00	8.18E+00	0.00E+00
KickStart	9.59E-02	0.00E+00	4.26E+00	8.18E+00	0.00E+00
RF Densify & Harden	2.87E-03	0.00E+00	4.44E+00	8.18E+00	0.00E+00
RF Hard Surface Cleaner	1.62E-03	0.00E+00	4.12E+00	8.18E+00	0.00E+00
RF Hard Surface Cleaner Single Dose	2.49E-04	0.00E+00	4.12E+00	8.18E+00	0.00E+00
RF Grind & Enhance	9.59E-02	0.00E+00	4.26E+00	8.18E+00	0.00E+00
SM (kg)					
Ashford Formula	3.00E-04	1.51E-04	1.41E-01	2.05E-02	0.00E+00
Retro Plate	4.57E-04	1.60E-04	1.41E-01	2.05E-02	0.00E+00
CreteClean Plus	8.95E-07	4.54E-07	1.41E-01	2.05E-02	0.00E+00
CreteClean Plus Single Dose	3.00E-07	1.84E-08	1.41E-01	2.05E-02	0.00E+00
KickStart	1.25E-04	7.02E-05	1.41E-01	2.05E-02	0.00E+00
RF Densify & Harden	4.57E-04	1.60E-04	1.41E-01	2.05E-02	0.00E+00
RF Hard Surface Cleaner	8.95E-07	4.54E-07	1.41E-01	2.05E-02	0.00E+00
RF Hard Surface Cleaner Single Dose	3.00E-07	1.84E-08	1.41E-01	2.05E-02	0.00E+00
RF Grind & Enhance	1.25E-04	7.02E-05	1.41E-01	2.05E-02	0.00E+00
RSF (MJ)					
Ashford Formula	2.54E-04	1.56E-06	3.04E-04	6.05E-04	0.00E+00
Retro Plate	2.58E-04	1.65E-06	3.04E-04	6.05E-04	0.00E+00
CreteClean Plus	9.47E-07	4.58E-09	2.91E-04	6.05E-04	0.00E+00
CreteClean Plus Single Dose	7.78E-09	1.91E-10	2.91E-04	6.05E-04	0.00E+00
KickStart	1.37E-04	7.24E-07	2.98E-04	6.05E-04	0.00E+00
RF Densify & Harden	2.58E-04	1.65E-06	3.04E-04	6.05E-04	0.00E+00
RF Hard Surface Cleaner	9.47E-07	4.58E-09	2.91E-04	6.05E-04	0.00E+00
RF Hard Surface Cleaner Single Dose	7.78E-09	1.91E-10	2.91E-04	6.05E-04	0.00E+00
RF Grind & Enhance	1.37E-04	7.24E-07	2.98E-04	6.05E-04	0.00E+00
NRSF (MJ)					
Ashford Formula	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Retro Plate	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
CreteClean Plus	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
CreteClean Plus Single Dose	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
KickStart	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
RF Densify & Harden	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
RF Hard Surface Cleaner	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
RF Hard Surface Cleaner Single Dose	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
RF Grind & Enhance	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
RE (MJ)					
Ashford Formula	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Retro Plate	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00



CreteClean Plus	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
CreteClean Plus Single Dose	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
KickStart	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
RF Densify & Harden	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
RF Hard Surface Cleaner	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
RF Hard Surface Cleaner Single Dose	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
RF Grind & Enhance	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
FW (m3)					
Ashford Formula	4.84E-03	5.04E-05	1.81E-02	1.52E+00	0.00E+00
Retro Plate	6.70E-03	5.32E-05	1.81E-02	1.52E+00	0.00E+00
CreteClean Plus	6.88E-06	1.53E-07	1.78E-02	1.52E+00	0.00E+00
CreteClean Plus Single Dose	4.66E-06	6.09E-09	1.78E-02	1.52E+00	0.00E+00
KickStart	1.77E-03	2.34E-05	1.79E-02	1.52E+00	0.00E+00
RF Densify & Harden	6.70E-03	5.32E-05	1.81E-02	1.52E+00	0.00E+00
RF Hard Surface Cleaner	6.88E-06	1.53E-07	1.78E-02	1.52E+00	0.00E+00
RF Hard Surface Cleaner Single Dose	4.66E-06	6.09E-09	1.78E-02	1.52E+00	0.00E+00
RF Grind & Enhance	1.77E-03	2.34E-05	1.79E-02	1.52E+00	0.00E+00

Table 15: Total life cycle (across modules in scope) impact results for all declared products, on a per FU basis.

Application: High Foot Traffic

Estimated Technical Service Life: 60 years

Indicator/LCI Metric	RPRE (MJ)				
	Life cycle stage				
Products	A1-A3	A4	A5	B2	B5
Ashford Formula	1.49E+00	6.36E-03	2.59E+00	1.77E+01	0.00E+00
Retro Plate	2.07E+00	6.72E-03	2.61E+00	1.77E+01	0.00E+00
CreteClean Plus	1.21E-03	1.97E-05	2.51E+00	1.77E+01	0.00E+00
CreteClean Plus Single Dose	5.41E-04	7.64E-07	2.51E+00	1.77E+01	0.00E+00
KickStart	5.50E-01	2.96E-03	2.54E+00	1.77E+01	0.00E+00
RF Densify & Harden	2.07E+00	6.72E-03	2.61E+00	1.77E+01	0.00E+00
RF Hard Surface Cleaner	1.21E-03	1.97E-05	2.51E+00	1.77E+01	0.00E+00
RF Hard Surface Cleaner Single Dose	5.41E-04	7.64E-07	2.51E+00	1.77E+01	0.00E+00
RF Grind & Enhance	5.50E-01	2.96E-03	2.54E+00	1.77E+01	0.00E+00
RPRM (MJ)					
Ashford Formula	6.45E-01	0.00E+00	3.22E-02	8.01E+00	0.00E+00
Retro Plate	9.06E-01	0.00E+00	4.53E-02	8.01E+00	0.00E+00
CreteClean Plus	3.86E-04	0.00E+00	1.93E-05	8.01E+00	0.00E+00
CreteClean Plus Single Dose	2.10E-04	0.00E+00	1.05E-05	8.01E+00	0.00E+00
KickStart	2.32E-01	0.00E+00	1.16E-02	8.01E+00	0.00E+00



