EPD

CERTIFICATION

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GEOLOGIC COLLECTION

Environmental Product Declaration

EPD®
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THE NORTH AMERICAN EPD® SYSTEM

In accordance with ISO 14025:2006 and ISO 21930:2017 for:

Glazed Porcelain Tile

From
Florim USA

FLORIM USA

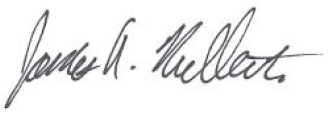
Programme:	The International EPD® System, www.environdec.com
Programme operator:	EPD International AB; EPD is registered through aligned regional hub: EPD North America (www.epdna.com)
EPD registration number:	S-P-12914
Publication date:	2024-03-18
Valid until:	2029-03-18

An EPD should provide current information and may be updated if conditions change. The stated validity is therefore subject to the continued registration and publication at www.environdec.com

General information

Programme information

Programme:	The International EPD® System
Address:	EPD International AB Box 210 60 SE-100 31 Stockholm Sweden
Website:	www.environdec.com
E-mail:	info@environdec.com

Accountabilities for PCR, LCA and independent, third-party verification	
General Program Instructions and Product Category Rules (PCR)[2]	
General Programme Instructions for the International EPD® System. Version 4.0. 2021-03-29[1]	
UL Product Category Rules for Building-Related Products and Services. Part A: Life Cycle Assessment Calculations and Report Requirements. V4.0, March 2022.	
UL Product Category Rule (PCR) Guidance for Building-Related Products and Services. Part B: Flooring EPD Requirements. UL 10010-7, Version 2.0 September 2018.	
PCR review was conducted by: Lindita Bushi, PhD, Chair Hugues Imbeault-Tétreault, Eng., M.A. Sc. Jack Geibig,	
The Sub-Category PCR review was conducted by: Jack Geibig (Chair) Thomas Gloria, PhD Thaddeus Owen	
Life Cycle Assessment (LCA)	
LCA accountability: Randall Waymire, Manasa Rao, and Chandler Jacobson; WAP Sustainability Consulting	
Third-party verification	
Independent third-party verification of the declaration and data, according to ISO 14025:2006, via: ☒ EPD verification by individual verifier ☐ INTERNAL ☒ EXTERNAL	 Third-party verifier: James Mellentine, Thrive ESG Approved by: The International EPD System
Procedure for follow-up of data during EPD validity involves third party verifier: ☐ Yes ☒ No	

[1] Not all requirements in the GPI are fulfilled, particularly the requirement, for construction products, to follow EN 15804 for certain aspects of the LCA method.

[2] This EPD is based on a PCR that satisfies procurement rules at the federal, state, and municipal levels which call for EPDs based on the UL Part B PCR. The ULPart B PCR was used to meet regulatory (example: Buy Clean California Act, etc.) and market expectations (example: Building Transparency EC3 comparisons, LEED and existing vendor procurement requirements, product scoring programs, etc.). The EPD should not be used outside of this context.

The EPD owner has the sole ownership, liability, and responsibility for the EPD.

EPDs within the same product category but registered in different EPD programmes, or not compliant with EN 15804 or ISO 21930, may not be comparable. For two EPDs to be comparable, they must be based on the same PCR (including the same version number) or be based on fully-aligned PCRs or versions of PCRs; cover products with identical functions, technical performances and use (e.g. identical functional units); have equivalent system boundaries and descriptions of data; apply equivalent data quality requirements, methods of data collection, and allocation methods; apply identical cut-off rules and impact assessment methods (including the same version of characterization factors); have equivalent content declarations; and be valid at the time of comparison. For further information about comparability, see EN 15804, ISO 21930, and ISO 14025.

Company information

Owner of the EPD: Florim USA

Contact: Don Haynes. DHaynes@FlorimUSA.com

Description of the organization: Florim USA, located in Clarksville, Tennessee, continually builds upon the roots of its parent company, the Italy-based Florim Group. Florim USA is committed to continued technological innovation, producing timeless, sustainable porcelain products and commits itself to the environment by observing environmental regulations through certified quality management systems and ecological processes.
Florim has adopted a well-aimed and functional approach in preventing environmental risks, preserving natural resources, ensuring the safety of its employees, and in supporting the welfare of the global community.

Product-related or management system-related certifications: No product-related or management system-related certifications are declared.

Location of production site(s): Clarksville, TN

Product information

Product name: Florim USA Glazed Porcelain Tile

Product identification: CSI division 09-30-13

Product description: Florim USA porcelain tiles are primarily made up of sand, clays and other additives and then molded into shape followed by kiln firing. Porcelain tiles can be glazed or unglazed, the former being the popular choice today. There are several advantages to porcelain tiles. They are impervious to moisture, resistant to tread wear, have permanence of color and are easy to clean.

UN CPC code: 37350

Geographical scope: The geographical scope of the raw material acquisition is North America. The geographical scope of the manufacturing portion of the life cycle is North America. Distribution from the manufacturing location is to the United States. The end of life (disposal of the product) occurs within the United States.

Multiple products: The LCA underlaying this EPD was conducted for a representative porcelain tile derived from Florim's line of products. To derive a representative product composition, practitioners calculated an average composition from bills of materials for 389 products offered by Florim USA. The difference between the various products is primarily the amount of and type of stain and glaze used which is why the look and feel are unique to each type of tile. The calculated average composition was scaled by mass to model varying thicknesses of tile.

Name		Value	Unit
Class		P_1, P_2, P_3, P_4, E_2	-
Tile type		Porcelain	-
Grade		Standard & Second	-
Facial area		1,000,000 (1 m^2)	mm^2
Product Thickness		6, 8, & 20	mm
Product weight	6 mm	14,648	g/m^2
	8 mm	21,483	g/m^2
	20 mm	43,943	g/m^2
Dimensional Categories		3"X12" to 48" X 110"	inches
Dimensional Categories (SI)		7.62 X 30.5 to 121.9 X 279.4	CM

LCA information

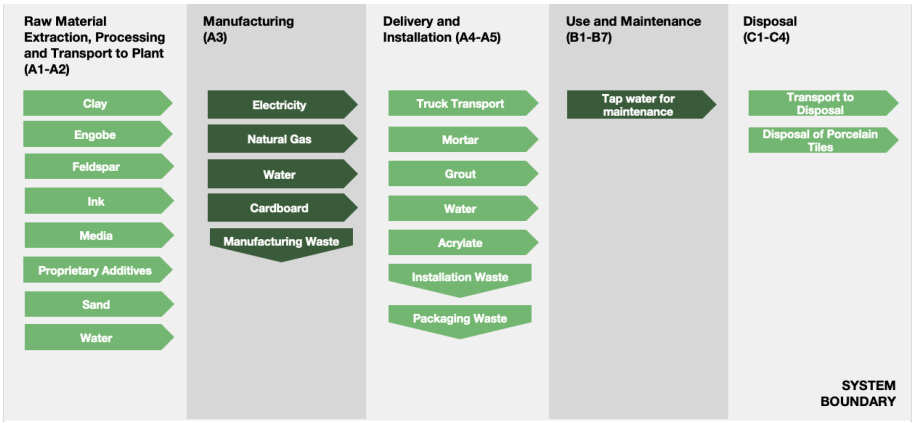
Functional unit: One (1) m^2 of finished flooring for the reference service life of 75 years.
Reference service life: 75 years.

