TERRAZZO & MARBLE
SUPPLY COMPANIES

Environmental Product Declaration

Terroxy STD Thin-set Terrazzo Flooring System

NSF

Certified
Environmental
Product Declaration
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Program Operator	NSF International 789 N. Dixboro, Ann Arbor, MI 48105 www.nsf.org
PCR identification	*PCR for Resinous Floor Coatings NSF International* *National Center for Sustainability Standards Valid through December 17, 2023 – Extended through December 31, 2025*
Manufacturer Name and Manufacturing Address	Terrazzo & Marble Supply Companies 3555 W123rd Street Alsip, IL 60803
Product Description	Terroxy STD Thin-set Terrazzo Flooring System is a set of resinous floor coatings. Under the reference PCR, Terroxy Thin-set Epoxy Terrazzo Flooring System falls under the following classification: *"Mortar, Monolithic Mortars, and Terrazzo: A composite material consisting of marble, silica sand, granite, glass or other suitable aggregate in a binder matrix of Portland cement mortar, epoxy resin, polyester resin, or vinyl ester resin. Typically installed to build thickness greater than 180 mils."*
Product Category	Resinous Matrix Terrazzo Flooring
Declaration Number	EPD11036
Declared Product and Functional Unit	Terroxy STD Thin-set Terrazzo Flooring System 1 m^2 of covered and protected flooring surface for a period of 60 years
Product's intended Application and Use	Commercial Flooring
Market Lifetimes Used in Assessment	20 Years for Industrial Application and 30 Years for Commercial Application
Technical Lifetimes Used in Assessment	30 Years for Industrial Application and 60 Years for Commercial Application
Markets of Applicability	North America
Information on where explanatory material can be obtained	https://www.tmsupply.com/technical-information/
Date of Issue	June 12th, 2025
Period of Validity	5 years from date of issue
EPD Type	Product Specific
EPD Scope	Cradle to Grave
Year of reported manufacturer primary data	2023
LCA Software and Version Number	Sphera LCA for Experts (fka Gabi) 10.9
LCI Database and Version Number	Sphera Managed LCA Content (fka Gabi) 2024.2
Overall Data Quality Score	Good
LCIA Methodology and Version Number	IPCC AR5, TRACI 2.1, CML 2001-Aug 2016
This declaration was independently verified in accordance with ISO 14025: 2006. The NSF PCR for Resinous Floor Coatings and ISO 21930:2017 serve as the core PCR. ☐ Internal ☒ External	Jack Heilig
This life cycle assessment was conducted in accordance with ISO 14044 and the reference PCR by:	WAP Sustainability
This life cycle assessment was independently verified in accordance with ISO 14044 and the reference PCR by:	Jack Heilig

Limitations:

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

EPDs are comparable only if they comply with ISO 21930:2017, use the same sub-category PCR where applicable, include all relevant information modules and are based on equivalent scenarios with respect to the context of construction works.

Company Profile

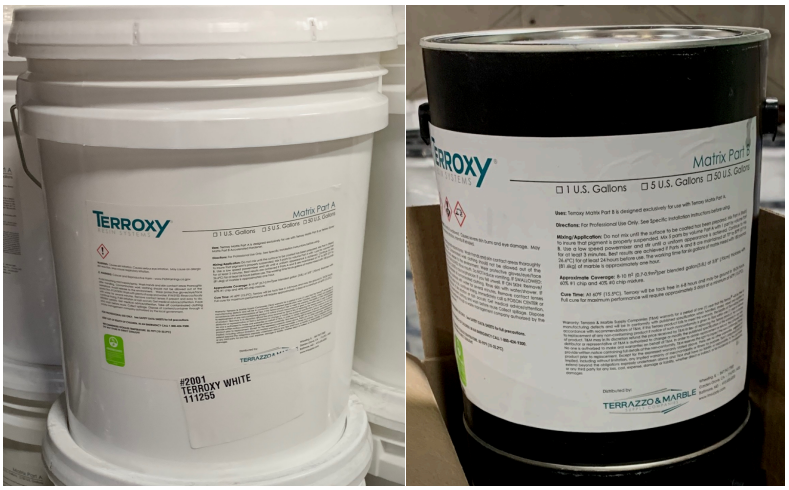
Terrazzo & Marble Supply Companies began over 75 years ago with a simple notion, to provide customers with the highest quality products and unmatched customer service. It manufactures and supplies a portfolio of products including terrazzo flooring, resinous flooring, natural stones, tiles, quartz, porcelain, and wall finishes. As a 100% employee owned company, our commitment to quality products and service will continue to be a focus as a growing, innovative and trustworthy company.

