



Package Pavement Co., Inc.
Quikrete of Albany Plant
Packaged Concrete Mixes, Mortars, and Grouts
An Environmental Product Declaration



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An Environmental Product Declaration

In accordance with ISO 14025 and 21930

About this EPD

This is a Type III environmental product declaration (EPD) for packaged concrete mixes, mortars, and grouts as produced by Package Pavement Company, Inc. (PPC) at the company's Quikrete of Albany plant in Ravena, New York. The results of the underlying LCA are computed using SimaPro 9.5.0.2 (1). This EPD and underlying LCA have been verified to conform to ISO 21930:2017 (the core PCR) (2) as well as ISO 14020:2000 (3), and ISO 14040/44:2006 LCA standards (4), (5).

This EPD is certified by ASTM to conform to the core PCR referenced above (2), as well as to the requirements of ISO 14020, ISO 14025 (6), ISO 21930 and ASTM International's General Program Instructions (7). This EPD is intended for business-to-business audiences.

General Summary

EPD Commissioner and Owner



Package Pavement Company, Inc.

675 Leetown Rd.

Stormville, NY 12582

<https://www.packagepavement.com/>

Package Pavement company personnel have provided LCI and meta data in support of this EPD. *The owner of the declaration is liable for the underlying information and evidence.*

Product Description & Applicability

Packaged concrete mixes, mortars, and grouts are versatile construction materials with broad applicability in various building and repair projects. Mortars are primarily used to bond bricks, stone, and concrete blocks, forming masonry walls. Packaged concrete mixes are ideal for small-to-medium sized concrete projects where ready-mix concrete may not be suitable. Grouts are used in repairing and reinforcing structures. In reinforced masonry, grout is used to fill and bond cells of concrete masonry units together. Pre-packaged materials ensure precise mix ratios and consistent performance.

Product Category Rules (PCR)

ISO 21930:2017 – Sustainability in buildings and civil engineering works – Core rules for environmental product declarations of construction products and services (2).

Date of Issue & Validity Period

February 13, 2025 – 5 years

Declared Unit

1 metric ton of concrete mixes, mortars, and grouts





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EPD and Project Report Information

Program Operator	ASTM International	
Declaration Number	EPD 911	
Declaration Type	Cradle-to-gate (modules A1 to A3). Facility and product-specific.	
Applicable Regions	North America	
Content of the Declaration	This declaration follows Section 9; Content of an EPD. ISO 21930:2017 – Sustainability in buildings and civil engineering works – Core rules for environmental product declarations of construction products and services (2).	
This EPD was independently verified by ASTM in accordance with ISO 14025 and the reference PCR:	Tim Brooke ASTM International 100 Barr Harbor Drive PO Box C700 West Conshohocken PA 19428-2959, USA cert@astm.org	Thomas P. Gloria, Ph. D. Industrial Ecology Consultants 35 Bracebridge Rd. Newton, MA
Internal	External	
	<input checked="" type="checkbox"/>	
Notes	The EPD results reported herein are computed SimaPro version 9.5.0.2 (1), along with relevant background datasets from ecoinvent 3.9.1, US LCI, and supplier-specific EPDs where applicable.	
Project Report	A Cradle-to-Gate Life Cycle Assessment of Packaged Concrete Mixes, Mortars, and Grouts Manufactured by Package Pavement Company, Inc. (8)	
LCA Report and EPD Prepared by:	Athena Sustainable Materials Institute 280 Albert Street, Suite 404 Ottawa, Ontario, Canada K1P 5G8 info@athenasmi.org www.athenasmi.org	



Athena
Sustainable Materials
Institute





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Product Description

This EPD reports environmental transparency information for packaged concrete mixes, mortars, and grouts as manufactured by Package Pavement at their Quikrete of Albany plant in Ravena, New York. Packaged concrete mixes, mortars, and grouts are versatile construction materials with broad applicability in various building and repair projects. Mortars are primarily used to bond bricks, stone, and concrete blocks, forming masonry walls. Packaged concrete mixes are ideal for small-to-medium sized concrete projects where ready-mix concrete may not be suitable. Grouts are used in repairing and reinforcing structures. In reinforced masonry, grout is used to fill and bond cells of concrete masonry units together. Pre-packaged materials ensure precise mix ratios and consistent performance. Table 1 below outlines the declared products covered by this EPD.