Time representativeness: Primary data were provided by the manufacturer and represent all information for calendar year 2022.

Database(s) and LCA software used: MLC Database 2023.3 and LCA FE 10.7.1.28 software.

Description of system boundaries: Cradle-to-grave, modules A1-A5, modules B1-B7, modules C1–C4, and module D.

System diagram:



Manufacturing:
This stage includes an aggregation of raw material extraction, supplier processing, delivery, manufacturing, and packaging by Florim USA. In general, the mixing of materials, firing tiles in the kiln, and packaging of the final products are performed at the Florim USA facility in Clarksville, Tennessee.

Energy resources used in the manufacturing process include electricity, natural gas, and steam. Included in stage are:

- Extraction and processing of raw materials
- Processing of recycled raw material from previous product system

- Generation of energy and water inputs
- Waste creation and processing, including packaging waste
- Processing of secondary materials
- Energy Recovery (not applicable)
- Transportation up to factory gate
- Manufacturing of products and co-products
- Manufacturing and use of packaging
- Production of ancillary materials (not applicable)

Electricity: The electricity is sourced from the power grid, and no onsite electricity generation is used. Sub-meter specific electricity values were not available from the manufacturing facility. Annual electricity consumption was normalized to the functional unit of one meter squared of tile using the allocation methodology described below.

End of life: At the product's end of life, tiles are assumed to be manually stripped from the floor and 100% of the product is sent to landfill as mixed construction waste.

Assumptions: Throughout this study, value choices and judgements that may have affected the LCA have been described. Additional decisions are summarized below:

- The inclusion of overhead energy data was determined appropriate due to the inability to sub-meter and isolate manufacturing energy from overhead energy.
- Similarly, manufacturing inputs and outputs were assumed to be the same across all products.
- The use and selection of secondary datasets from Sphera's MLC database – The selection of which generic dataset to use to represent an aspect of a supply chain is a significant value choice. Collaboration between the LCA practitioner, the manufacturer, and Sphera LCA FE data experts was invaluable in determining best-case scenarios in the selection of data. However, no generic data can be a perfect fit. Improved supply chain specific data would improve the accuracy of results, however budgetary and time constraints also must be considered.

Cut-off Rules: All inputs and outputs to unit processes for which data are available are included in the assessment. When data was not available, average, generic, or proxy data from the MLC database was utilized.
A cut-off rule of 1% is considered in this assessment. This rule dictates that the included inventory data accounts for greater than 99% of the total material and energy inputs to the system. Furthermore, greater than 99% of the environmental impacts are presumed to have been modeled based on the assessor's best judgment of excluded inputs. To compensate for any exclusions, all included materials were scaled by mass to ensure an accurate mass of modeled product. All substances with hazardous and toxic properties that can be of concern for human health and/or the environment have been identified, if present in the product, and declared according to normative requirements in standards or regulations applicable in the market for which the EPD is valid, even if the given process unit is under the cut-off criterion.
The list of excluded materials and energy inputs include:

- Some material inputs may have been excluded within the Sphera MLC datasets used for this project. All Sphera MLC datasets have been critically reviewed and conform to the exclusion requirement of the PCR.

- No VOC emissions were included. Florim does not measure or estimate VOC emissions and any related impact would likely fall below the cut-off criteria. As such, they were not included in this study.

Data Quality: Overall, the data quality for this LCA is considered good. The geographic coverage, time coverage, and technological coverage are all good. The precision, consistency, and reproducibility are all high and the model is considered complete.

Allocation: General principles of allocation were based on ISO 14040/44. There is currently no sub-metering at the manufacturing facility. To derive a per-unit value for manufacturing inputs and outputs such as electricity, water, and manufacturing waste, mass-based allocation was applied.
As a default, secondary MLC datasets use a physical basis for allocation.
Of relevance to the defined system boundary is the method in which recycled materials were handled. Throughout the study recycled materials were accounted for via the cut-off method.

Modules declared, geographical scope:

	Product stage			Construction process stage		Use stage							End of life stage				Resource recovery stage
	Raw material supply	Transport	Manufacturing	Transport	Construction installation	Use	Maintenance	Repair	Replacement	Refurbishment	Operational energy use	Operational water use	De-construction demolition	Transport	Waste processing	Disposal	Reuse-Recovery-Recycling-potential
Module	**A1**	**A2**	**A3**	**A4**	**A5**	**B1**	**B2**	**B3**	**B4**	**B5**	**B6**	**B7**	**C1**	**C2**	**C3**	**C4**	**D**
Modules declared	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	ND
Geography	US	US	US	US	US	US	US	US	US	US	US	US	US	US	US	US	US

Content information

All values are reported according to the functional unit of one square meter of flooring.
No substances included in the Candidate List of Substances of Very High Concern for authorization under REACH Regulations are present in Florim porcelain tiles, either above the threshold for registration with the European Chemicals Agency or above 0.1% (wt/wt).

Componet	Material	Mass %
Body	Additive	0-0.270%
	Clay	14.1 – 68.7%
	Engobe	2.40%
	Feldspar	0 – 50.4%
	Limestone	0 – 6.5%
	Quartz Sand	0 – 19.8%
	Recycled Glass	0 – 5.7%
	Recycled Tile	0 – 13.1%
	Talc	0 – 30.6%
	Turkish Feldspar	0 – 41%
Surface	Ink	0-4.78%
	Stain	0-1.50%
	Glaze	0-20.1%

Florim's porcelain tiles have fired and green tile waste (post-industrial) that is ground up and incorporated into the ball clay mixture.

Packaging Information

Florim USA porcelain tiles are packaged using corrugated cardboard and then transported to a distributor. The distributor then sells the tile to an installer. Packaging could be disposed of by either the distributor or the installer. For all cases in the LCA, packaging is assumed to be landfilled.

Packaging materials	6 mm Weight, kg	8mm Weight, kg	20 mm Weight, kg	Weight biogenic carbon, kg C/kg
Cardboard	0.152	0.223	0.457	0.55 kg C/kg
Plastic Film	0.0988	0.145	0.297	N/A
Plastic Strap	N/A	N/A	0.0503	N/A
TOTAL	0.251	0.368	0.804	N/A
Biogenic Carbon in Packaging (kg C/Functional Unit)	0.0837	0.123	0.251	N/A

Post-Factory Gate Scenario Development

A4 (Delivery to Installation Site) Scenario Per Functional Unit

The product is delivered to the customer via truck. Transportation distances were calculated as a weighted average shipping distance with data taken from sales records.