Product Definition and Characteristics

Terroxy STD Thin-set Terrazzo Flooring System is a set of resinous floor coatings manufactured by T&M in its manufacturing plant in Alsip, IL. The coatings offer outstanding durability, chemical resistance, and bacteria/ fungal growth resistance. Under the reference PCR, Terroxy Thin-set Epoxy Terrazzo Flooring System falls under the following classification:

"Mortar, Monolithic Mortars, and Terrazzo: A composite material consisting of marble, silica sand, granite, glass or other suitable aggregate in a binder matrix of Portland cement mortar, epoxy resin, polyester resin, or vinyl ester resins."

Material	Mass %
Aggregate	60-70%
Epoxy Resin	10-15%
Calcium Carbonate	5-10%
Amine	5-6%
Glycidyl Ether	1-2%
Methyl Ester	1-2%
Phenols	0-1%
Additives	0-1%
Colorant	0-1%



Terrazzo can be applied on various substrates including concrete, wood, and metal. It can be applied over existing tile, stone, or terrazzo flooring. Terrazzo is a popular flooring for schools, hospitals, stadiums (indoor), and airports. Terrazzo can support scissor lifts and side by side (golf cart) traffic and has been used in car showrooms. It is recommended that the terrazzo is installed indoors in air-conditioned rooms (60-90 deg F).

The flooring configuration in this assessment consists of five resinous layers and two aggregate layers. Among the five layers, the primer layer and the matrix layer are necessary while the moisture vapor treatment layer, fill layer and the iso-crack membrane layer are optional but recommended. The moisture vapor treatment layer is necessary if the concrete slab does not meet the humidity requirement. The fill layer is necessary if the flooring surface is uneven prior to the application of the terrazzo flooring.The LCA results are representative of the specific product and layer composition described in the EPD.

There are no materials in the product that have hazardous or toxic properties and pose a concern to human health and/or the environment. There are no dangerous substances present in the product according to the Resource Conservation and Recovery Act.

Functional Unit

The functional unit for the study (per the PCR) is 1 m^2 of covered and protected floor surface over a building lifetime of 60 years. Table 1 shows additional details related to the functional unit.

Table 1: Functional Unit Details (total system; fill at ½ inch; fill liquid and aggregate itemized)

Component	Mass per Area
Terroxy Thin-Set Epoxy Terrazzo Flooring	7.51 kg/m^2
Fill	4.61 kg/m^2
Matrix Aggregate	14.78 kg/m^2
Fill Aggregates	25.95 kg/m^2
Total (reference flow)	52.85 kg/m^2

* 4 layers: Iso-Crack Epoxy Membrane, Epoxy Matrix, Terroxy Primer, and Moisture Vapor Treatment

Reference Service Life

According to the reference PCR, there are three service life scenarios assigned to the product system according to the coating type and the product designed application. Table 2 provides the scenario details and the replacement needed after initial installation within a period of 60 years. The service life scenarios are based on the specific in-use conditions defined in this EPD.

Table 2: Reference service life scenarios

Coating Type	Application Type	Estimated Market Service Life/Replacements Needed	Estimated Technical Service Life/Replacements Needed
Mortar/Monolithic Mortar/Terrazzo Floor Coating	Commercial	30 Years/1 Replacement	60 Years/0 Replacement
	Industrial	20 Years/2 Replacements	30 Years/1 Replacement

System Boundary

This LCA is a Cradle-to-Grave study. An overview of the system boundary is shown in Figure 1 and a summary of the life cycle stages included in this LCA is presented in Table 3.