Table 1: List of Declared Products from Quikrete of Albany Plant

Concrete Mixes	Mortars	Grouts
Air Entrained 4000 Concrete Mix	Type N Mortar	Coarse Grout 3000
Fast Set Concrete Mix	Type S Mortar	Coarse Grout 5000
Quikrete 1101 Concrete Mix	Type O Mortar	Fine Grout 3000
Quikrete 5000 Concrete Mix	Low Carbon Pozzotive® Type N Mortar	Low Carbon Fine Grout 3000-15 w/ Pozzotive®
Shotcrete	Low Carbon Pozzotive® Type S Mortar	Low Carbon Fine Grout 5000-15 w/ Pozzotive®
-	Adhered Veneer Mort	-
-	Polymer Modified Adhered Veneer Mortar	-
-	Polymer Modified Setting Bed Mortar	-
-	Quikrete Mortar Mix (Type N)	-
-	Quikrete Mason Mix (Type S)	-

Product Material Composition and Relevant Standards

The material content of all covered products varies significantly by product type. Generally, the concrete mixes, mortars, and grouts consist of the following materials in order of greatest mass:

1. Coarse and/or fine aggregates
2. Cement
3. Supplementary cementitious materials (such as pozzolans, lime, etc.)
4. Additives (such as admixtures, pigments, polymer modifiers, etc.)

The plant's packaged products comply with the following standards:

- Concrete Mixes: ASTM C387/C387M-17 – Standard Specification for Packaged, Dry, Combined Materials for Concrete and High Strength Mortar (9).
- Mortars: ASTM C270-24 – Standard Specification for Mortar for Unit Masonry (10).
- Grouts: ASTM C476-23 – Standard Specification for Grout for Masonry (11).





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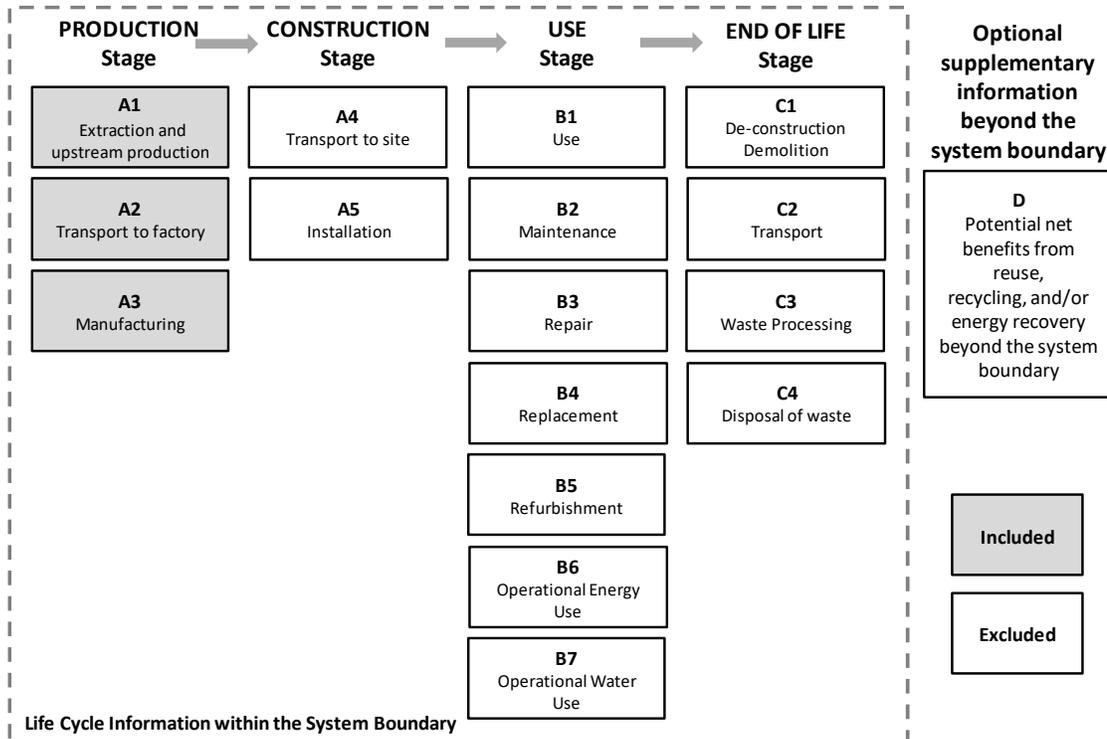
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Declared Unit

The declared unit is one metric ton of concrete mixes, mortars, and grouts.

System Boundary

This is a cradle-to-gate EPD covering the production stage (A1-A3) as depicted in the figure below. The production stage includes extraction of raw materials (cradle) through the manufacture and transport of concrete mixes, mortars, and grouts ready for shipment (gate) inclusive of packaging.