Distribution Details	6 mm	8 mm	20 mm
Vehicle Type	Diesel Truck	Diesel Truck	Diesel Truck
Fuel Efficiency [L/100km] (whole vehicle) (International EPD System, 2021)	42	42	42
Fuel Type	Diesel	Diesel	Diesel
Distance [km]	808	808	808
Capacity Utilization [%]	67	67	67
Weight of Products Transported [kg]	15.6	22.8	46.8

A5 (Construction) Scenario Per Functional Unit

Explicit installation instructions used to develop this EPD can be found at the following link. Packaging and installation waste disposal were modeled as per guidelines in section 2.8.5 of Part A: Life Cycle Assessment Calculation Rules and Report Requirements from UL Environment. Additional materials including grout, mortar, and acrylate solution are necessary for the installation of Florim tile products. Cement mortar acts as the adhesive that binds the tile to the ground. It has been calculated that 4.07 kg/m^2 of mortar is required to install 1 m^2 of tile. Cement grout acts as the filler for the spaces in between the tiles. It was determined that 0.212 kg of grout is required to fill the spaces around 1 m^2 of porcelain tiles. Along with cement and mortar, installation solution made up of acrylate and water is also used in the installation process. 4.5% of the total installation material is lost as waste which is then sent to the landfill. In this study, it was assumed that 4.5% of the actual tile product is wasted during installation due to cutting. It was assumed that all installation is done by non-powered hand tools.

Construction Phase End of Life Fates	6 mm Weight, kg	8 mm Weight, kg	20 mm Weight, kg
Packaging Waste to Landfill [kg]	0.114	0.168	0.380
Packaging Waste to Incineration [kg]	0.024	0.036	0.082
Packaging Waste to Recycling [kg]	0.112	0.165	0.342
TOTAL Packaging Waste [kg]	***0.251***	***0.368***	***0.804***
Grout waste from Installation [kg]	0.0095	0.0095	0.0095
Mortar waste from Installation [kg]	0.183	0.183	0.183
Acrylate solution waste from Installation [kg]	0.00194	0.00194	0.00194
Tile waste from installation [kg]	0.701	1.03	2.10
TOTAL Installation Waste to Landfill [kg]	***0.895***	***1.22***	***2.30***

C1-C4 (Product End of Life) Scenario Per Functional Unit

End of life for Florim porcelain tiles was modeled as 100% landfilling.

Distribution Details	6 mm Value	8 mm Value	20 mm Value
Collected as mixed construction waste [kg]	19.0	25.8	48.3
Waste to Landfill [kg]	19.0	25.8	48.3
Distance to Landfill [km]	160.9	160.9	160.9
Transport Type	Diesel Truck	Diesel Truck	Diesel Truck

Module D (Benefits and Loads Beyond the System Boundary) Scenario Per Functional Unit

Benefits and loads beyond the system boundary are accounted for in Module D; however, they are not declared in this EPD.

EPD

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Impact Category Details

Impact Category	Acronym	Unit
IPCC AR5 GWP Indicators		
Global warming potential (100 years, excludes biogenic CO_2)	GWPe	kg CO_2 eq.
Global warming potential (100 years, includes biogenic CO_2)	GWPi	kg CO_2 eq.
TRACI 2.1 Indicators		
Acidification potential of soil and water	AP	kg SO_2 eq.
Eutrophication potential	EP	kg N eq.
Ozone depletion of air	ODP	kg CFC-11 eq.
Use of fossil fuel resources	Resources	MJ, surplus energy
Smog formation potential	SFP	kg O_3 eq.
Biogenic Carbon Indicators		
Biogenic Carbon Removal from Product	BCRP	kg CO_2 eq.
Biogenic Carbon Emission from Product	BCEP	kg CO_2 eq.
Biogenic Carbon Removal from Packaging	BCRK	kg CO_2 eq.
Biogenic Carbon Emission from Packaging	BCEK	kg CO_2 eq.
Biogenic Carbon Emission from Combustion of Waste from Renewable Sources Used in Production Processes	BCEW	kg CO_2 eq.
Calcination Carbon Emissions	CCE	kg CO_2 eq.
Carbonation Carbon Removals	CCR	kg CO_2 eq.
Carbon Emissions from Combustion of Waste from Non- Renewable Sources used in Production Processes	CWNR	kg CO_2 eq.
Resource Use Indicators		
Use of renewable primary energy	RPR_E	MJ LHV
Use of renewable primary energy as materials	RPR_M	MJ LHV
Total use of renewable primary energy resources	RPR_T	MJ LHV
Use of non-renewable primary energy	$NRPR_E$	MJ LHV
Use of non-renewable primary energy as materials	$NRPR_M$	MJ LHV
Total use of non-renewable primary energy resources	$NRPR_T$	MJ LHV
Secondary materials	SM	kg
Renewable secondary fuels	RSF	MJ
Non-renewable secondary fuels	NRSF	MJ
Recovered energy	RE	MJ
Net use of fresh water	FW	m^3
Waste and Output Flow Indicators		
Hazardous waste disposed	HWD	kg
Non-hazardous waste disposed	NHWD	kg
Radioactive Waste deposited	RWD	kg
High-level radioactive waste	HLRW	kg
Intermediate- and low-level radioactive waste, conditioned, to final repository	ILLRW	kg
Components for reuse	CRU	kg
Materials for recycling	MFR	kg
Materials for energy recovery	MER	kg
Exported electrical energy	EEE	MJ
Exported thermal energy	EET	MJ

Results of the environmental performance indicators

Mandatory impact category indicators according to UL Product Category Rule (PCR) Guidance for Building-Related Products and Services. Part B: Flooring EPD Requirements