RF Densify & Harden	9.06E-01	0.00E+00	4.53E-02	8.01E+00	0.00E+00
RF Hard Surface Cleaner	3.86E-04	0.00E+00	1.93E-05	8.01E+00	0.00E+00
RF Hard Surface Cleaner Single Dose	2.10E-04	0.00E+00	1.05E-05	8.01E+00	0.00E+00
RF Grind & Enhance	2.32E-01	0.00E+00	1.16E-02	8.01E+00	0.00E+00
NRPRE (MJ)					
Ashford Formula	6.84E-01	4.24E-01	6.60E+01	7.07E+01	0.00E+00
Retro Plate	8.79E-01	4.49E-01	6.60E+01	7.07E+01	0.00E+00
CreteClean Plus	8.35E-03	1.31E-03	6.63E+01	7.07E+01	0.00E+00
CreteClean Plus Single Dose	6.01E-03	5.11E-05	6.63E+01	7.07E+01	0.00E+00
KickStart	3.52E-01	1.97E-01	6.61E+01	7.07E+01	0.00E+00
RF Densify & Harden	8.79E-01	4.49E-01	6.60E+01	7.07E+01	0.00E+00
RF Hard Surface Cleaner	8.35E-03	1.31E-03	6.63E+01	7.07E+01	0.00E+00
RF Hard Surface Cleaner Single Dose	6.01E-03	5.11E-05	6.63E+01	7.07E+01	0.00E+00
RF Grind & Enhance	3.52E-01	1.97E-01	6.61E+01	7.07E+01	0.00E+00
NRPRM (MJ)					
Ashford Formula	3.27E-03	0.00E+00	4.45E+00	8.18E+00	0.00E+00
Retro Plate	2.87E-03	0.00E+00	4.44E+00	8.18E+00	0.00E+00
CreteClean Plus	1.62E-03	0.00E+00	4.12E+00	8.18E+00	0.00E+00
CreteClean Plus Single Dose	2.49E-04	0.00E+00	4.12E+00	8.18E+00	0.00E+00
KickStart	9.59E-02	0.00E+00	4.26E+00	8.18E+00	0.00E+00
RF Densify & Harden	2.87E-03	0.00E+00	4.44E+00	8.18E+00	0.00E+00
RF Hard Surface Cleaner	1.62E-03	0.00E+00	4.12E+00	8.18E+00	0.00E+00
RF Hard Surface Cleaner Single Dose	2.49E-04	0.00E+00	4.12E+00	8.18E+00	0.00E+00
RF Grind & Enhance	9.59E-02	0.00E+00	4.26E+00	8.18E+00	0.00E+00
SM (kg)					
Ashford Formula	3.00E-04	1.51E-04	1.41E-01	2.05E-02	0.00E+00
Retro Plate	4.57E-04	1.60E-04	1.41E-01	2.05E-02	0.00E+00
CreteClean Plus	8.95E-07	4.54E-07	1.41E-01	2.05E-02	0.00E+00
CreteClean Plus Single Dose	3.00E-07	1.84E-08	1.41E-01	2.05E-02	0.00E+00
KickStart	1.25E-04	7.02E-05	1.41E-01	2.05E-02	0.00E+00
RF Densify & Harden	4.57E-04	1.60E-04	1.41E-01	2.05E-02	0.00E+00
RF Hard Surface Cleaner	8.95E-07	4.54E-07	1.41E-01	2.05E-02	0.00E+00
RF Hard Surface Cleaner Single Dose	3.00E-07	1.84E-08	1.41E-01	2.05E-02	0.00E+00
RF Grind & Enhance	1.25E-04	7.02E-05	1.41E-01	2.05E-02	0.00E+00
RSF (MJ)					
Ashford Formula	2.54E-04	1.56E-06	3.04E-04	6.05E-04	0.00E+00
Retro Plate	2.58E-04	1.65E-06	3.04E-04	6.05E-04	0.00E+00
CreteClean Plus	9.47E-07	4.58E-09	2.91E-04	6.05E-04	0.00E+00
CreteClean Plus Single Dose	7.78E-09	1.91E-10	2.91E-04	6.05E-04	0.00E+00



KickStart	1.37E-04	7.24E-07	2.98E-04	6.05E-04	0.00E+00
RF Densify & Harden	2.58E-04	1.65E-06	3.04E-04	6.05E-04	0.00E+00
RF Hard Surface Cleaner	9.47E-07	4.58E-09	2.91E-04	6.05E-04	0.00E+00
RF Hard Surface Cleaner Single Dose	7.78E-09	1.91E-10	2.91E-04	6.05E-04	0.00E+00
RF Grind & Enhance	1.37E-04	7.24E-07	2.98E-04	6.05E-04	0.00E+00
NRSF (MJ)					
Ashford Formula	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Retro Plate	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
CreteClean Plus	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
CreteClean Plus Single Dose	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
KickStart	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
RF Densify & Harden	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
RF Hard Surface Cleaner	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
RF Hard Surface Cleaner Single Dose	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
RF Grind & Enhance	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
RE (MJ)					
Ashford Formula	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Retro Plate	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
CreteClean Plus	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
CreteClean Plus Single Dose	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
KickStart	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
RF Densify & Harden	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
RF Hard Surface Cleaner	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
RF Hard Surface Cleaner Single Dose	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
RF Grind & Enhance	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
FW (m3)					
Ashford Formula	4.84E-03	5.04E-05	1.81E-02	1.52E+00	0.00E+00
Retro Plate	6.70E-03	5.32E-05	1.81E-02	1.52E+00	0.00E+00
CreteClean Plus	6.88E-06	1.53E-07	1.78E-02	1.52E+00	0.00E+00
CreteClean Plus Single Dose	4.66E-06	6.09E-09	1.78E-02	1.52E+00	0.00E+00
KickStart	1.77E-03	2.34E-05	1.79E-02	1.52E+00	0.00E+00
RF Densify & Harden	6.70E-03	5.32E-05	1.81E-02	1.52E+00	0.00E+00
RF Hard Surface Cleaner	6.88E-06	1.53E-07	1.78E-02	1.52E+00	0.00E+00
RF Hard Surface Cleaner Single Dose	4.66E-06	6.09E-09	1.78E-02	1.52E+00	0.00E+00
RF Grind & Enhance	1.77E-03	2.34E-05	1.79E-02	1.52E+00	0.00E+00



Table 16: Total life cycle (across modules in scope) impact results for all declared products, on a per FU basis.

Application: Low Foot Traffic

Estimated Market Service Life: 20 years

Indicator/LCI Metric	RPRE (MJ)				
	Life cycle stage				
Products	A1-A3	A4	A5	B2	B5
Ashford Formula	1.49E+00	6.36E-03	2.59E+00	1.77E+01	6.12E+00
Retro Plate	2.07E+00	6.72E-03	2.61E+00	1.77E+01	7.03E+00
CreteClean Plus	1.21E-03	1.97E-05	2.51E+00	1.77E+01	3.77E+00
CreteClean Plus Single Dose	5.41E-04	7.64E-07	2.51E+00	1.77E+01	3.77E+00
KickStart	5.50E-01	2.96E-03	2.54E+00	1.77E+01	4.64E+00
RF Densify & Harden	2.07E+00	6.72E-03	2.61E+00	1.77E+01	7.49E+00
RF Hard Surface Cleaner	1.21E-03	1.97E-05	2.51E+00	1.77E+01	3.77E+00
RF Hard Surface Cleaner Single Dose	5.41E-04	7.64E-07	2.51E+00	1.77E+01	3.77E+00
RF Grind & Enhance	5.50E-01	2.96E-03	2.54E+00	1.77E+01	5.57E+00
RPRM (MJ)					
Ashford Formula	6.45E-01	0.00E+00	3.22E-02	8.01E+00	1.02E+00
Retro Plate	9.06E-01	0.00E+00	4.53E-02	8.01E+00	1.43E+00
CreteClean Plus	3.86E-04	0.00E+00	1.93E-05	8.01E+00	6.08E-04
CreteClean Plus Single Dose	2.10E-04	0.00E+00	1.05E-05	8.01E+00	3.30E-04
KickStart	2.32E-01	0.00E+00	1.16E-02	8.01E+00	3.66E-01
RF Densify & Harden	9.06E-01	0.00E+00	4.53E-02	8.01E+00	1.64E+00
RF Hard Surface Cleaner	3.86E-04	0.00E+00	1.93E-05	8.01E+00	7.09E-04
RF Hard Surface Cleaner Single Dose	2.10E-04	0.00E+00	1.05E-05	8.01E+00	6.29E-04
RF Grind & Enhance	2.32E-01	0.00E+00	1.16E-02	8.01E+00	7.78E-01
NRPRE (MJ)					
Ashford Formula	6.84E-01	4.24E-01	6.60E+01	7.07E+01	1.01E+02
Retro Plate	8.79E-01	4.49E-01	6.60E+01	7.07E+01	1.01E+02
CreteClean Plus	8.35E-03	1.31E-03	6.63E+01	7.07E+01	9.94E+01
CreteClean Plus Single Dose	6.01E-03	5.11E-05	6.63E+01	7.07E+01	9.94E+01
KickStart	3.52E-01	1.97E-01	6.61E+01	7.07E+01	1.00E+02
RF Densify & Harden	8.79E-01	4.49E-01	6.60E+01	7.07E+01	1.01E+02
RF Hard Surface Cleaner	8.35E-03	1.31E-03	6.63E+01	7.07E+01	9.94E+01
RF Hard Surface Cleaner Single Dose	6.01E-03	5.11E-05	6.63E+01	7.07E+01	9.94E+01
RF Grind & Enhance	3.52E-01	1.97E-01	6.61E+01	7.07E+01	1.01E+02
NRPRM (MJ)					
Ashford Formula	3.27E-03	0.00E+00	4.45E+00	8.18E+00	6.68E+00
Retro Plate	2.87E-03	0.00E+00	4.44E+00	8.18E+00	6.68E+00
CreteClean Plus	1.62E-03	0.00E+00	4.12E+00	8.18E+00	6.19E+00
CreteClean Plus Single Dose	2.49E-04	0.00E+00	4.12E+00	8.18E+00	6.18E+00