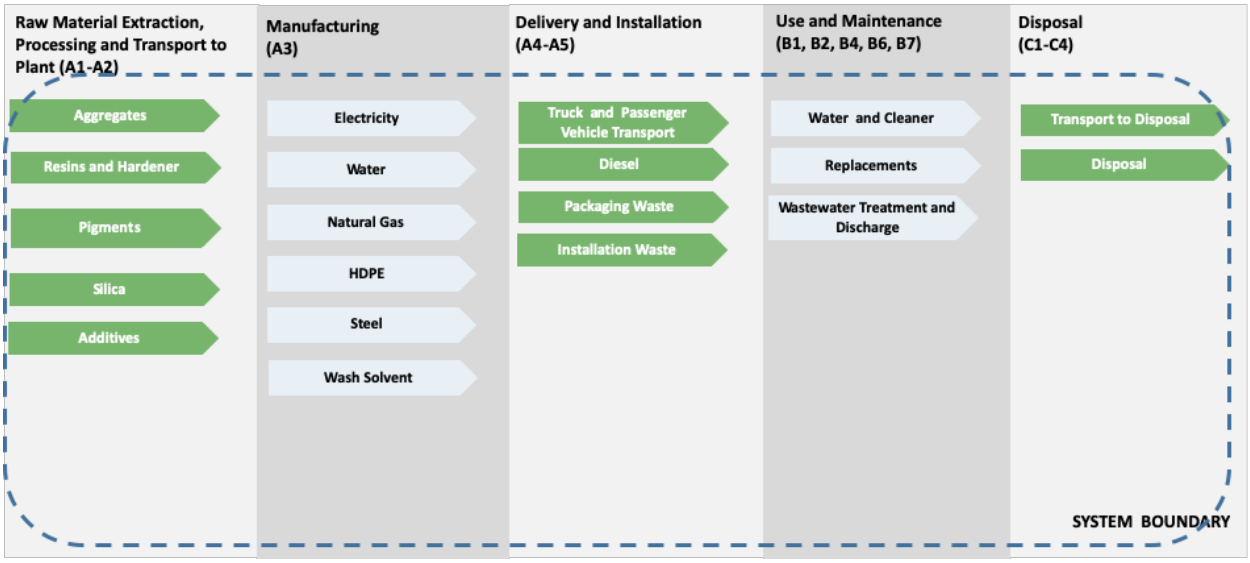


Figure 1: System Boundary Diagram

Table 3: Life Cycle Stages Included in the Study

Production			Construction		Use							End of Life				Benefits & Loads Beyond System Boundary
A1	A2	A3	A4	A5	B1	B2	B3	B4	B5	B6	B7	C1	C2	C3	C4	D
Raw Material Supply	Transport	Manufacturing	Transport to Site	Assembly/Install	Use	Maintenance	Repair	Replacement	Refurbishment	Operational Energy Use	Operational Water Use	Deconstruction	Transport	Waste Processing	Disposal	Reuse, Recovery, Recycling Potential
X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	ND

X = Module Included in LCA, ND = Module not Declared

Technical information and Scenarios

Table 4: Transport to Building Site (A4)

Parameter	Unit	Value
Vehicle Type	-	Heavy Heavy-duty Diesel Truck / 53,333 lb payload - 8b
Fuel Efficiency	L/100km	42
Fuel Type	-	Diesel
Distance	km	1,206
Capacity Utilization	%	67%
Weight of Products Transported*	kg	51.9

* Includes matrix and fill aggregate

Table 5: Installation Scenario Details (A5)

Parameter	Unit	Value
Electricity Use	kWh	0.25
Product wastage	%	2
Waste materials at the construction site before waste processing, generated by product installation	kg	1.02
HDPE Packaging Waste to Landfill	kg	0.587
Steel Packaging Waste to Landfill	kg	0.179
Biogenic carbon content of HDPE packaging	kg CO_2	0
Biogenic carbon content of steel packaging	kg CO_2	0

* Installation instructions can be found here.

Table 6: Use Phase (B1)

Parameter	Unit	Value*
VOC emissions	mg/m^3	<0.22 per GreenGuard threshold

Table 7: Maintenance Scenario Details (B2)

Parameter	Unit	Value
Maintenance Process	-	Cleaning, manual
Maintenance Cycle	#/ESL	220
Ancillary materials for maintenance: floor cleaner, alcohol ethoxylate	kg	26
Waste material resulting from maintenance: wastewater	kg	857
Net fresh water consumption during maintenance	m^3	0.831
VOC emissions	mg/m^3	<0.22 per GreenGuard threshold