Thickness #1: 6 mm

Impact Category	A1-A3	A4	A5	B1	B2	B3	B4	B5	B6	B7	C1	C2	C3	C4	D
IPCC AR5 Impacts															
GWPe	1.13E+01	9.76E-01	2.86E+00	0.00E+00	3.07E-01	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	2.44E-01	0.00E+00	4.05E-01	ND
GWPi	1.10E+01	9.76E-01	2.84E+00	0.00E+00	3.32E-01	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	2.44E-01	0.00E+00	4.04E-01	ND
TRACI LCIA Impacts (North America)															
ODP	2.96E-09	2.50E-15	4.73E-10	0.00E+00	3.11E-14	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	6.25E-16	0.00E+00	1.93E-14	ND
AP	1.92E-02	1.44E-03	4.35E-03	0.00E+00	6.31E-04	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	6.75E-04	0.00E+00	2.08E-03	ND
EP	1.32E-03	2.02E-04	4.30E-04	0.00E+00	7.43E-04	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	7.06E-05	0.00E+00	9.14E-05	ND
ADP_{fossil}	1.48E+02	1.27E+01	2.04E+01	0.00E+00	4.49E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	3.17E+00	0.00E+00	6.17E+00	ND
SFP	2.76E-01	3.25E-02	7.11E-02	0.00E+00	9.23E-03	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.54E-02	0.00E+00	3.80E-02	ND
Carbon Emissions and Uptake															
BCRP	1.08E-02	0.00E+00	4.86E-04	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	ND
BCEP	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.13E-02	ND
BCRK	2.46E-01	0.00E+00	1.11E-02	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	ND
BCEK	0.00E+00	0.00E+00	2.46E-01	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	ND
BCEW	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	ND
CCE	0.00E+00	0.00E+00	5.92E-02	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	ND
CCR	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	ND
CWNR	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	ND
Resource Use Indicators															
RPR_e	8.73E+00	5.43E-01	3.19E+00	0.00E+00	8.53E-01	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.36E-01	0.00E+00	7.36E-01	ND
RPR_m	2.69E+00	0.00E+00	1.21E-01	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	ND
$NRPR_e$	1.45E+02	1.36E+01	2.03E+01	0.00E+00	4.49E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	3.41E+00	0.00E+00	6.29E+00	ND
$NRPR_m$	4.40E+00	0.00E+00	1.98E-01	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	ND
SM	1.68E+00	0.00E+00	7.56E-02	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	ND
RSF	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	ND
NRSF	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	ND
RE	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	ND
FW	3.79E-02	1.86E-03	7.40E-03	0.00E+00	3.76E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	4.65E-04	0.00E+00	7.79E-04	ND
Output Flows and Waste Categories															
HWD	1.81E-06	3.92E-11	8.19E-08	0.00E+00	1.69E-10	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	9.79E-12	0.00E+00	1.57E-10	ND
NHWD	8.71E-01	1.19E-03	1.27E+00	0.00E+00	1.07E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	2.96E-04	0.00E+00	1.88E+01	ND
HLRW	5.59E-06	4.64E-08	5.20E-07	0.00E+00	1.30E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.16E-08	0.00E+00	7.78E-08	ND
ILLRW	5.13E-03	3.91E-05	4.81E-04	0.00E+00	1.48E-04	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	9.75E-06	0.00E+00	6.95E-05	ND
CRU	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	ND
MR	0.00E+00	0.00E+00	2.58E-01	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	ND
MER	0.00E+00	0.00E+00	4.88E-02	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	ND
EEE	0.00E+00	0.00E+00	1.16E-01	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	ND
EET	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	ND

Thickness #2: 8mm thickness

Impact Category	A1-A3	A4	A5	B1	B2	B3	B4	B5	B6	B7	C1	C2	C3	C4	D
IPCC AR5 Impacts															
GWPe	1.70E+01	1.43E+00	3.18E+00	0.00E+00	3.07E-01	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	3.32E-01	0.00E+00	5.53E-01	ND
GWPi	1.66E+01	1.43E+00	3.16E+00	0.00E+00	3.32E-01	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	3.32E-01	0.00E+00	5.51E-01	ND
TRACI LCIA Impacts (North America)															
ODP	4.42E-09	3.67E-15	5.39E-10	0.00E+00	3.11E-14	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	8.52E-16	0.00E+00	2.63E-14	ND
AP	2.89E-02	2.12E-03	4.90E-03	0.00E+00	6.31E-04	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	9.21E-04	0.00E+00	2.84E-03	ND
EP	1.98E-03	2.97E-04	4.78E-04	0.00E+00	7.43E-04	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	9.64E-05	0.00E+00	1.25E-04	ND
ADP_{fossil}	2.25E+02	1.86E+01	2.42E+01	0.00E+00	4.49E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	4.33E+00	0.00E+00	8.42E+00	ND
SFP	4.14E-01	4.76E-02	7.91E-02	0.00E+00	9.23E-03	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	2.10E-02	0.00E+00	5.18E-02	ND
Carbon Emissions and Uptake															
BCRP	1.58E-02	0.00E+00	7.12E-04	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	ND
BCEP	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.65E-02	ND
BCRK	3.60E-01	0.00E+00	1.62E-02	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	ND
BCEK	0.00E+00	0.00E+00	3.60E-01	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	ND
BCEW	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	ND
CCE	0.00E+00	0.00E+00	5.92E-02	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	ND
CCR	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	ND
CWNR	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	ND
Resource Use Indicators															
RPR_e	1.29E+01	7.97E-01	3.38E+00	0.00E+00	8.53E-01	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.85E-01	0.00E+00	1.00E+00	ND
RPR_m	3.94E+00	0.00E+00	1.78E-01	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	ND
$NRPR_e$	2.20E+02	2.00E+01	2.40E+01	0.00E+00	4.49E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	4.64E+00	0.00E+00	8.57E+00	ND
$NRPR_m$	6.46E+00	0.00E+00	2.91E-01	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	ND
SM	2.46E+00	0.00E+00	1.11E-01	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	ND

RPR_m	8.12E+00	0.00E+00	3.65E-01	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	ND
$NRPR_e$	4.36E+02	4.10E+01	3.49E+01	0.00E+00	4.49E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	8.72E+00	0.00E+00	1.61E+01	ND
$NRPR_m$	1.54E+01	0.00E+00	6.92E-01	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	ND
SM	5.04E+00	0.00E+00	2.27E-01	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	ND
RSF	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	ND
NRSF	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	ND
RE	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	ND
FW	1.14E-01	5.60E-03	1.11E-02	0.00E+00	3.76E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.19E-03	0.00E+00	1.99E-03	ND
Output Flows and Waste Categories															
HWD	5.44E-06	1.18E-10	2.45E-07	0.00E+00	1.69E-10	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	2.51E-11	0.00E+00	4.01E-10	ND
NHWD	2.61E+00	3.56E-03	2.89E+00	0.00E+00	1.07E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	7.59E-04	0.00E+00	4.81E+01	ND
HLRW	1.69E-05	1.39E-07	9.70E-07	0.00E+00	1.30E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	2.97E-08	0.00E+00	1.99E-07	ND
ILLRW	1.55E-02	1.17E-04	8.99E-04	0.00E+00	1.48E-04	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	2.50E-05	0.00E+00	1.78E-04	ND
CRU	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	ND
MR	0.00E+00	0.00E+00	7.90E-01	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	ND
MER	0.00E+00	0.00E+00	1.64E-01	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	ND
EEE	0.00E+00	0.00E+00	3.94E-01	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	ND
EET	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	ND

Additional environmental information

Additional information regarding these products can be found on Florim's website at: https://www.milestonetiles.com/en/downloads/.

Additional Certifications include Greenguard Certifications, Declare labels, Red List Free labels, Health Product Declarations, ISO 14001 compliance, and recycled content certifications. Individual certifications are also available at https://www.milestonetiles.com/en/sustainability/.

Appendix: Formulation Variation Results

Tile formulations ordinarily cluster tightly and have little variance in life cycle impacts, however some outliers do vary by more than 10% between impacts. A grouping analysis was undertaken across all formulations to determine a set of formulations that vary by less than 10% for each indicator within each group. Together these 15 products encompass all variation across the 396 unique tile formulations. The tables below present results for each of these formulations for each possible thickness: 6mm, 8mm, and 20mm.