Items excluded from the system boundary include:

- Production, manufacture, and construction of manufacturing capital goods and infrastructure,
- Production and manufacture of production equipment, delivery vehicles, and laboratory equipment,
- Personnel-related activities (travel, furniture, and office supplies),
- Energy and water use related to company management and sales activities that may be located either within the factory site or at another location.

Cut-off Criteria

The cut-off criteria per ISO 21930, Section 7.1.8 (2) have been followed. Per ISO 21930, 7.1.8, all input/output data required were collected and included in the LCI modelling. No substances with hazardous and toxic properties that pose a concern for human health and/or the environment were identified in the framework of this EPD

Data Collection

Gate-to-gate input/output flow data were collected for the following processes for the company's 2023 fiscal year (April 2023 to March 2024):

- Facility operations (fuel and electricity use, waste, and total production)
- Product-specific formulation, packaging information & annual production





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Allocation Rules

The allocation rules generally conform to ISO 14044 section 4.3.4.1 and 4.3.4.2 (5) and ISO 21930 (2) section 7.2.5 Allocation for co-products.

Given the wide range of products manufactured by Package Pavement, it was not possible to collect waste generation and energy and fuel use data specific to each product. Instead, these inputs and outputs were allocated over the total production of all declared products on a “mass” basis. Additionally, allocation related to transport is based on the mass of transported inputs and outputs.

Data Quality Requirements and Assessment

Data Quality Requirements	Description
Technology Coverage	Data represents the prevailing technology in use at Package Pavement’s Quikrete of Albany plant. Whenever available, for all upstream and core material and processes, both International and North American typical or global average industry LCI datasets were utilized. <i>Technological representativeness is characterized as “high”.</i>
Geographic Coverage	The geographic region considered is US. <i>Geographical representativeness is characterized as “high”.</i>
Time Coverage	Gate-to-gate input/output flow data were collected for the following processes for the company’s 2023 fiscal year (April 2023 to March 2024): <ul style="list-style-type: none">• Facility operations (fuel and electricity use, waste, and total production)• Product-specific formulation, packaging information & annual production <i>Temporal representativeness is characterized as “high”.</i>
Completeness	All relevant, specific processes, including inputs (raw materials, intermediate products, energy, and ancillary materials) and outputs (emissions and production volume) were considered and modeled in SimaPro to complete the production profile for Package Pavement’s concrete mixes, mortars, and grouts. The completeness of the foreground process chain in terms of process steps was rigorously assessed.
Reproducibility	Internal reproducibility is possible since the data and the models are stored and available in Athena’s Package Pavement LCI database developed in SimaPro, 2024. External reproducibility is not possible as the source LCI data and subsequent LCA background reports are confidential.
Transparency	Activity datasets are disclosed in the project report, including all data sources.
Uncertainty	A <i>sensitivity check</i> was performed to assess the reliability of the reported LCA results and conclusions by determining how they are affected by value choices in the data or assumptions on calculation of LCIA and energy indicator results. The results of the sensitivity analysis are documented in the project report.





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Life Cycle Impact Assessment Results: Package Pavement – Quikrete of Albany

This section summarizes the production stage life cycle impact assessment (LCIA) results including resource use and waste generated metrics based on the cradle-to-gate life cycle inventory inputs and outputs analysis. The results are calculated based on 1 metric ton of each product as produced at the Quikrete of Albany plant. LCIA category and inventory indicators are listed below in Table 2 below.

It should be noted that LCIA results are relative expressions and do not predict impacts on category endpoints, the exceeding of thresholds, safety margins or risks (2), (5). Further, many LCA impact categories and inventory items are still emerging or under development and can have high levels of uncertainty that preclude international acceptance pending further development. Use caution when interpreting results for these categories – identified with an “*”.

Environmental declarations from different programs may not be comparable (6). EPDs are comparable only if they comply with ISO 21930, 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 (2).





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Table 2: LCIA Category and Inventory Indicators