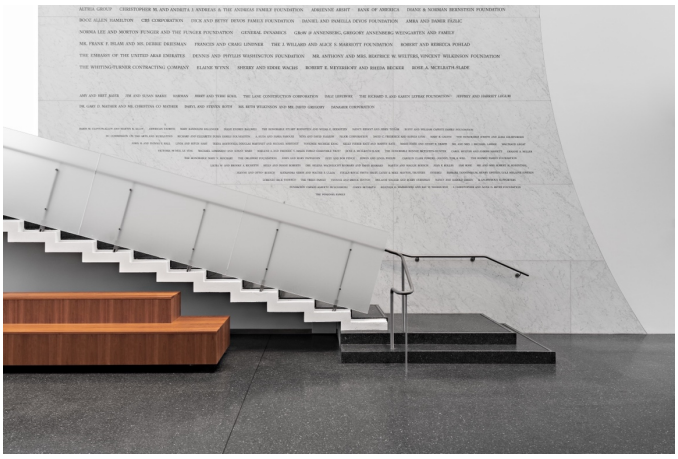
* Value for full 60-year maintenance

Table 8: Replacement Scenario Details (B4)

Parameter	Unit	Value
Replacement cycle	#/ESL	20-year RSL: 2 30-year RSL: 1 60-year RSL: 0
Energy input during replacement (electricity for grinding)	kWh	0.25

Table 9: End-of-Life Scenario Details (C1-C4)

Parameter	Unit	Value
Collected as mixed construction waste	kg	51.1
Waste to Landfill	kg	51.1
Distance to Landfill	km	11



Data Quality Assessment

Geographical Coverage

The geographical scope of the manufacturing portion of the life cycle is Alsip, IL. All primary data were collected from the manufacturer. The geographic coverage of primary data is considered very good.

The geographical scope of the raw material acquisition is the United States. Customer distribution, site installation, and use portions of the life cycle is within the United States.

In selecting secondary data (i.e., MLC datasets), priority was given to the accuracy and representativeness of the data. When available and deemed of significant quality, country-specific data was used. However, priority was given to technological relevance and accuracy in selecting secondary data. This often led to the substitution of regional and/or global data for country-specific data. Overall geographic data quality is considered good.

Time Coverage

Primary data were provided by the manufacturer and represent all information for calendar year 2023. Using this data meets the PCR requirements. Time coverage of this primary data is considered very good.

Data necessary to model cradle-to-gate unit processes were sourced from Sphera's MLC LCI datasets. Time coverage of the datasets varies from approximately 2003 to present. All datasets rely on at least one 1-year average data. Overall time coverage of the datasets is considered good and meets the requirement of the PCR that all data be updated within a 10-year period.

Technological Coverage

Primary data provided by the manufacturer is specific to the technology the company uses in manufacturing their product. It is site-specific and considered of very good quality. It is worth noting that the energy and water used in manufacturing the product includes overhead energy such as lighting and heating. Sub-metering was not available to extract process-only energy and water use from the total energy use. Sub-metering would improve the data quality of technological coverage.

Data necessary to model cradle-to-gate unit processes were sourced from MLC LCI datasets. Technological coverage of the datasets is considered good relative to the actual supply chain of the manufacturer. While improved life cycle data from suppliers would improve technological coverage, the use of generic datasets does meet the goal of this LCA.

Secondary Data

Whenever possible, primary data was used for all processes. When primary data did not exist, secondary data for raw material production, generic data was used from the MLC database.

Cut-off Criteria

Cumulative excluded material inputs, energy inputs, and environmental impacts must not exceed 5% based on total weight, energy use, or environmental impact of the functional unit. Inputs or outputs greater than 1% (based on total mass of the final product or energy flows) were included within the scope of analysis. Material inputs less than 1% were included if sufficient data was available to warrant inclusion and/or the material input was thought to have significant environmental impact. Cumulative excluded material inputs and environmental impacts are less than 5% based on total weight and impact of the functional unit.

Allocation

General principles of allocation are based on ISO 14040/44. There are no products other than the product under study that are produced as part of the specific manufacturing processes under study (i.e. no co-products produced). There are, however, other products produced at the manufacturing facility. To derive a per-unit value for manufacturing inputs such as electricity, thermal energy and water, allocation based on total production by mass was adopted.

Data Gaps

Primary data were used used where available. When primary data did not exist, secondary data for raw material production was obtained from the MLC database. Any proxies used for raw materials are detailed in the LCA report. No significant data gaps or proxies were identified in the LCA.