The results below for each thickness have been divided into two groups. The first group presents cradle to gate results for all formulations and thicknesses. The second group presents the remaining life cycle stage (A4-C4) results as these do not vary with formulation. Within A1-A3 tables, formulations are listed in the first column on the left.

Questions about Florim's products can be submitted to https://www.milestonetiles.com/en/contacts/.

LCIA Results for 6mm Formula Variants

A1-A3 LCIA Results for 6mm Products

Impact Category	AP	EP	GWPe	GWPi	ADP_{fossil}	ODP	SFP	BCRP	BCEP	BCRK	BCEK	BCEW	CCE	CCR	CWNR
1102429	2.29E-02	1.30E-03	1.13E+01	1.10E+01	1.54E+02	1.20E-09	2.83E-01	7.32E-03	0.00E+00	2.46E-01	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
1102497	2.50E-02	1.63E-03	1.24E+01	1.20E+01	1.58E+02	1.02E-09	2.89E-01	2.94E-02	0.00E+00	2.46E-01	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
1102507	3.18E-02	1.64E-03	1.29E+01	1.26E+01	1.71E+02	1.02E-09	3.61E-01	1.74E-02	0.00E+00	2.46E-01	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
1102585	2.30E-02	1.30E-03	1.13E+01	1.10E+01	1.55E+02	1.20E-09	2.83E-01	7.25E-03	0.00E+00	2.46E-01	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
1101081	2.89E-02	1.46E-03	1.24E+01	1.21E+01	1.67E+02	1.44E-08	3.39E-01	7.57E-03	0.00E+00	2.46E-01	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
1102102	1.99E-02	1.53E-03	1.10E+01	1.06E+01	1.62E+02	2.21E-09	3.03E-01	1.31E-02	0.00E+00	2.46E-01	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
1102104	2.05E-02	1.37E-03	1.08E+01	1.05E+01	1.48E+02	1.23E-09	2.55E-01	1.80E-02	0.00E+00	2.46E-01	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
1100719	2.82E-02	1.44E-03	1.22E+01	1.19E+01	1.64E+02	2.59E-09	3.29E-01	8.17E-03	0.00E+00	2.46E-01	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
1100722	1.95E-02	1.36E-03	1.11E+01	1.08E+01	1.49E+02	1.09E-09	2.75E-01	1.54E-02	0.00E+00	2.46E-01	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
1101916	2.54E-02	1.68E-03	1.19E+01	1.16E+01	1.72E+02	2.01E-09	3.51E-01	1.46E-02	0.00E+00	2.46E-01	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
1101919	2.57E-02	1.46E-03	1.18E+01	1.15E+01	1.60E+02	1.71E-09	3.08E-01	1.44E-02	0.00E+00	2.46E-01	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
1102114	2.93E-02	1.46E-03	1.24E+01	1.21E+01	1.66E+02	1.22E-09	3.38E-01	8.36E-03	0.00E+00	2.46E-01	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
1102301	2.07E-02	1.33E-03	1.08E+01	1.05E+01	1.49E+02	6.25E-09	2.58E-01	1.45E-02	0.00E+00	2.46E-01	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
1100365	2.20E-02	1.38E-03	1.15E+01	1.11E+01	1.53E+02	1.25E-08	2.79E-01	1.35E-02	0.00E+00	2.46E-01	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00

EPD

tilebar

A1-A3 Resource Use Results for 6mm Products

Impact Category	RPRe	RPRm	NRPRe	NRPRm	SM	RSF	NRSF	RE	FW
1102429	7.78E+00	2.69E+00	1.51E+02	4.40E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	3.71E-02
1102497	8.64E+00	2.69E+00	1.54E+02	4.40E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	5.32E-02
1102507	8.77E+00	2.69E+00	1.68E+02	4.40E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	4.85E-02
1102585	7.79E+00	2.69E+00	1.51E+02	4.40E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	3.71E-02
1101081	9.00E+00	2.69E+00	1.64E+02	4.40E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	4.10E-02
1102102	1.90E+01	2.69E+00	1.58E+02	4.40E+00	1.69E+00	0.00E+00	0.00E+00	0.00E+00	4.81E-02
1102104	7.12E+00	2.69E+00	1.45E+02	4.40E+00	1.80E+00	0.00E+00	0.00E+00	0.00E+00	4.28E-02
1100719	8.33E+00	2.69E+00	1.61E+02	4.40E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	4.03E-02
1100722	7.22E+00	2.69E+00	1.45E+02	4.40E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	4.04E-02
1101916	1.95E+01	2.69E+00	1.68E+02	4.40E+00	1.68E+00	0.00E+00	0.00E+00	0.00E+00	5.17E-02
1101919	8.20E+00	2.69E+00	1.57E+02	4.40E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	4.34E-02
1102114	8.36E+00	2.69E+00	1.63E+02	4.40E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	4.08E-02
1102301	7.32E+00	2.69E+00	1.46E+02	4.40E+00	1.81E+00	0.00E+00	0.00E+00	0.00E+00	4.08E-02
1100365	8.14E+00	2.69E+00	1.49E+02	4.40E+00	1.92E+00	0.00E+00	0.00E+00	0.00E+00	4.11E-02

A1-A3 Output Flows and Waste Results for 6mm Products

Impact Category	HWD	NHWD	HLRW	ILLRW	CRU	MR	MER	EEE	EET
1102429	1.90E-07	9.18E-01	5.99E-06	5.02E-03	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
1102497	2.89E-08	9.99E-01	5.83E-06	4.89E-03	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
1102507	2.99E-08	1.20E+00	6.12E-06	5.13E-03	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
1102585	1.90E-07	9.21E-01	6.00E-06	5.02E-03	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
1101081	1.23E-05	1.22E+00	6.08E-06	5.09E-03	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
1102102	1.12E-06	8.29E-01	7.44E-06	8.76E-03	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
1102104	2.21E-07	9.00E-01	5.57E-06	4.67E-03	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
1100719	1.47E-06	1.10E+00	6.05E-06	5.07E-03	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
1100722	8.70E-08	8.24E-01	5.74E-06	4.81E-03	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
1101916	9.38E-07	1.00E+00	7.48E-06	8.79E-03	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
1101919	6.66E-07	1.01E+00	6.05E-06	5.07E-03	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
1102114	2.08E-07	1.12E+00	6.06E-06	5.08E-03	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
1102301	4.85E-06	9.50E-01	5.57E-06	4.67E-03	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
1100365	1.06E-05	1.02E+00	5.71E-06	4.79E-03	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00