KickStart	9.59E-02	0.00E+00	4.26E+00	8.18E+00	6.58E+00
RF Densify & Harden	2.87E-03	0.00E+00	4.44E+00	8.18E+00	6.66E+00
RF Hard Surface Cleaner	1.62E-03	0.00E+00	4.12E+00	8.18E+00	6.19E+00
RF Hard Surface Cleaner Single Dose	2.49E-04	0.00E+00	4.12E+00	8.18E+00	6.18E+00
RF Grind & Enhance	9.59E-02	0.00E+00	4.26E+00	8.18E+00	6.70E+00
SM (kg)					
Ashford Formula	3.00E-04	1.51E-04	1.41E-01	2.05E-02	2.13E-01
Retro Plate	4.57E-04	1.60E-04	1.41E-01	2.05E-02	2.13E-01
CreteClean Plus	8.95E-07	4.54E-07	1.41E-01	2.05E-02	2.12E-01
CreteClean Plus Single Dose	3.00E-07	1.84E-08	1.41E-01	2.05E-02	2.12E-01
KickStart	1.25E-04	7.02E-05	1.41E-01	2.05E-02	2.12E-01
RF Densify & Harden	4.57E-04	1.60E-04	1.41E-01	2.05E-02	2.13E-01
RF Hard Surface Cleaner	8.95E-07	4.54E-07	1.41E-01	2.05E-02	2.12E-01
RF Hard Surface Cleaner Single Dose	3.00E-07	1.84E-08	1.41E-01	2.05E-02	2.12E-01
RF Grind & Enhance	1.25E-04	7.02E-05	1.41E-01	2.05E-02	2.12E-01
RSF (MJ)					
Ashford Formula	2.54E-04	1.56E-06	3.04E-04	6.05E-04	8.39E-04
Retro Plate	2.58E-04	1.65E-06	3.04E-04	6.05E-04	8.45E-04
CreteClean Plus	9.47E-07	4.58E-09	2.91E-04	6.05E-04	4.38E-04
CreteClean Plus Single Dose	7.78E-09	1.91E-10	2.91E-04	6.05E-04	4.36E-04
KickStart	1.37E-04	7.24E-07	2.98E-04	6.05E-04	6.53E-04
RF Densify & Harden	2.58E-04	1.65E-06	3.04E-04	6.05E-04	8.71E-04
RF Hard Surface Cleaner	9.47E-07	4.58E-09	2.91E-04	6.05E-04	4.38E-04
RF Hard Surface Cleaner Single Dose	7.78E-09	1.91E-10	2.91E-04	6.05E-04	4.36E-04
RF Grind & Enhance	1.37E-04	7.24E-07	2.98E-04	6.05E-04	1.01E-03
NRSF (MJ)					
Ashford Formula	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Retro Plate	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
CreteClean Plus	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
CreteClean Plus Single Dose	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
KickStart	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
RF Densify & Harden	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
RF Hard Surface Cleaner	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
RF Hard Surface Cleaner Single Dose	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
RF Grind & Enhance	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
RE (MJ)					
Ashford Formula	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Retro Plate	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
CreteClean Plus	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00



CreteClean Plus Single Dose	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
KickStart	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
RF Densify & Harden	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
RF Hard Surface Cleaner	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
RF Hard Surface Cleaner Single Dose	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
RF Grind & Enhance	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
FW (m3)					
Ashford Formula	4.84E-03	5.04E-05	1.81E-02	1.52E+00	3.44E-02
Retro Plate	6.70E-03	5.32E-05	1.81E-02	1.52E+00	3.73E-02
CreteClean Plus	6.88E-06	1.53E-07	1.78E-02	1.52E+00	2.67E-02
CreteClean Plus Single Dose	4.66E-06	6.09E-09	1.78E-02	1.52E+00	2.67E-02
KickStart	1.77E-03	2.34E-05	1.79E-02	1.52E+00	2.95E-02
RF Densify & Harden	6.70E-03	5.32E-05	1.81E-02	1.52E+00	3.88E-02
RF Hard Surface Cleaner	6.88E-06	1.53E-07	1.78E-02	1.52E+00	2.67E-02
RF Hard Surface Cleaner Single Dose	4.66E-06	6.09E-09	1.78E-02	1.52E+00	2.67E-02
RF Grind & Enhance	1.77E-03	2.34E-05	1.79E-02	1.52E+00	3.26E-02

Table 17: Total life cycle (across modules in scope) impact results for all declared products, on a per FU basis.

Application: High Foot Traffic

Estimated Market Service Life: 10 years

Indicator/LCI Metric	RPRE (MJ)				
	Life cycle stage				
Products	A1-A3	A4	A5	B2	B5
Ashford Formula	1.49E+00	6.36E-03	2.59E+00	1.77E+01	0.00E+00
Retro Plate	2.07E+00	6.72E-03	2.61E+00	1.77E+01	0.00E+00
CreteClean Plus	1.21E-03	1.97E-05	2.51E+00	1.77E+01	1.51E+01
CreteClean Plus Single Dose	5.41E-04	7.64E-07	2.51E+00	1.77E+01	1.51E+01
KickStart	5.50E-01	2.96E-03	2.54E+00	1.77E+01	2.18E+01
RF Densify & Harden	2.07E+00	6.72E-03	2.61E+00	1.77E+01	0.00E+00
RF Hard Surface Cleaner	1.21E-03	1.97E-05	2.51E+00	1.77E+01	1.51E+01
RF Hard Surface Cleaner Single Dose	5.41E-04	7.64E-07	2.51E+00	1.77E+01	1.51E+01
RF Grind & Enhance	5.50E-01	2.96E-03	2.54E+00	1.77E+01	2.23E+01
RPRM (MJ)					
Ashford Formula	6.45E-01	0.00E+00	3.22E-02	8.01E+00	0.00E+00
Retro Plate	9.06E-01	0.00E+00	4.53E-02	8.01E+00	0.00E+00
CreteClean Plus	3.86E-04	0.00E+00	1.93E-05	8.01E+00	2.43E-03
CreteClean Plus Single Dose	2.10E-04	0.00E+00	1.05E-05	8.01E+00	1.32E-03
KickStart	2.32E-01	0.00E+00	1.16E-02	8.01E+00	2.86E+00
RF Densify & Harden	9.06E-01	0.00E+00	4.53E-02	8.01E+00	0.00E+00