Life Cycle Assessment Results

The results in this EPD represent the impacts of the product system under three reference service life scenarios—20 years, 30 years and 60 years. All results are given per functional unit, which is 1 m^2 of covered and protected flooring surface over

60 years. As results for life cycle stages B1, B3, B5, B6, B7, C1, and C3 are 0, these columns are not provided in the following tables for clarity.

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

Acronyms and LCIA methods included in the results tables are detailed in Table 10.

Table 10: Abbreviations and Impact Assessment Methods

Abbreviation	Name	Unit	LCIA Method
LCIA Results			
GWP excl. bio C	Global warming potential (100 years, including LUC, excluding biogenic CO2)	kg CO_2 eq	IPCC AR5
GWP incl. bio C	Global warming potential (100 years, including LUC, including biogenic CO2)	kg CO_2 eq	IPCC AR5
AP	Acidification potential of soil and water	kg SO_2 eq	TRACI 2.1
EP	Eutrophication potential	kg N eq	TRACI 2.1
ODP	Depletion of stratospheric ozone layer	kg CFC 11 eq	TRACI 2.1
SFP	Smog formation potential	kg O_3 eq	TRACI 2.1
ADPF	Abiotic depletion potential for fossil fuel resources	MJ	CML 2001
Carbon Emissions and Removals			
BCRP	Biogenic Carbon Removal from Product	kg CO_2	n/a
BCEP	Biogenic Carbon Emission from Product	kg CO_2	n/a
BCRK	Biogenic Carbon Removal from Packaging	kg CO_2	n/a
BCEK	Biogenic Carbon Emission from Packaging	kg CO_2	n/a
BCEW	Biogenic Carbon Emission from Combustion of Waste from Renewable Sources Used in Production Processes	kg CO_2	n/a
CCE	Calcination Carbon Emissions	kg CO_2	n/a
CCR	Carbonation Carbon Removals	kg CO_2	n/a
CWNR	Carbon Emissions from Combustion of Waste from Non- Renewable Sources used in Production Processes	kg CO_2	n/a
Resource Use			
RPR_E	Use of renewable primary energy excluding renewable primary energy resources used as raw materials	MJ	n/a
RPR_M	Use of renewable primary energy resources used as raw materials	MJ	n/a
$NRPR_E$	Use of non-renewable primary energy excluding non-renewable primary energy resources used as raw materials	MJ	n/a
$NRPR_M$	Use of non-renewable primary energy resources used as raw materials	MJ	n/a
SM	Use of secondary materials	kg	n/a
RSF	Use of renewable secondary fuels	MJ	n/a
NRSF	Use of non-renewable secondary fuels	MJ	n/a
RE	Recovered energy	MJ	n/a
FW	Net use of fresh water	m^3	n/a
Output Flows and Waste			
HWD	Disposed-of-hazardous waste	kg	n/a
NHWD	Disposed-of non-hazardous waste	kg	n/a
HLRW	High-level radioactive waste, conditioned, to final repository	kg	n/a
ILLRW	Intermediate- and low-level radioactive waste, conditioned, to final repository	kg	n/a
CRU	Components for reuse	kg	n/a
MR	Materials for recycling	kg	n/a
MER	Materials for energy recovery	kg	n/a
EEE	Exported electrical energy	MJ	n/a
EET	Exported thermal energy	MJ	n/a