EPD

tilebar

A4-C4 LCIA Results for 6mm Products

Impact Category	A4	A5	B1	B2	B3	B4	B5	B6	B7	C1	C2	C3	C4	D
GWPe	9.76E-01	2.86E+00	0.00E+00	3.07E-01	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	2.44E-01	0.00E+00	4.05E-01	ND
GWPi	9.76E-01	2.84E+00	0.00E+00	3.32E-01	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	2.44E-01	0.00E+00	4.04E-01	ND
AP	1.44E-03	4.35E-03	0.00E+00	6.31E-04	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	6.75E-04	0.00E+00	2.08E-03	ND
EP	2.02E-04	4.30E-04	0.00E+00	7.43E-04	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	7.06E-05	0.00E+00	9.14E-05	ND
ADP_{fossil}	1.27E+01	2.04E+01	0.00E+00	4.49E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	3.17E+00	0.00E+00	6.17E+00	ND
SFP	3.25E-02	7.11E-02	0.00E+00	9.23E-03	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.54E-02	0.00E+00	3.80E-02	ND
ODP	2.50E-15	4.73E-10	0.00E+00	3.11E-14	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	6.25E-16	0.00E+00	1.93E-14	ND
BCRP	0.00E+00	4.86E-04	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	ND
BCEP	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.13E-02	ND
BCRK	0.00E+00	1.11E-02	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	ND
BCEK	0.00E+00	2.46E-01	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	ND
BCEW	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	ND
CCE	0.00E+00	5.92E-02	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	ND
CCR	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	ND
CWNR	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	ND
RPR_e	5.43E-01	3.19E+00	0.00E+00	8.53E-01	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.36E-01	0.00E+00	7.36E-01	ND
RPR_m	0.00E+00	1.21E-01	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	ND
$NRPR_e$	1.36E+01	2.03E+01	0.00E+00	4.49E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	3.41E+00	0.00E+00	6.29E+00	ND
$NRPR_m$	0.00E+00	1.98E-01	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	ND
SM	0.00E+00	7.56E-02	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	ND
RSF	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	ND
NRSF	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	ND
RE	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	ND
FW	1.86E-03	7.40E-03	0.00E+00	3.76E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	4.65E-04	0.00E+00	7.79E-04	ND
HWD	3.92E-11	8.19E-08	0.00E+00	1.69E-10	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	9.79E-12	0.00E+00	1.57E-10	ND
NHWD	1.19E-03	1.27E+00	0.00E+00	1.07E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	2.96E-04	0.00E+00	1.88E+01	ND
HLRW	4.64E-08	5.20E-07	0.00E+00	1.30E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.16E-08	0.00E+00	7.78E-08	ND
ILLRW	3.91E-05	4.81E-04	0.00E+00	1.48E-04	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	9.75E-06	0.00E+00	6.95E-05	ND
CRU	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	ND
MR	0.00E+00	2.58E-01	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	ND
MER	0.00E+00	4.88E-02	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	ND
EEE	0.00E+00	1.16E-01	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	ND
EET	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	ND

LCIA Results for 8mm Formula Variants

A1-A3 LCIA Results for 8mm Products

Impact Category	AP	EP	GWPe	GWPi	ADP_{fossil}	ODP	SFP	BCRP	BCEP	BCRK	BCEK	BCEW	CCE	CCR	CWNR
1102429	3.37E-02	1.90E-03	1.66E+01	1.62E+01	2.26E+02	1.76E-09	4.14E-01	1.07E-02	0.00E+00	3.60E-01	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
1102497	3.66E-02	2.39E-03	1.81E+01	1.77E+01	2.32E+02	1.50E-09	4.23E-01	4.31E-02	0.00E+00	3.60E-01	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
1102507	4.66E-02	2.41E-03	1.89E+01	1.84E+01	2.51E+02	1.50E-09	5.29E-01	2.56E-02	0.00E+00	3.60E-01	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
1102585	3.37E-02	1.91E-03	1.66E+01	1.62E+01	2.27E+02	1.76E-09	4.16E-01	1.06E-02	0.00E+00	3.60E-01	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
1101081	4.24E-02	2.15E-03	1.82E+01	1.77E+01	2.45E+02	2.11E-08	4.98E-01	1.11E-02	0.00E+00	3.60E-01	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
1102102	2.92E-02	2.25E-03	1.61E+01	1.56E+01	2.37E+02	3.24E-09	4.45E-01	1.91E-02	0.00E+00	3.60E-01	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
1102104	3.01E-02	2.00E-03	1.58E+01	1.53E+01	2.18E+02	1.81E-09	3.74E-01	2.64E-02	0.00E+00	3.60E-01	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
1100719	4.14E-02	2.10E-03	1.79E+01	1.75E+01	2.41E+02	3.80E-09	4.83E-01	1.20E-02	0.00E+00	3.60E-01	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
1100722	2.86E-02	1.99E-03	1.62E+01	1.58E+01	2.18E+02	1.59E-09	4.04E-01	2.26E-02	0.00E+00	3.60E-01	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
1101916	3.72E-02	2.47E-03	1.74E+01	1.70E+01	2.52E+02	2.95E-09	5.15E-01	2.14E-02	0.00E+00	3.60E-01	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
1101919	3.77E-02	2.14E-03	1.74E+01	1.69E+01	2.35E+02	2.51E-09	4.52E-01	2.11E-02	0.00E+00	3.60E-01	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
1102114	4.30E-02	2.14E-03	1.82E+01	1.77E+01	2.43E+02	1.78E-09	4.96E-01	1.23E-02	0.00E+00	3.60E-01	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
1102301	3.04E-02	1.96E-03	1.59E+01	1.54E+01	2.19E+02	9.17E-09	3.79E-01	2.13E-02	0.00E+00	3.60E-01	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
1100365	3.23E-02	2.02E-03	1.69E+01	1.64E+01	2.24E+02	1.83E-08	4.10E-01	1.99E-02	0.00E+00	3.60E-01	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00

EPD

tilebar

A1-A3 Resource Use Results for 8mm Products

Impact Category	RPRe	RPRm	NRPRe	NRPRm	SM	RSF	NRSF	RE	FW
1102429	1.14E+01	3.94E+00	2.21E+02	6.46E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	5.44E-02
1102497	1.27E+01	3.94E+00	2.26E+02	6.46E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	7.81E-02
1102507	1.29E+01	3.94E+00	2.47E+02	6.46E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	7.11E-02
1102585	1.14E+01	3.94E+00	2.22E+02	6.46E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	5.44E-02
1101081	1.32E+01	3.94E+00	2.40E+02	6.46E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	6.01E-02
1102102	2.79E+01	3.94E+00	2.32E+02	6.46E+00	2.48E+00	0.00E+00	0.00E+00	0.00E+00	7.06E-02
1102104	1.04E+01	3.94E+00	2.12E+02	6.46E+00	2.64E+00	0.00E+00	0.00E+00	0.00E+00	6.28E-02
1100719	1.22E+01	3.94E+00	2.36E+02	6.46E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	5.91E-02
1100722	1.06E+01	3.94E+00	2.13E+02	6.46E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	5.92E-02
1101916	2.86E+01	3.94E+00	2.47E+02	6.46E+00	2.47E+00	0.00E+00	0.00E+00	0.00E+00	7.58E-02
1101919	1.20E+01	3.94E+00	2.30E+02	6.46E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	6.37E-02
1102114	1.23E+01	3.94E+00	2.38E+02	6.46E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	5.98E-02
1102301	1.07E+01	3.94E+00	2.14E+02	6.46E+00	2.65E+00	0.00E+00	0.00E+00	0.00E+00	5.98E-02
1100365	1.19E+01	3.94E+00	2.19E+02	6.46E+00	2.81E+00	0.00E+00	0.00E+00	0.00E+00	6.03E-02