RF Hard Surface Cleaner	3.86E-04	0.00E+00	1.93E-05	8.01E+00	2.84E-03
RF Hard Surface Cleaner Single Dose	2.10E-04	0.00E+00	1.05E-05	8.01E+00	2.51E-03
RF Grind & Enhance	2.32E-01	0.00E+00	1.16E-02	8.01E+00	3.11E+00
NRPRE (MJ)					
Ashford Formula	6.84E-01	4.24E-01	6.60E+01	7.07E+01	0.00E+00
Retro Plate	8.79E-01	4.49E-01	6.60E+01	7.07E+01	0.00E+00
CreteClean Plus	8.35E-03	1.31E-03	6.63E+01	7.07E+01	3.98E+02
CreteClean Plus Single Dose	6.01E-03	5.11E-05	6.63E+01	7.07E+01	3.98E+02
KickStart	3.52E-01	1.97E-01	6.61E+01	7.07E+01	4.02E+02
RF Densify & Harden	8.79E-01	4.49E-01	6.60E+01	7.07E+01	0.00E+00
RF Hard Surface Cleaner	8.35E-03	1.31E-03	6.63E+01	7.07E+01	3.98E+02
RF Hard Surface Cleaner Single Dose	6.01E-03	5.11E-05	6.63E+01	7.07E+01	3.98E+02
RF Grind & Enhance	3.52E-01	1.97E-01	6.61E+01	7.07E+01	4.02E+02
NRPRM (MJ)					
Ashford Formula	3.27E-03	0.00E+00	4.45E+00	8.18E+00	0.00E+00
Retro Plate	2.87E-03	0.00E+00	4.44E+00	8.18E+00	0.00E+00
CreteClean Plus	1.62E-03	0.00E+00	4.12E+00	8.18E+00	2.47E+01
CreteClean Plus Single Dose	2.49E-04	0.00E+00	4.12E+00	8.18E+00	2.47E+01
KickStart	9.59E-02	0.00E+00	4.26E+00	8.18E+00	2.69E+01
RF Densify & Harden	2.87E-03	0.00E+00	4.44E+00	8.18E+00	0.00E+00
RF Hard Surface Cleaner	1.62E-03	0.00E+00	4.12E+00	8.18E+00	2.47E+01
RF Hard Surface Cleaner Single Dose	2.49E-04	0.00E+00	4.12E+00	8.18E+00	2.47E+01
RF Grind & Enhance	9.59E-02	0.00E+00	4.26E+00	8.18E+00	2.68E+01
SM (kg)					
Ashford Formula	3.00E-04	1.51E-04	1.41E-01	2.05E-02	0.00E+00
Retro Plate	4.57E-04	1.60E-04	1.41E-01	2.05E-02	0.00E+00
CreteClean Plus	8.95E-07	4.54E-07	1.41E-01	2.05E-02	8.48E-01
CreteClean Plus Single Dose	3.00E-07	1.84E-08	1.41E-01	2.05E-02	8.48E-01
KickStart	1.25E-04	7.02E-05	1.41E-01	2.05E-02	8.50E-01
RF Densify & Harden	4.57E-04	1.60E-04	1.41E-01	2.05E-02	0.00E+00
RF Hard Surface Cleaner	8.95E-07	4.54E-07	1.41E-01	2.05E-02	8.48E-01
RF Hard Surface Cleaner Single Dose	3.00E-07	1.84E-08	1.41E-01	2.05E-02	8.48E-01
RF Grind & Enhance	1.25E-04	7.02E-05	1.41E-01	2.05E-02	8.50E-01
RSF (MJ)					
Ashford Formula	2.54E-04	1.56E-06	3.04E-04	6.05E-04	0.00E+00
Retro Plate	2.58E-04	1.65E-06	3.04E-04	6.05E-04	0.00E+00
CreteClean Plus	9.47E-07	4.58E-09	2.91E-04	6.05E-04	1.75E-03
CreteClean Plus Single Dose	7.78E-09	1.91E-10	2.91E-04	6.05E-04	1.74E-03
KickStart	1.37E-04	7.24E-07	2.98E-04	6.05E-04	3.43E-03



RF Densify & Harden	2.58E-04	1.65E-06	3.04E-04	6.05E-04	0.00E+00
RF Hard Surface Cleaner	9.47E-07	4.58E-09	2.91E-04	6.05E-04	1.75E-03
RF Hard Surface Cleaner Single Dose	7.78E-09	1.91E-10	2.91E-04	6.05E-04	1.74E-03
RF Grind & Enhance	1.37E-04	7.24E-07	2.98E-04	6.05E-04	4.05E-03
NRSF (MJ)					
Ashford Formula	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Retro Plate	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
CreteClean Plus	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
CreteClean Plus Single Dose	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
KickStart	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
RF Densify & Harden	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
RF Hard Surface Cleaner	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
RF Hard Surface Cleaner Single Dose	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
RF Grind & Enhance	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
RE (MJ)					
Ashford Formula	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Retro Plate	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
CreteClean Plus	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
CreteClean Plus Single Dose	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
KickStart	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
RF Densify & Harden	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
RF Hard Surface Cleaner	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
RF Hard Surface Cleaner Single Dose	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
RF Grind & Enhance	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
FW (m3)					
Ashford Formula	4.84E-03	5.04E-05	1.81E-02	1.52E+00	0.00E+00
Retro Plate	6.70E-03	5.32E-05	1.81E-02	1.52E+00	0.00E+00
CreteClean Plus	6.88E-06	1.53E-07	1.78E-02	1.52E+00	1.07E-01
CreteClean Plus Single Dose	4.66E-06	6.09E-09	1.78E-02	1.52E+00	1.07E-01
KickStart	1.77E-03	2.34E-05	1.79E-02	1.52E+00	1.29E-01
RF Densify & Harden	6.70E-03	5.32E-05	1.81E-02	1.52E+00	0.00E+00
RF Hard Surface Cleaner	6.88E-06	1.53E-07	1.78E-02	1.52E+00	1.07E-01
RF Hard Surface Cleaner Single Dose	4.66E-06	6.09E-09	1.78E-02	1.52E+00	1.07E-01
RF Grind & Enhance	1.77E-03	2.34E-05	1.79E-02	1.52E+00	1.30E-01



c) Waste/output Inventory Metrics:

Table 18: Total life cycle (across modules in scope) impact results for all declared products, on a per FU basis.

Application: Low Foot Traffic

Estimated Technical Service Life: 60 years

Indicator/LCI Metric	HWD (kg)				
	Life cycle stage				
Products	A1-A3	A4	A5	B2	B5
Ashford Formula	1.19E-02	8.49E-04	3.10E-01	4.72E-01	0.00E+00
Retro Plate	1.67E-02	8.97E-04	3.11E-01	4.72E-01	0.00E+00
CreteClean Plus	2.27E-05	2.66E-06	3.10E-01	4.72E-01	0.00E+00
CreteClean Plus Single Dose	9.74E-06	1.01E-07	3.10E-01	4.72E-01	0.00E+00
KickStart	4.63E-03	3.95E-04	3.10E-01	4.72E-01	0.00E+00
RF Densify & Harden	1.67E-02	8.97E-04	3.11E-01	4.72E-01	0.00E+00
RF Hard Surface Cleaner	2.27E-05	2.66E-06	3.10E-01	4.72E-01	0.00E+00
RF Hard Surface Cleaner Single Dose	9.74E-06	1.01E-07	3.10E-01	4.72E-01	0.00E+00
RF Grind & Enhance	4.63E-03	3.95E-04	3.10E-01	4.72E-01	0.00E+00
NHWD (kg)					
Ashford Formula	1.44E-01	1.38E-02	1.31E+01	3.51E+01	0.00E+00
Retro Plate	1.88E-01	1.45E-02	1.31E+01	3.51E+01	0.00E+00
CreteClean Plus	9.90E-04	4.23E-05	1.30E+01	3.51E+01	0.00E+00
CreteClean Plus Single Dose	7.03E-04	1.66E-06	1.30E+01	3.51E+01	0.00E+00
KickStart	6.34E-02	6.40E-03	1.30E+01	3.51E+01	0.00E+00
RF Densify & Harden	1.88E-01	1.45E-02	1.31E+01	3.51E+01	0.00E+00
RF Hard Surface Cleaner	9.90E-04	4.23E-05	1.30E+01	3.51E+01	0.00E+00
RF Hard Surface Cleaner Single Dose	7.03E-04	1.66E-06	1.30E+01	3.51E+01	0.00E+00
RF Grind & Enhance	6.34E-02	6.40E-03	1.30E+01	3.51E+01	0.00E+00
RWD (kg)					
Ashford Formula	3.73E-07	4.65E-08	3.18E-05	4.27E-06	0.00E+00
Retro Plate	5.25E-07	4.91E-08	3.18E-05	4.27E-06	0.00E+00
CreteClean Plus	7.62E-09	1.59E-10	3.18E-05	4.27E-06	0.00E+00
CreteClean Plus Single Dose	5.31E-09	6.00E-12	3.18E-05	4.27E-06	0.00E+00
KickStart	2.62E-07	2.17E-08	3.18E-05	4.27E-06	0.00E+00
RF Densify & Harden	5.25E-07	4.91E-08	3.18E-05	4.27E-06	0.00E+00
RF Hard Surface Cleaner	7.62E-09	1.59E-10	3.18E-05	4.27E-06	0.00E+00
RF Hard Surface Cleaner Single Dose	5.31E-09	6.00E-12	3.18E-05	4.27E-06	0.00E+00
RF Grind & Enhance	2.62E-07	2.17E-08	3.18E-05	4.27E-06	0.00E+00
CRU (kg)					
Ashford Formula	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Retro Plate	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
CreteClean Plus	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00