Terroxy Resin Thin-set Terrazzo System, Standard (STD) – 20-yr Service Life

Table 11: Results for Terroxy STD, 20-year RSL

Impact	Unit	A1-A3	A4	A5	B2	B4	C2	C4	Total (A1-C4)
LCIA Results									
GWP excl. bio C	kg CO_2 eq	5.35E+01	1.79E+00	3.07E+00	4.12E+00	1.19E+02	4.63E-02	1.14E+00	1.83E+02
GWP incl. bio C	kg CO_2 eq	5.28E+01	1.79E+00	3.03E+00	4.34E+00	1.18E+02	4.63E-02	1.14E+00	1.81E+02
AP	kg SO_2 eq	1.17E-01	7.29E-03	6.93E-03	8.78E-03	2.75E-01	1.30E-04	5.77E-03	4.21E-01
EP	kg N eq	1.31E-02	6.71E-04	8.90E-04	9.85E-03	3.40E-02	1.36E-05	2.34E-03	6.08E-02
ODP	kg CFC 11 eq	2.77E-12	5.22E-15	1.62E-13	2.02E-13	5.98E-12	1.35E-16	5.33E-14	9.17E-12
SFP	kg O_3 eq	2.00E+00	1.67E-01	1.20E-01	2.06E-01	4.78E+00	2.94E-03	1.03E-01	7.37E+00
ADPF	MJ	1.02E+03	2.32E+01	5.66E+01	9.83E+01	2.22E+03	6.01E-01	1.64E+01	3.43E+03
Carbon Emissions and Removals									
BCRP	kg CO_2	1.19E+00	0.00E+00	6.25E-02	0.00E+00	2.51E+00	0.00E+00	0.00E+00	3.76E+00
BCEP	kg CO_2	0.00E+00	0.00E+00	7.00E-02	0.00E+00	2.52E+00	0.00E+00	1.19E+00	3.78E+00
BCRK	kg CO_2	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
BCEK	kg CO_2	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
BCEW	kg CO_2	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
CCE	kg CO_2	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
CCR	kg CO_2	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
CWNR	kg CO_2	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Resource Use									
RPR_E	MJ	4.56E+01	1.04E+00	3.06E+00	7.66E+00	1.04E+02	2.68E-02	2.09E+00	1.63E+02
RPR_M	MJ	1.62E+01	0.00E+00	8.51E-01	0.00E+00	3.41E+01	0.00E+00	0.00E+00	5.12E+01
$NRPR_E$	MJ	8.42E+02	2.34E+01	4.81E+01	1.03E+02	1.86E+03	6.06E-01	1.69E+01	2.90E+03
$NRPR_M$	MJ	2.19E+02	0.00E+00	1.15E+01	0.00E+00	4.61E+02	0.00E+00	0.00E+00	6.92E+02
SM	kg	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
RSF	MJ	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
NRSF	MJ	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
RE	MJ	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
FW	m^3	2.96E-01	3.44E-03	1.66E-02	4.45E-02	6.36E-01	8.91E-05	2.18E-03	9.98E-01
Output Flows and Waste									
HWD	kg	2.03E-07	3.16E-09	1.21E-08	1.54E-08	4.46E-07	8.17E-11	4.17E-09	6.84E-07
NHWD	kg	2.49E+00	2.33E-03	3.72E+00	9.32E-01	2.18E+02	6.04E-05	1.03E+02	3.29E+02
HLRW	kg	1.91E-05	8.37E-08	1.25E-06	1.45E-06	4.12E-05	2.17E-09	2.01E-07	6.33E-05
ILLRW	kg	1.62E-02	7.05E-05	1.06E-03	1.61E-03	3.50E-02	1.83E-06	1.79E-04	5.41E-02
CRU	kg	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
MR	kg	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
MER	kg	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
EEE	MJ	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
EET	MJ	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00