Impact Category and Inventory Indicators	Abbreviation	Unit	Source of the characterization method
Global warming potential ¹⁾	GWP 100	kg CO ₂ eq.	TRACI 2.1 2012 updated with IPCC 2013, AR5 ¹⁾
Acidification potential	AP	kg SO ₂ eq.	TRACI 2.1 2012
Eutrophication potential	EP	kg N eq.	TRACI 2.1 2012
Smog formation potential	SFP	kg O ₃ eq.	TRACI 2.1 2012
Depletion potential of the stratospheric ozone layer	ODP	kg CFC-11 eq.	TRACI 2.1 2012/WMO:2003
Abiotic depletion potential, elements	ADP _e	Kg Sb eq.	CML-baseline, v4.7 2016
Abiotic depletion potential, fossil	ADP _f	MJ, LHV	CML-baseline, v4.7 2016
Renewable primary resources used as energy carrier (fuel)	RPR _E	MJ, LHV	Cumulative Energy Demand (CED) V1.0, 2019
Renewable primary resources with energy content used as material	RPR _M	MJ, LHV	Cumulative Energy Demand (CED) V1.0, 2019
Non-renewable primary resources used as an energy carrier (fuel)	NRPR _E	MJ, LHV	Cumulative Energy Demand (CED) V1.0, 2019
Non-renewable primary resources with energy content used as material	NRPR _M	MJ, LHV	Cumulative Energy Demand (CED) V1.0, 2019
Secondary Material	SM	kg	Inventory
Renewable secondary fuels	RSF	MJ, LHV	Inventory
Non-renewable secondary fuels	NRSF	MJ, LHV	Inventory
Recovered energy	RE	MJ, LHV	Inventory
Consumption of freshwater	FW	m ³	Inventory
Hazardous waste disposed	HWD	kg	Inventory
Non-hazardous waste disposed	NHWD	kg	Inventory
High level radioactive waste, conditioned, to final repository	HLRW	m ³	Inventory
Intermediate and low level radioactive waste, conditioned, to final repository	ILLRW	m ³	Inventory
Components for re-use	CRU	kg	Inventory
Materials for recycling	MR	kg	Inventory
Materials for energy recovery	MER	kg	Inventory
Exported energy	EE	MJ, LHV	Inventory
Calcination CO ₂ emissions, reporting the emissions associated with calcination	GWP _{calc}	kg CO ₂	Inventory
Biogenic CO ₂ , reporting the removals associated with biogenic carbon content contained within bio-based packaging	GWP _{bio-pack}	kg CO ₂	Inventory





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Table 3: Production Stage EPD Results (A1 to A3 Total) – Quikrete of Albany – Concrete Mixes

Impact category and inventory indicators	Unit	Air Entrained 4000 Concrete Mix	Fast Set Concrete Mix	Quikrete 1101 Concrete Mix	Quikrete 5000 Concrete Mix	Shotcrete
		A1-A3 Total	A1-A3 Total	A1-A3 Total	A1-A3 Total	A1-A3 Total
GWP 100 ^{1) 2)}	kg CO ₂ eq	184	205	168	200	266
AP ¹⁾	kg SO ₂ eq	0.43	0.72	0.41	0.43	0.54
EP ¹⁾	kg N eq	0.13	0.21	0.15	0.14	0.19
SFP ¹⁾	kg O ₃ eq	11.0	16.1	10.5	11.1	13.5
ODP ¹⁾	kg CFC-11 eq	5.56E-06	6.42E-06	5.06E-06	6.23E-06	8.68E-06
ADPe ^{*3)}	kg Sb eq	1.26E-05	3.03E-05	1.44E-05	1.39E-05	2.76
ADPf ^{*3)}	MJ, LHV	1226	1308	1060	1168	1586
RPRE ^{*4)}	MJ, LHV	351	481	437	365	387
RPRM ^{*4)}	MJ, LHV	0	0	0	0	0
NRPRE ^{*4)}	MJ, LHV	1388	1434	1208	1340	1818
NRPRM ^{*4)}	MJ, LHV	0	0	0	0	0
SM ^{*4)}	kg	5.34	5.30	3.48	4.39	31.0
RSF ^{*4)}	MJ, LHV	0	2.00	0	0	0
NRSF ^{*4)}	MJ, LHV	0	7.00	0	0	0
RE ^{*4)}	MJ, LHV	0	0	0	0	0
FW ^{*4)}	m ³	0.13	0.15	0.12	0.15	0.20
HWD ^{*4)}	kg	3.20E-04	2.20E-04	2.90E-04	3.70E-04	1.82E-03
NHWD ^{*4)}	kg	1.18	4.62	1.17	1.17	1.33
HLRW ^{*4) 5)}	m ³	9.91E-08	8.04E-08	9.30E-08	1.06E-07	1.29E-07
ILLRW ^{*4) 5)}	m ³	1.15E-06	8.40E-07	1.05E-06	1.26E-06	1.77E-06
CRU ^{*4)}	kg	0	0	0	0	0
MR ^{*4)}	kg	2.93E-02	1.05	2.93E-02	2.93E-02	2.93E-02
MER ^{*4)}	kg	0	0	0	0	0
EE ^{*4)}	MJ, LHV	0	0	0	0	0
GWP _{calc} ^{*4)}	kg CO ₂	78	79	70	89	121
GWP _{bio-pack} ^{*4)}	kg CO ₂	-23.5	-28.3	-26.3	-22.8	-23.5