CreteClean Plus Single Dose	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
KickStart	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
RF Densify & Harden	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
RF Hard Surface Cleaner	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
RF Hard Surface Cleaner Single Dose	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
RF Grind & Enhance	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
MR (kg)					
Ashford Formula	1.25E-07	1.79E-05	5.29E-05	0.00E+00	0.00E+00
Retro Plate	1.77E-07	1.89E-05	5.30E-05	0.00E+00	0.00E+00
CreteClean Plus	1.55E-09	6.02E-08	5.20E-05	0.00E+00	0.00E+00
CreteClean Plus Single Dose	1.94E-10	2.06E-09	5.20E-05	0.00E+00	0.00E+00
KickStart	1.33E-07	8.34E-06	5.24E-05	0.00E+00	0.00E+00
RF Densify & Harden	1.77E-07	1.89E-05	5.30E-05	0.00E+00	0.00E+00
RF Hard Surface Cleaner	1.55E-09	6.02E-08	5.20E-05	0.00E+00	0.00E+00
RF Hard Surface Cleaner Single Dose	1.94E-10	2.06E-09	5.20E-05	0.00E+00	0.00E+00
RF Grind & Enhance	1.33E-07	8.34E-06	5.24E-05	0.00E+00	0.00E+00
MER (kg)					
Ashford Formula	1.35E-09	1.89E-08	2.63E-07	0.00E+00	0.00E+00
Retro Plate	1.91E-09	1.99E-08	2.64E-07	0.00E+00	0.00E+00
CreteClean Plus	1.60E-11	5.30E-11	2.62E-07	0.00E+00	0.00E+00
CreteClean Plus Single Dose	1.00E-12	2.00E-12	2.62E-07	0.00E+00	0.00E+00
KickStart	1.43E-09	8.76E-09	2.63E-07	0.00E+00	0.00E+00
RF Densify & Harden	1.19E-09	1.99E-08	2.64E-07	0.00E+00	0.00E+00
RF Hard Surface Cleaner	1.60E-11	5.30E-11	2.62E-07	0.00E+00	0.00E+00
RF Hard Surface Cleaner Single Dose	1.00E-12	2.00E-12	2.62E-07	0.00E+00	0.00E+00
RF Grind & Enhance	1.43E-09	8.76E-09	2.63E-07	0.00E+00	0.00E+00
EEel (MJ)					
Ashford Formula	1.16E-06	2.03E-05	8.62E-04	0.00E+00	0.00E+00
Retro Plate	1.63E-06	2.14E-05	8.62E-04	0.00E+00	0.00E+00
CreteClean Plus	1.46E-08	5.90E-08	8.61E-04	0.00E+00	0.00E+00
CreteClean Plus Single Dose	2.11E-09	2.49E-09	8.61E-04	0.00E+00	0.00E+00
KickStart	1.23E-06	9.41E-06	8.61E-04	0.00E+00	0.00E+00
RF Densify & Harden	1.63E-06	2.14E-05	8.62E-04	0.00E+00	0.00E+00
RF Hard Surface Cleaner	1.46E-08	5.90E-08	8.61E-04	0.00E+00	0.00E+00
RF Hard Surface Cleaner Single Dose	2.11E-09	2.49E-09	8.61E-04	0.00E+00	0.00E+00
RF Grind & Enhance	1.23E-06	9.41E-06	8.61E-04	0.00E+00	0.00E+00
EEheat (MJ)					
Ashford Formula	1.45E-06	2.20E-05	4.58E-04	0.00E+00	0.00E+00
Retro Plate	2.05E-06	2.32E-05	4.58E-04	0.00E+00	0.00E+00



CreteClean Plus	1.72E-08	6.21E-08	4.57E-04	0.00E+00	0.00E+00
CreteClean Plus Single Dose	1.54E-09	2.73E-09	4.57E-04	0.00E+00	0.00E+00
KickStart	1.54E-06	1.02E-05	4.58E-04	0.00E+00	0.00E+00
RF Densify & Harden	2.05E-06	2.32E-05	4.58E-04	0.00E+00	0.00E+00
RF Hard Surface Cleaner	1.72E-08	6.21E-08	4.57E-04	0.00E+00	0.00E+00
RF Hard Surface Cleaner Single Dose	1.54E-09	2.73E-09	4.57E-04	0.00E+00	0.00E+00
RF Grind & Enhance	1.54E-06	1.02E-05	4.58E-04	0.00E+00	0.00E+00

Table 19: Total life cycle (across modules in scope) impact results for all declared products, on a per FU basis.

Application: High Foot Traffic

Estimated Technical Service Life: 60 years

Indicator/LCI Metric	HWD (kg)				
	Life cycle stage				
Products	A1-A3	A4	A5	B2	B5
Ashford Formula	1.19E-02	8.49E-04	3.10E-01	4.72E-01	0.00E+00
Retro Plate	1.67E-02	8.97E-04	3.11E-01	4.72E-01	0.00E+00
CreteClean Plus	2.27E-05	2.66E-06	3.10E-01	4.72E-01	0.00E+00
CreteClean Plus Single Dose	9.74E-06	1.01E-07	3.10E-01	4.72E-01	0.00E+00
KickStart	4.63E-03	3.95E-04	3.10E-01	4.72E-01	0.00E+00
RF Densify & Harden	1.67E-02	8.97E-04	3.11E-01	4.72E-01	0.00E+00
RF Hard Surface Cleaner	2.27E-05	2.66E-06	3.10E-01	4.72E-01	0.00E+00
RF Hard Surface Cleaner Single Dose	9.74E-06	1.01E-07	3.10E-01	4.72E-01	0.00E+00
RF Grind & Enhance	4.63E-03	3.95E-04	3.10E-01	4.72E-01	0.00E+00
NHWD (kg)					
Ashford Formula	1.44E-01	1.38E-02	1.31E+01	3.51E+01	0.00E+00
Retro Plate	1.88E-01	1.45E-02	1.31E+01	3.51E+01	0.00E+00
CreteClean Plus	9.90E-04	4.23E-05	1.30E+01	3.51E+01	0.00E+00
CreteClean Plus Single Dose	7.03E-04	1.66E-06	1.30E+01	3.51E+01	0.00E+00
KickStart	6.34E-02	6.40E-03	1.30E+01	3.51E+01	0.00E+00
RF Densify & Harden	1.88E-01	1.45E-02	1.31E+01	3.51E+01	0.00E+00
RF Hard Surface Cleaner	9.90E-04	4.23E-05	1.30E+01	3.51E+01	0.00E+00
RF Hard Surface Cleaner Single Dose	7.03E-04	1.66E-06	1.30E+01	3.51E+01	0.00E+00
RF Grind & Enhance	6.34E-02	6.40E-03	1.30E+01	3.51E+01	0.00E+00
RWD (kg)					
Ashford Formula	3.73E-07	4.65E-08	3.18E-05	4.27E-06	0.00E+00
Retro Plate	5.25E-07	4.91E-08	3.18E-05	4.27E-06	0.00E+00
CreteClean Plus	7.62E-09	1.59E-10	3.18E-05	4.27E-06	0.00E+00
CreteClean Plus Single Dose	5.31E-09	6.00E-12	3.18E-05	4.27E-06	0.00E+00
KickStart	2.62E-07	2.17E-08	3.18E-05	4.27E-06	0.00E+00