Terroxy Resin Thin-set Terrazzo System, Standard (STD) – 30-yr Service Life

Table 12: Results for Terroxy STD, 30-year RSL

Impact	Unit	A1-A3	A4	A5	B2	B4	C2	C4	Total (A1-C4)
LCIA Results									
GWP excl. bio C	kg CO_2 eq	5.35E+01	1.79E+00	3.07E+00	4.12E+00	5.96E+01	4.63E-02	1.14E+00	1.23E+02
GWP incl. bio C	kg CO_2 eq	5.28E+01	1.79E+00	3.03E+00	4.34E+00	5.88E+01	4.63E-02	1.14E+00	1.22E+02
AP	kg SO_2 eq	1.17E-01	7.29E-03	6.93E-03	8.78E-03	1.37E-01	1.30E-04	5.77E-03	2.84E-01
EP	kg N eq	1.31E-02	6.71E-04	8.90E-04	9.85E-03	1.70E-02	1.36E-05	2.34E-03	4.38E-02
ODP	kg CFC 11 eq	2.77E-12	5.22E-15	1.62E-13	2.02E-13	2.99E-12	1.35E-16	5.33E-14	6.18E-12
SFP	kg O_3 eq	2.00E+00	1.67E-01	1.20E-01	2.06E-01	2.39E+00	2.94E-03	1.03E-01	4.99E+00
ADPF	MJ	1.02E+03	2.32E+01	5.66E+01	9.83E+01	1.11E+03	6.01E-01	1.64E+01	2.32E+03
Carbon Emissions and Removals									
BCRP	kg CO_2	1.19E+00	0.00E+00	6.25E-02	0.00E+00	1.25E+00	0.00E+00	0.00E+00	2.51E+00
BCEP	kg CO_2	0.00E+00	0.00E+00	7.00E-02	0.00E+00	1.26E+00	0.00E+00	1.19E+00	2.52E+00
BCRK	kg CO_2	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
BCEK	kg CO_2	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
BCEW	kg CO_2	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
CCE	kg CO_2	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
CCR	kg CO_2	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
CWNR	kg CO_2	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Resource Use									
RPR_E	MJ	4.56E+01	1.04E+00	3.06E+00	7.66E+00	5.18E+01	2.68E-02	2.09E+00	1.11E+02
RPR_M	MJ	1.62E+01	0.00E+00	8.51E-01	0.00E+00	1.71E+01	0.00E+00	0.00E+00	3.41E+01
$NRPR_E$	MJ	8.42E+02	2.34E+01	4.81E+01	1.03E+02	9.31E+02	6.06E-01	1.69E+01	1.96E+03
$NRPR_M$	MJ	2.19E+02	0.00E+00	1.15E+01	0.00E+00	2.31E+02	0.00E+00	0.00E+00	4.61E+02
SM	kg	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
RSF	MJ	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
NRSF	MJ	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
RE	MJ	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
FW	m^3	2.96E-01	3.44E-03	1.66E-02	4.45E-02	3.18E-01	8.91E-05	2.18E-03	6.80E-01
Output Flows and Waste									
HWD	kg	2.03E-07	3.16E-09	1.21E-08	1.54E-08	2.23E-07	8.17E-11	4.17E-09	4.61E-07
NHWD	kg	2.49E+00	2.33E-03	3.72E+00	9.32E-01	1.09E+02	6.04E-05	1.03E+02	2.19E+02
HLRW	kg	1.91E-05	8.37E-08	1.25E-06	1.45E-06	2.06E-05	2.17E-09	2.01E-07	4.27E-05
ILLRW	kg	1.62E-02	7.05E-05	1.06E-03	1.61E-03	1.75E-02	1.83E-06	1.79E-04	3.66E-02
CRU	kg	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
MR	kg	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
MER	kg	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
EEE	MJ	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
EET	MJ	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00

Terroxy Resin Thin-set Terrazzo System, Standard (STD) – 60-yr Service Life

Table 13: Results for Terroxy STD, 30-year RSL

Impact	Unit	A1-A3	A4	A5	B2	B4	C2	C4	Total (A1-C4)
LCIA Results									
GWP excl. bio C	kg CO_2 eq	5.35E+01	1.79E+00	3.07E+00	4.12E+00	0.00E+00	4.63E-02	1.14E+00	6.37E+01
GWP incl. bio C	kg CO_2 eq	5.28E+01	1.79E+00	3.03E+00	4.34E+00	0.00E+00	4.63E-02	1.14E+00	6.31E+01
AP	kg SO_2 eq	1.17E-01	7.29E-03	6.93E-03	8.78E-03	0.00E+00	1.30E-04	5.77E-03	1.46E-01
EP	kg N eq	1.31E-02	6.71E-04	8.90E-04	9.85E-03	0.00E+00	1.36E-05	2.34E-03	2.68E-02
ODP	kg CFC 11 eq	2.77E-12	5.22E-15	1.62E-13	2.02E-13	0.00E+00	1.35E-16	5.33E-14	3.19E-12
SFP	kg O_3 eq	2.00E+00	1.67E-01	1.20E-01	2.06E-01	0.00E+00	2.94E-03	1.03E-01	2.60E+00
ADPF	MJ	1.02E+03	2.32E+01	5.66E+01	9.83E+01	0.00E+00	6.01E-01	1.64E+01	1.21E+03
Carbon Emissions and Removals									
BCRP	kg CO_2	1.19E+00	0.00E+00	6.25E-02	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.25E+00
BCEP	kg CO_2	0.00E+00	0.00E+00	7.00E-02	0.00E+00	0.00E+00	0.00E+00	1.19E+00	1.26E+00
BCRK	kg CO_2	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
BCEK	kg CO_2	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
BCEW	kg CO_2	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
CCE	kg CO_2	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
CCR	kg CO_2	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
CWNR	kg CO_2	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Resource Use									
RPR_E	MJ	4.56E+01	1.04E+00	3.06E+00	7.66E+00	0.00E+00	2.68E-02	2.09E+00	5.95E+01
RPR_M	MJ	1.62E+01	0.00E+00	8.51E-01	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.71E+01
$NRPR_E$	MJ	8.42E+02	2.34E+01	4.81E+01	1.03E+02	0.00E+00	6.06E-01	1.69E+01	1.03E+03
$NRPR_M$	MJ	2.19E+02	0.00E+00	1.15E+01	0.00E+00	0.00E+00	0.00E+00	0.00E+00	2.31E+02
SM	kg	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
RSF	MJ	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
NRSF	MJ	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
RE	MJ	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
FW	m^3	2.96E-01	3.44E-03	1.66E-02	4.45E-02	0.00E+00	8.91E-05	2.18E-03	3.62E-01
Output Flows and Waste									
HWD	kg	2.03E-07	3.16E-09	1.21E-08	1.54E-08	0.00E+00	8.17E-11	4.17E-09	2.38E-07
NHWD	kg	2.49E+00	2.33E-03	3.72E+00	9.32E-01	0.00E+00	6.04E-05	1.03E+02	1.10E+02
HLRW	kg	1.91E-05	8.37E-08	1.25E-06	1.45E-06	0.00E+00	2.17E-09	2.01E-07	2.21E-05
ILLRW	kg	1.62E-02	7.05E-05	1.06E-03	1.61E-03	0.00E+00	1.83E-06	1.79E-04	1.91E-02
CRU	kg	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
MR	kg	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
MER	kg	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
EEE	MJ	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
EET	MJ	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00