A1-A3 Output Flows and Waste Results for 8mm Products

Impact Category	HWD	NHWD	HLRW	ILLRW	CRU	MR	MER	EEE	EET
1102429	2.79E-07	1.35E+00	8.79E-06	7.36E-03	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
1102497	4.24E-08	1.46E+00	8.54E-06	7.17E-03	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
1102507	4.38E-08	1.76E+00	8.97E-06	7.52E-03	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
1102585	2.79E-07	1.35E+00	8.80E-06	7.37E-03	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
1101081	1.81E-05	1.79E+00	8.91E-06	7.47E-03	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
1102102	1.65E-06	1.22E+00	1.09E-05	1.28E-02	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
1102104	3.25E-07	1.32E+00	8.17E-06	6.85E-03	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
1100719	2.16E-06	1.61E+00	8.87E-06	7.44E-03	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
1100722	1.28E-07	1.21E+00	8.42E-06	7.05E-03	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
1101916	1.38E-06	1.47E+00	1.10E-05	1.29E-02	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
1101919	9.76E-07	1.48E+00	8.87E-06	7.44E-03	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
1102114	3.05E-07	1.64E+00	8.88E-06	7.45E-03	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
1102301	7.11E-06	1.39E+00	8.17E-06	6.84E-03	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
1100365	1.55E-05	1.49E+00	8.38E-06	7.02E-03	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00

EPD

tilebar

A4-C4 LCIA Results for 8mm Products

Impact Category	A4	A5	B1	B2	B3	B4	B5	B6	B7	C1	C2	C3	C4	D
GWPe	1.43E+00	3.18E+00	0.00E+00	3.07E-01	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	3.32E-01	0.00E+00	5.53E-01	ND
GWPi	1.43E+00	3.16E+00	0.00E+00	3.32E-01	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	3.32E-01	0.00E+00	5.51E-01	ND
AP	2.12E-03	4.90E-03	0.00E+00	6.31E-04	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	9.21E-04	0.00E+00	2.84E-03	ND
EP	2.97E-04	4.78E-04	0.00E+00	7.43E-04	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	9.64E-05	0.00E+00	1.25E-04	ND
ADP_{fossil}	1.86E+01	2.42E+01	0.00E+00	4.49E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	4.33E+00	0.00E+00	8.42E+00	ND
SFP	4.76E-02	7.91E-02	0.00E+00	9.23E-03	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	2.10E-02	0.00E+00	5.18E-02	ND
ODP	3.67E-15	5.39E-10	0.00E+00	3.11E-14	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	8.52E-16	0.00E+00	2.63E-14	ND
BCRP	0.00E+00	7.12E-04	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	ND
BCEP	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.65E-02	ND
BCRK	0.00E+00	1.62E-02	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	ND
BCEK	0.00E+00	3.60E-01	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	ND
BCEW	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	ND
CCE	0.00E+00	5.92E-02	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	ND
CCR	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	ND
CWNR	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	ND
RPR_e	7.97E-01	3.38E+00	0.00E+00	8.53E-01	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.85E-01	0.00E+00	1.00E+00	ND
RPR_m	0.00E+00	1.78E-01	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	ND
$NRPR_e$	2.00E+01	2.40E+01	0.00E+00	4.49E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	4.64E+00	0.00E+00	8.57E+00	ND
$NRPR_m$	0.00E+00	2.91E-01	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	ND
SM	0.00E+00	1.11E-01	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	ND
RSF	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	ND
NRSF	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	ND
RE	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	ND
FW	2.73E-03	8.33E-03	0.00E+00	3.76E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	6.34E-04	0.00E+00	1.06E-03	ND
HWD	5.75E-11	1.20E-07	0.00E+00	1.69E-10	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.34E-11	0.00E+00	2.14E-10	ND
NHWD	1.74E-03	1.64E+00	0.00E+00	1.07E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	4.04E-04	0.00E+00	2.57E+01	ND
HLRW	6.80E-08	6.40E-07	0.00E+00	1.30E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.58E-08	0.00E+00	1.06E-07	ND
ILLRW	5.73E-05	5.91E-04	0.00E+00	1.48E-04	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.33E-05	0.00E+00	9.49E-05	ND
CRU	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	ND
MR	0.00E+00	3.79E-01	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	ND
MER	0.00E+00	7.16E-02	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	ND
EEE	0.00E+00	1.70E-01	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	ND
EET	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	ND

LCIA Results for 20mm Formula Variants

A1-A3 LCIA Results for 20mm Products

Impact Categor	AP	EP	GWPe	GWPi	ADP_{fossil}	ODP	SFP	BCRP	BCEP	BCRK	BCEK	BCEW	CCE	CCR	CWNR
1102429	6.88E-02	3.90E-03	3.40E+01	3.30E+01	4.63E+02	3.59E-09	8.48E-01	2.20E-02	0.00E+00	7.37E-01	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
1102497	7.49E-02	4.88E-03	3.71E+01	3.61E+01	4.75E+02	3.07E-09	8.66E-01	8.81E-02	0.00E+00	7.37E-01	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
1102507	9.53E-02	4.93E-03	3.86E+01	3.77E+01	5.14E+02	3.07E-09	1.08E+00	5.23E-02	0.00E+00	7.37E-01	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
1102585	6.90E-02	3.90E-03	3.40E+01	3.31E+01	4.64E+02	3.59E-09	8.50E-01	2.18E-02	0.00E+00	7.37E-01	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
1101081	8.66E-02	4.39E-03	3.72E+01	3.62E+01	5.02E+02	4.31E-08	1.02E+00	2.27E-02	0.00E+00	7.37E-01	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
1102102	5.97E-02	4.60E-03	3.29E+01	3.19E+01	4.86E+02	6.63E-09	9.09E-01	3.92E-02	0.00E+00	7.37E-01	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
1102104	6.16E-02	4.10E-03	3.23E+01	3.14E+01	4.45E+02	3.70E-09	7.65E-01	5.41E-02	0.00E+00	7.37E-01	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
1100719	8.47E-02	4.30E-03	3.67E+01	3.57E+01	4.92E+02	7.77E-09	9.88E-01	2.45E-02	0.00E+00	7.37E-01	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
1100722	5.85E-02	4.07E-03	3.32E+01	3.23E+01	4.46E+02	3.26E-09	8.26E-01	4.61E-02	0.00E+00	7.37E-01	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
1101916	7.61E-02	5.04E-03	3.57E+01	3.47E+01	5.15E+02	6.03E-09	1.05E+00	4.38E-02	0.00E+00	7.37E-01	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
1101919	7.71E-02	4.39E-03	3.55E+01	3.46E+01	4.81E+02	5.14E-09	9.24E-01	4.32E-02	0.00E+00	7.37E-01	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
1102114	8.80E-02	4.38E-03	3.72E+01	3.63E+01	4.98E+02	3.65E-09	1.02E+00	2.51E-02	0.00E+00	7.37E-01	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
1102301	6.22E-02	4.00E-03	3.25E+01	3.15E+01	4.47E+02	1.88E-08	7.75E-01	4.36E-02	0.00E+00	7.37E-01	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
1100365	6.60E-02	4.14E-03	3.45E+01	3.34E+01	4.58E+02	3.74E-08	8.38E-01	4.06E-02	0.00E+00	7.37E-01	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00