RF Densify & Harden	5.25E-07	4.91E-08	3.18E-05	4.27E-06	0.00E+00
RF Hard Surface Cleaner	7.62E-09	1.59E-10	3.18E-05	4.27E-06	0.00E+00
RF Hard Surface Cleaner Single Dose	5.31E-09	6.00E-12	3.18E-05	4.27E-06	0.00E+00
RF Grind & Enhance	2.62E-07	2.17E-08	3.18E-05	4.27E-06	0.00E+00
CRU (kg)					
Ashford Formula	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Retro Plate	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
CreteClean Plus	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
CreteClean Plus Single Dose	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
KickStart	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
RF Densify & Harden	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
RF Hard Surface Cleaner	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
RF Hard Surface Cleaner Single Dose	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
RF Grind & Enhance	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
MR (kg)					
Ashford Formula	1.25E-07	1.79E-05	5.29E-05	0.00E+00	0.00E+00
Retro Plate	1.77E-07	1.89E-05	5.30E-05	0.00E+00	0.00E+00
CreteClean Plus	1.55E-09	6.02E-08	5.20E-05	0.00E+00	0.00E+00
CreteClean Plus Single Dose	1.94E-10	2.06E-09	5.20E-05	0.00E+00	0.00E+00
KickStart	1.33E-07	8.34E-06	5.24E-05	0.00E+00	0.00E+00
RF Densify & Harden	1.77E-07	1.89E-05	5.30E-05	0.00E+00	0.00E+00
RF Hard Surface Cleaner	1.55E-09	6.02E-08	5.20E-05	0.00E+00	0.00E+00
RF Hard Surface Cleaner Single Dose	1.94E-10	2.06E-09	5.20E-05	0.00E+00	0.00E+00
RF Grind & Enhance	1.33E-07	8.34E-06	5.24E-05	0.00E+00	0.00E+00
MER (kg)					
Ashford Formula	1.35E-09	1.89E-08	2.63E-07	0.00E+00	0.00E+00
Retro Plate	1.91E-09	1.99E-08	2.64E-07	0.00E+00	0.00E+00
CreteClean Plus	1.60E-11	5.30E-11	2.62E-07	0.00E+00	0.00E+00
CreteClean Plus Single Dose	1.00E-12	2.00E-12	2.62E-07	0.00E+00	0.00E+00
KickStart	1.43E-09	8.76E-09	2.63E-07	0.00E+00	0.00E+00
RF Densify & Harden	1.19E-09	1.99E-08	2.64E-07	0.00E+00	0.00E+00
RF Hard Surface Cleaner	1.60E-11	5.30E-11	2.62E-07	0.00E+00	0.00E+00
RF Hard Surface Cleaner Single Dose	1.00E-12	2.00E-12	2.62E-07	0.00E+00	0.00E+00
RF Grind & Enhance	1.43E-09	8.76E-09	2.63E-07	0.00E+00	0.00E+00
EEel (MJ)					
Ashford Formula	1.16E-06	2.03E-05	8.62E-04	0.00E+00	0.00E+00
Retro Plate	1.63E-06	2.14E-05	8.62E-04	0.00E+00	0.00E+00
CreteClean Plus	1.46E-08	5.90E-08	8.61E-04	0.00E+00	0.00E+00
CreteClean Plus Single Dose	2.11E-09	2.49E-09	8.61E-04	0.00E+00	0.00E+00



KickStart	1.23E-06	9.41E-06	8.61E-04	0.00E+00	0.00E+00
RF Densify & Harden	1.63E-06	2.14E-05	8.62E-04	0.00E+00	0.00E+00
RF Hard Surface Cleaner	1.46E-08	5.90E-08	8.61E-04	0.00E+00	0.00E+00
RF Hard Surface Cleaner Single Dose	2.11E-09	2.49E-09	8.61E-04	0.00E+00	0.00E+00
RF Grind & Enhance	1.23E-06	9.41E-06	8.61E-04	0.00E+00	0.00E+00
EEheat (MJ)					
Ashford Formula	1.45E-06	2.20E-05	4.58E-04	0.00E+00	0.00E+00
Retro Plate	2.05E-06	2.32E-05	4.58E-04	0.00E+00	0.00E+00
CreteClean Plus	1.72E-08	6.21E-08	4.57E-04	0.00E+00	0.00E+00
CreteClean Plus Single Dose	1.54E-09	2.73E-09	4.57E-04	0.00E+00	0.00E+00
KickStart	1.54E-06	1.02E-05	4.58E-04	0.00E+00	0.00E+00
RF Densify & Harden	2.05E-06	2.32E-05	4.58E-04	0.00E+00	0.00E+00
RF Hard Surface Cleaner	1.72E-08	6.21E-08	4.57E-04	0.00E+00	0.00E+00
RF Hard Surface Cleaner Single Dose	1.54E-09	2.73E-09	4.57E-04	0.00E+00	0.00E+00
RF Grind & Enhance	1.54E-06	1.02E-05	4.58E-04	0.00E+00	0.00E+00

Table 20: Total life cycle (across modules in scope) impact results for all declared products, on a per FU basis.

Application: Low Foot Traffic

Estimated Market Service Life: 20 years

Indicator/LCI Metric	HWD (kg)				
	Life cycle stage				
Products	A1-A3	A4	A5	B2	B5
Ashford Formula	1.19E-02	8.49E-04	3.10E-01	4.72E-01	4.85E-01
Retro Plate	1.67E-02	8.97E-04	3.11E-01	4.72E-01	4.92E-01
CreteClean Plus	2.27E-05	2.66E-06	3.10E-01	4.72E-01	4.65E-01
CreteClean Plus Single Dose	9.74E-06	1.01E-07	3.10E-01	4.72E-01	4.65E-01
KickStart	4.63E-03	3.95E-04	3.10E-01	4.72E-01	4.73E-01
RF Densify & Harden	1.67E-02	8.97E-04	3.11E-01	4.72E-01	4.95E-01
RF Hard Surface Cleaner	2.27E-05	2.66E-06	3.10E-01	4.72E-01	4.65E-01
RF Hard Surface Cleaner Single Dose	9.74E-06	1.01E-07	3.10E-01	4.72E-01	4.65E-01
RF Grind & Enhance	4.63E-03	3.95E-04	3.10E-01	4.72E-01	4.80E-01
NHWD (kg)					
Ashford Formula	1.44E-01	1.38E-02	1.31E+01	3.51E+01	1.98E+01
Retro Plate	1.88E-01	1.45E-02	1.31E+01	3.51E+01	1.99E+01
CreteClean Plus	9.90E-04	4.23E-05	1.30E+01	3.51E+01	1.95E+01
CreteClean Plus Single Dose	7.03E-04	1.66E-06	1.30E+01	3.51E+01	1.95E+01
KickStart	6.34E-02	6.40E-03	1.30E+01	3.51E+01	1.97E+01
RF Densify & Harden	1.88E-01	1.45E-02	1.31E+01	3.51E+01	1.99E+01
RF Hard Surface Cleaner	9.90E-04	4.23E-05	1.30E+01	3.51E+01	1.95E+01