Interpretation

Relative results over the product life cycle are presented in Figure 1 for the product.. It can be seen that manufacturing drives the potential environmental impacts across the cradle-to-grave scope of the LCA. Within manufacturing, raw materials and specifically the epoxy resin used in the product are the major contributors to impacts. For the 20-year and 30-year RSL scenarios, the main drivers of potential environmental impacts are still raw materials – but split between the A1-A3 and B4 (replacement) life cycle stages.

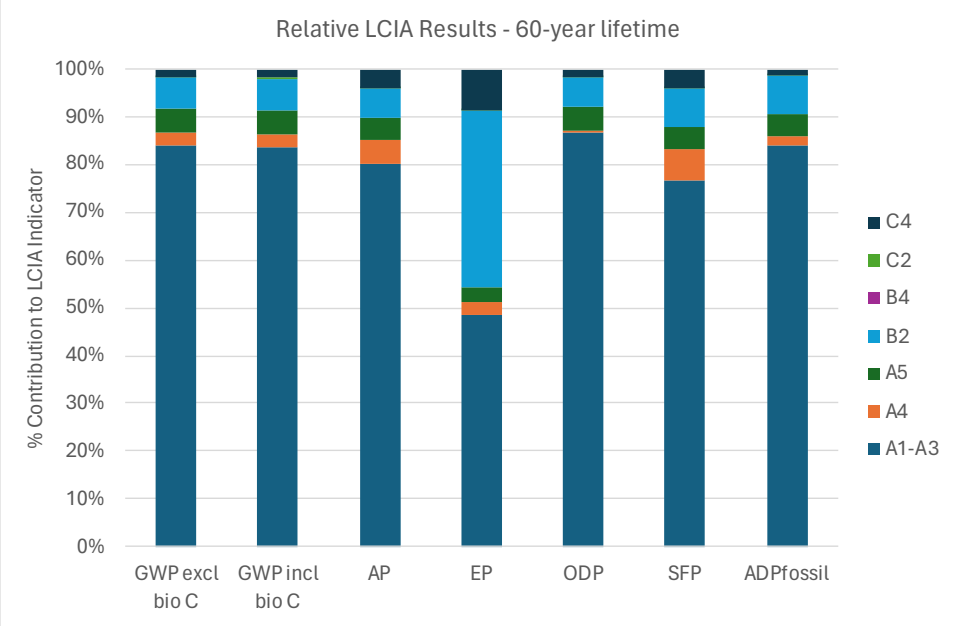


Figure 2: Overview of Product Impacts, 60-year RSL

Additional Environmental Information

Terroxy Terrazzo Flooring System is GreenGuard Gold Certified.

More information can be found at https://www.tmsupply.com/sustainability/.

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