EPD

tilebar

A1-A3 Resource Use Results for 20mm Products

Impact Category	RPRe	RPRm	NRPRe	NRPRm	SM	RSF	NRSF	RE	FW
1102429	2.33E+01	8.12E+00	4.51E+02	1.54E+01	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.11E-01
1102497	2.59E+01	8.12E+00	4.61E+02	1.54E+01	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.60E-01
1102507	2.62E+01	8.12E+00	5.02E+02	1.54E+01	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.45E-01
1102585	2.33E+01	8.12E+00	4.52E+02	1.54E+01	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.11E-01
1101081	2.69E+01	8.12E+00	4.90E+02	1.54E+01	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.23E-01
1102102	5.70E+01	8.12E+00	4.73E+02	1.54E+01	5.07E+00	0.00E+00	0.00E+00	0.00E+00	1.44E-01
1102104	2.13E+01	8.12E+00	4.32E+02	1.54E+01	5.40E+00	0.00E+00	0.00E+00	0.00E+00	1.29E-01
1100719	2.49E+01	8.12E+00	4.80E+02	1.54E+01	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.21E-01
1100722	2.16E+01	8.12E+00	4.34E+02	1.54E+01	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.21E-01
1101916	5.84E+01	8.12E+00	5.03E+02	1.54E+01	5.05E+00	0.00E+00	0.00E+00	0.00E+00	1.55E-01
1101919	2.46E+01	8.12E+00	4.69E+02	1.54E+01	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.30E-01
1102114	2.50E+01	8.12E+00	4.86E+02	1.54E+01	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.22E-01
1102301	2.19E+01	8.12E+00	4.35E+02	1.54E+01	5.42E+00	0.00E+00	0.00E+00	0.00E+00	1.22E-01
1100365	2.44E+01	8.12E+00	4.46E+02	1.54E+01	5.75E+00	0.00E+00	0.00E+00	0.00E+00	1.23E-01

A1-A3 Output Flows and Waste Results for 20mm Products

Impact Category	HWD	NHWD	HLRW	ILLRW	CRU	MR	MER	EEE	EET
1102429	5.71E-07	2.75E+00	1.80E-05	1.51E-02	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
1102497	8.67E-08	3.00E+00	1.75E-05	1.47E-02	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
1102507	8.97E-08	3.60E+00	1.83E-05	1.54E-02	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
1102585	5.71E-07	2.76E+00	1.80E-05	1.51E-02	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
1101081	3.69E-05	3.67E+00	1.82E-05	1.53E-02	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
1102102	3.37E-06	2.49E+00	2.23E-05	2.63E-02	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
1102104	6.64E-07	2.70E+00	1.67E-05	1.40E-02	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
1100719	4.42E-06	3.30E+00	1.81E-05	1.52E-02	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
1100722	2.61E-07	2.47E+00	1.72E-05	1.44E-02	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
1101916	2.81E-06	3.00E+00	2.25E-05	2.64E-02	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
1101919	2.00E-06	3.02E+00	1.82E-05	1.52E-02	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
1102114	6.24E-07	3.36E+00	1.82E-05	1.52E-02	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
1102301	1.45E-05	2.85E+00	1.67E-05	1.40E-02	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
1100365	3.17E-05	3.05E+00	1.71E-05	1.44E-02	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00

EPD

tilebar

A4-C4 LCIA Results for 20mm Products

Impact Category	A4	A5	B1	B2	B3	B4	B5	B6	B7	C1	C2	C3	C4	D
GWPe	2.93E+00	4.13E+00	0.00E+00	3.07E-01	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	6.23E-01	0.00E+00	1.04E+00	ND
GWPi	2.93E+00	4.12E+00	0.00E+00	3.32E-01	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	6.24E-01	0.00E+00	1.03E+00	ND
AP	4.34E-03	6.58E-03	0.00E+00	6.31E-04	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.73E-03	0.00E+00	5.33E-03	ND
EP	6.07E-04	6.33E-04	0.00E+00	7.43E-04	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.81E-04	0.00E+00	2.34E-04	ND
ADP_{fossil}	3.82E+01	3.52E+01	0.00E+00	4.49E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	8.12E+00	0.00E+00	1.58E+01	ND
SFP	9.75E-02	1.04E-01	0.00E+00	9.23E-03	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	3.95E-02	0.00E+00	9.73E-02	ND
ODP	7.51E-15	7.40E-10	0.00E+00	3.11E-14	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.60E-15	0.00E+00	4.94E-14	ND
BCRP	0.00E+00	1.46E-03	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	ND
BCEP	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	3.38E-02	ND
BCRK	0.00E+00	3.32E-02	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	ND
BCEK	0.00E+00	7.37E-01	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	ND
BCEW	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	ND
CCE	0.00E+00	5.92E-02	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	ND
CCR	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	ND
CWNR	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	ND
RPR_e	1.63E+00	3.97E+00	0.00E+00	8.53E-01	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	3.47E-01	0.00E+00	1.88E+00	ND
RPR_m	0.00E+00	3.65E-01	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	ND
$NRPR_e$	4.10E+01	3.49E+01	0.00E+00	4.49E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	8.72E+00	0.00E+00	1.61E+01	ND
$NRPR_m$	0.00E+00	6.92E-01	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	ND
SM	0.00E+00	2.27E-01	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	ND
RSF	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	ND
NRSF	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	ND
RE	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	ND
FW	5.60E-03	1.11E-02	0.00E+00	3.76E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.19E-03	0.00E+00	1.99E-03	ND
HWD	1.18E-10	2.45E-07	0.00E+00	1.69E-10	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	2.51E-11	0.00E+00	4.01E-10	ND
NHWD	3.56E-03	2.89E+00	0.00E+00	1.07E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	7.59E-04	0.00E+00	4.81E+01	ND
HLRW	1.39E-07	9.70E-07	0.00E+00	1.30E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	2.97E-08	0.00E+00	1.99E-07	ND
ILLRW	1.17E-04	8.99E-04	0.00E+00	1.48E-04	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	2.50E-05	0.00E+00	1.78E-04	ND
CRU	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	ND
MR	0.00E+00	7.90E-01	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	ND
MER	0.00E+00	1.64E-01	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	ND
EEE	0.00E+00	3.94E-01	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	ND
EET	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	ND

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