RF Hard Surface Cleaner Single Dose	7.03E-04	1.66E-06	1.30E+01	3.51E+01	1.96E+01
RF Grind & Enhance	6.34E-02	6.40E-03	1.30E+01	3.51E+01	1.98E+01
RWD (kg)					
Ashford Formula	3.73E-07	4.65E-08	3.18E-05	4.27E-06	4.83E-05
Retro Plate	5.25E-07	4.91E-08	3.18E-05	4.27E-06	4.85E-05
CreteClean Plus	7.62E-09	1.59E-10	3.18E-05	4.27E-06	4.76E-05
CreteClean Plus Single Dose	5.31E-09	6.00E-12	3.18E-05	4.27E-06	4.76E-05
KickStart	2.62E-07	2.17E-08	3.18E-05	4.27E-06	4.81E-05
RF Densify & Harden	5.25E-07	4.91E-08	3.18E-05	4.27E-06	4.86E-05
RF Hard Surface Cleaner	7.62E-09	1.59E-10	3.18E-05	4.27E-06	4.76E-05
RF Hard Surface Cleaner Single Dose	5.31E-09	6.00E-12	3.18E-05	4.27E-06	4.76E-05
RF Grind & Enhance	2.62E-07	2.17E-08	3.18E-05	4.27E-06	4.85E-05
CRU (kg)					
Ashford Formula	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Retro Plate	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
CreteClean Plus	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
CreteClean Plus Single Dose	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
KickStart	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
RF Densify & Harden	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
RF Hard Surface Cleaner	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
RF Hard Surface Cleaner Single Dose	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
RF Grind & Enhance	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
MR (kg)					
Ashford Formula	1.25E-07	1.79E-05	5.29E-05	0.00E+00	1.06E-04
Retro Plate	1.77E-07	1.89E-05	5.30E-05	0.00E+00	1.08E-04
CreteClean Plus	1.55E-09	6.02E-08	5.20E-05	0.00E+00	7.81E-05
CreteClean Plus Single Dose	1.94E-10	2.06E-09	5.20E-05	0.00E+00	7.80E-05
KickStart	1.33E-07	8.34E-06	5.24E-05	0.00E+00	9.14E-05
RF Densify & Harden	1.77E-07	1.89E-05	5.30E-05	0.00E+00	1.08E-04
RF Hard Surface Cleaner	1.55E-09	6.02E-08	5.20E-05	0.00E+00	7.81E-05
RF Hard Surface Cleaner Single Dose	1.94E-10	2.06E-09	5.20E-05	0.00E+00	7.80E-05
RF Grind & Enhance	1.33E-07	8.34E-06	5.24E-05	0.00E+00	9.15E-05
MER (kg)					
Ashford Formula	1.35E-09	1.89E-08	2.63E-07	0.00E+00	4.26E-07
Retro Plate	1.91E-09	1.99E-08	2.64E-07	0.00E+00	4.28E-07
CreteClean Plus	1.60E-11	5.30E-11	2.62E-07	0.00E+00	3.94E-07
CreteClean Plus Single Dose	1.00E-12	2.00E-12	2.62E-07	0.00E+00	3.94E-07
KickStart	1.43E-09	8.76E-09	2.63E-07	0.00E+00	4.10E-07
RF Densify & Harden	1.19E-09	1.99E-08	2.64E-07	0.00E+00	4.29E-07



RF Hard Surface Cleaner	1.60E-11	5.30E-11	2.62E-07	0.00E+00	3.94E-07
RF Hard Surface Cleaner Single Dose	1.00E-12	2.00E-12	2.62E-07	0.00E+00	3.94E-07
RF Grind & Enhance	1.43E-09	8.76E-09	2.63E-07	0.00E+00	4.12E-07
EEel (MJ)					
Ashford Formula	1.16E-06	2.03E-05	8.62E-04	0.00E+00	1.33E-03
Retro Plate	1.63E-06	2.14E-05	8.62E-04	0.00E+00	1.33E-03
CreteClean Plus	1.46E-08	5.90E-08	8.61E-04	0.00E+00	1.29E-03
CreteClean Plus Single Dose	2.11E-09	2.49E-09	8.61E-04	0.00E+00	1.29E-03
KickStart	1.23E-06	9.41E-06	8.61E-04	0.00E+00	1.31E-03
RF Densify & Harden	1.63E-06	2.14E-05	8.62E-04	0.00E+00	1.33E-03
RF Hard Surface Cleaner	1.46E-08	5.90E-08	8.61E-04	0.00E+00	1.29E-03
RF Hard Surface Cleaner Single Dose	2.11E-09	2.49E-09	8.61E-04	0.00E+00	1.29E-03
RF Grind & Enhance	1.23E-06	9.41E-06	8.61E-04	0.00E+00	1.31E-03
EEheat (MJ)					
Ashford Formula	1.45E-06	2.20E-05	4.58E-04	0.00E+00	7.23E-04
Retro Plate	2.05E-06	2.32E-05	4.58E-04	0.00E+00	7.26E-04
CreteClean Plus	1.72E-08	6.21E-08	4.57E-04	0.00E+00	6.86E-04
CreteClean Plus Single Dose	1.54E-09	2.73E-09	4.57E-04	0.00E+00	6.86E-04
KickStart	1.54E-06	1.02E-05	4.58E-04	0.00E+00	7.05E-04
RF Densify & Harden	2.05E-06	2.32E-05	4.58E-04	0.00E+00	7.26E-04
RF Hard Surface Cleaner	1.72E-08	6.21E-08	4.57E-04	0.00E+00	6.86E-04
RF Hard Surface Cleaner Single Dose	1.54E-09	2.73E-09	4.57E-04	0.00E+00	6.86E-04
RF Grind & Enhance	1.54E-06	1.02E-05	4.58E-04	0.00E+00	7.07E-04

Table 21: Total life cycle (across modules in scope) impact results for all declared products, on a per FU basis.

Application: High Foot Traffic

Estimated Market Service Life: 10 years

Indicator/LCI Metric	HWD (kg)				
	Life cycle stage				
Products	A1-A3	A4	A5	B2	B5
Ashford Formula	1.19E-02	8.49E-04	3.10E-01	4.72E-01	0.00E+00
Retro Plate	1.67E-02	8.97E-04	3.11E-01	4.72E-01	0.00E+00
CreteClean Plus	2.27E-05	2.66E-06	3.10E-01	4.72E-01	1.86E+00
CreteClean Plus Single Dose	9.74E-06	1.01E-07	3.10E-01	4.72E-01	1.86E+00
KickStart	4.63E-03	3.95E-04	3.10E-01	4.72E-01	1.92E+00
RF Densify & Harden	1.67E-02	8.97E-04	3.11E-01	4.72E-01	0.00E+00
RF Hard Surface Cleaner	2.27E-05	2.66E-06	3.10E-01	4.72E-01	1.86E+00
RF Hard Surface Cleaner Single Dose	9.74E-06	1.01E-07	3.10E-01	4.72E-01	1.86E+00
RF Grind & Enhance	4.63E-03	3.95E-04	3.10E-01	4.72E-01	1.92E+00



NHWD (kg)					
Ashford Formula	1.44E-01	1.38E-02	1.31E+01	3.51E+01	0.00E+00
Retro Plate	1.88E-01	1.45E-02	1.31E+01	3.51E+01	0.00E+00
CreteClean Plus	9.90E-04	4.23E-05	1.30E+01	3.51E+01	7.82E+01
CreteClean Plus Single Dose	7.03E-04	1.66E-06	1.30E+01	3.51E+01	7.82E+01
KickStart	6.34E-02	6.40E-03	1.30E+01	3.51E+01	7.91E+01
RF Densify & Harden	1.88E-01	1.45E-02	1.31E+01	3.51E+01	0.00E+00
RF Hard Surface Cleaner	9.90E-04	4.23E-05	1.30E+01	3.51E+01	7.82E+01
RF Hard Surface Cleaner Single Dose	7.03E-04	1.66E-06	1.30E+01	3.51E+01	7.82E+01
RF Grind & Enhance	6.34E-02	6.40E-03	1.30E+01	3.51E+01	7.90E+01
RWD (kg)					
Ashford Formula	3.73E-07	4.65E-08	3.18E-05	4.27E-06	0.00E+00
Retro Plate	5.25E-07	4.91E-08	3.18E-05	4.27E-06	0.00E+00
CreteClean Plus	7.62E-09	1.59E-10	3.18E-05	4.27E-06	1.91E-04
CreteClean Plus Single Dose	5.31E-09	6.00E-12	3.18E-05	4.27E-06	1.91E-04
KickStart	2.62E-07	2.17E-08	3.18E-05	4.27E-06	1.94E-04
RF Densify & Harden	5.25E-07	4.91E-08	3.18E-05	4.27E-06	0.00E+00
RF Hard Surface Cleaner	7.62E-09	1.59E-10	3.18E-05	4.27E-06	1.91E-04
RF Hard Surface Cleaner Single Dose	5.31E-09	6.00E-12	3.18E-05	4.27E-06	1.91E-04
RF Grind & Enhance	2.62E-07	2.17E-08	3.18E-05	4.27E-06	1.94E-04
CRU (kg)					
Ashford Formula	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Retro Plate	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
CreteClean Plus	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
CreteClean Plus Single Dose	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
KickStart	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
RF Densify & Harden	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
RF Hard Surface Cleaner	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
RF Hard Surface Cleaner Single Dose	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
RF Grind & Enhance	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
MR (kg)					
Ashford Formula	1.25E-07	1.79E-05	5.29E-05	0.00E+00	0.00E+00
Retro Plate	1.77E-07	1.89E-05	5.30E-05	0.00E+00	0.00E+00
CreteClean Plus	1.55E-09	6.02E-08	5.20E-05	0.00E+00	3.12E-04
CreteClean Plus Single Dose	1.94E-10	2.06E-09	5.20E-05	0.00E+00	3.12E-04
KickStart	1.33E-07	8.34E-06	5.24E-05	0.00E+00	3.66E-04
RF Densify & Harden	1.77E-07	1.89E-05	5.30E-05	0.00E+00	0.00E+00
RF Hard Surface Cleaner	1.55E-09	6.02E-08	5.20E-05	0.00E+00	3.12E-04
RF Hard Surface Cleaner Single Dose	1.94E-10	2.06E-09	5.20E-05	0.00E+00	3.12E-04



RF Grind & Enhance	1.33E-07	8.34E-06	5.24E-05	0.00E+00	3.66E-04
MER (kg)					
Ashford Formula	1.35E-09	1.89E-08	2.63E-07	0.00E+00	0.00E+00
Retro Plate	1.91E-09	1.99E-08	2.64E-07	0.00E+00	0.00E+00
CreteClean Plus	1.60E-11	5.30E-11	2.62E-07	0.00E+00	1.58E-06
CreteClean Plus Single Dose	1.00E-12	2.00E-12	2.62E-07	0.00E+00	1.57E-06
KickStart	1.43E-09	8.76E-09	2.63E-07	0.00E+00	1.65E-06
RF Densify & Harden	1.19E-09	1.99E-08	2.64E-07	0.00E+00	0.00E+00
RF Hard Surface Cleaner	1.60E-11	5.30E-11	2.62E-07	0.00E+00	1.58E-06
RF Hard Surface Cleaner Single Dose	1.00E-12	2.00E-12	2.62E-07	0.00E+00	1.57E-06
RF Grind & Enhance	1.43E-09	8.76E-09	2.63E-07	0.00E+00	1.65E-06
EEel (MJ)					
Ashford Formula	1.16E-06	2.03E-05	8.62E-04	0.00E+00	0.00E+00
Retro Plate	1.63E-06	2.14E-05	8.62E-04	0.00E+00	0.00E+00
CreteClean Plus	1.46E-08	5.90E-08	8.61E-04	0.00E+00	5.17E-03
CreteClean Plus Single Dose	2.11E-09	2.49E-09	8.61E-04	0.00E+00	5.17E-03
KickStart	1.23E-06	9.41E-06	8.61E-04	0.00E+00	5.24E-03
RF Densify & Harden	1.63E-06	2.14E-05	8.62E-04	0.00E+00	0.00E+00
RF Hard Surface Cleaner	1.46E-08	5.90E-08	8.61E-04	0.00E+00	5.17E-03
RF Hard Surface Cleaner Single Dose	2.11E-09	2.49E-09	8.61E-04	0.00E+00	5.17E-03
RF Grind & Enhance	1.23E-06	9.41E-06	8.61E-04	0.00E+00	5.24E-03
EEheat (MJ)					
Ashford Formula	1.45E-06	2.20E-05	4.58E-04	0.00E+00	0.00E+00
Retro Plate	2.05E-06	2.32E-05	4.58E-04	0.00E+00	0.00E+00
CreteClean Plus	1.72E-08	6.21E-08	4.57E-04	0.00E+00	2.74E-03
CreteClean Plus Single Dose	1.54E-09	2.73E-09	4.57E-04	0.00E+00	2.74E-03
KickStart	1.54E-06	1.02E-05	4.58E-04	0.00E+00	2.83E-03
RF Densify & Harden	2.05E-06	2.32E-05	4.58E-04	0.00E+00	0.00E+00
RF Hard Surface Cleaner	1.72E-08	6.21E-08	4.57E-04	0.00E+00	2.74E-03
RF Hard Surface Cleaner Single Dose	1.54E-09	2.73E-09	4.57E-04	0.00E+00	2.74E-03
RF Grind & Enhance	1.54E-06	1.02E-05	4.58E-04	0.00E+00	2.83E-03



Information on biogenic carbon content at factory gate:

Products	Biogenic carbon content in product (kg C)	Biogenic carbon content in packaging (kg C)
Ashford Formula	2.16E-02	0.00E+00
Retro Plate	3.04E-02	0.00E+00
CreteClean Plus	1.06E-05	0.00E+00
CreteClean Plus Single Dose	4.88E-06	0.00E+00
KickStart	8.47E-03	0.00E+00
RF Densify & Harden	3.04E-02	0.00E+00
RF Hard Surface Cleaner	1.06E-05	0.00E+00
RF Hard Surface Cleaner Single Dose	4.88E-06	0.00E+00
RF Grind & Enhance	8.47E-03	0.00E+00

Note: 1 kg biogenic carbon is equivalent to 44/12 kg CO₂.

Interpretation:

This study evaluates the environmental impacts of a polished concrete flooring system, consisting of various concrete flooring products, based on a per-functional-unit analysis. The study reveals that the most significant contributor to the Global Warming Potential (GWP) is Module B2 (Maintenance), accounting for approximately 52% of the total impact. This is primarily due to the use of cleaning agents and water over the assumed 60-year building service life. This indicates that increasing the longevity of the polished flooring system can have a significant positive impact on its overall environmental sustainability.

Following this, the second highest contributor stems from Module A5 (Installation), which accounts for approximately 45% of the overall GWP emissions. This includes the production and use of diamond polishing pads, essential for achieving the desired concrete surface finish and properties. In addition to the production, the use of polishing pads in equipment powered by energy carriers such as propane and diesel further amplifies the environmental impacts. Collectively, these factors make Module A5 a significant contributor to the polished flooring system's overall emissions.

Furthermore, the study emphasizes that different service life assumptions under varying foot traffic conditions have a strong influence on environmental outcomes. When the flooring system has a shorter service life than the 60-year reference period, refurbishments become necessary. Each refurbishment requires additional materials and processes, thereby increasing environmental burdens. Conversely, extending the service life of the polished concrete flooring system reduces the need for refurbishment activities and consequently minimizes the associated environmental burdens.

ADDITIONAL ENVIRONMENTAL INFO

- The products contain no substances of very high concern (SVHC) as defined by the REACH Regulation (EC) No. 1907/2006, at concentrations above 0.1% by mass.
- These polished concrete flooring products do not involve any carbonation process; therefore, carbonation is not considered at any stage of the life cycle of these products.
- Further information can be found at <https://curecrete.com/>



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