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Table 4: Production Stage EPD Results (A1 to A3 Total) – Quikrete of Albany – Mortars

Impact category and inventory indicators	Unit	Type N Mortar	Type S Mortar	Type O Mortar	Low Carbon Pozzotive® Type N Mortar	Low Carbon Pozzotive® Type S Mortar
		A1-A3 Total	A1-A3 Total	A1-A3 Total	A1-A3 Total	A1-A3 Total
GWP 100 ^{1) 2)}	kg CO ₂ eq	242	259	264	211	220
AP ¹⁾	kg SO ₂ eq	0.65	0.62	0.76	0.74	0.74
EP ¹⁾	kg N eq	0.17	0.19	0.17	0.12	0.11
SFP ¹⁾	kg O ₃ eq	15.1	14.9	17.0	16.8	17.2
ODP ¹⁾	kg CFC-11 eq	5.51E-06	6.89E-06	4.83E-06	3.01E-06	3.67E-06
ADPe ^{*3)}	kg Sb eq	1.45E-05	1.65E-05	1.34E-05	2.34E-05	2.76E-05
ADPf ^{*3)}	MJ, LHV	1423	1473	1540	1168	1169
RPRE ^{*4)}	MJ, LHV	433	434	441	472	467
RPRM ^{*4)}	MJ, LHV	0	0	0	0	0
NRPRE ^{*4)}	MJ, LHV	1569	1646	1676	1227	1229
NRPRM ^{*4)}	MJ, LHV	0	0	0	0	0
SM ^{*4)}	kg	3.67	4.76	3.07	45.4	59
RSF ^{*4)}	MJ, LHV	0	0	0	0	0
NRSF ^{*4)}	MJ, LHV	0	0	0	0	0
RE ^{*4)}	MJ, LHV	0	0	0	0	0
FW ^{*4)}	m ³	0.12	0.16	0.10	0.16	0.21
HWD ^{*4)}	kg	3.10E-04	4.00E-04	2.60E-04	0	0
NHWD ^{*4)}	kg	1.17	1.17	1.17	1.17	1.17
HLRW ^{*4) 5)}	m ³	8.91E-08	1.01E-07	8.99E-08	5.36E-08	5.46E-08
ILLRW ^{*4) 5)}	m ³	1.06E-06	1.31E-06	9.50E-07	2.50E-07	2.50E-07
CRU ^{*4)}	kg	0	0	0	0	0
MR ^{*4)}	kg	2.93E-02	2.93E-02	2.93E-02	0.15	0.19
MER ^{*4)}	kg	0	0	0	0	0
EE ^{*4)}	MJ, LHV	0	0	0	0	0
GWP _{calc} ^{*4)}	kg CO ₂	74	96	62	56	73
GWP _{bio-pack} ^{*4)}	kg CO ₂	-25.5	-25.1	-26.0	-26.0	-25.3





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Table 5: Production Stage EPD Results (A1 to A3 Total) – Quikrete of Albany – Mortars Continued

Impact category and inventory indicators	Unit	Adhered Veneer Mortar	Polymer Modified Adhered Veneer Mortar	Polymer Modified Setting Bed Mortar	Quikrete Mortar Mix (Type N)	Quikrete Mason Mix (Type S)
		A1-A3 Total	A1-A3 Total	A1-A3 Total	A1-A3 Total	A1-A3 Total
GWP 100 ^{1) 2)}	kg CO ₂ eq	282	327	311	171	186
AP ¹⁾	kg SO ₂ eq	0.71	0.86	0.74	0.76	0.81
EP ¹⁾	kg N eq	0.20	0.29	0.30	0.22	0.23
SFP ¹⁾	kg O ₃ eq	16.4	17.8	15.9	15.5	16.4
ODP ¹⁾	kg CFC-11 eq	7.01E-06	9.93E-06	1.11E-05	4.32E-06	4.74E-06
ADPe ^{*3)}	kg Sb eq	5.98E-05	3.57E-04	3.59E-04	2.69E-05	2.86E-05
ADPf ^{*3)}	MJ, LHV	1602	1883	1776	1617	1731
RPR ^{E*4)}	MJ, LHV	453	477	476	412	400
RPRM ^{*4)}	MJ, LHV	0	0	0	0	0
NRPR ^{E*4)}	MJ, LHV	1779	2107	2019	1651	1765
NRPRM ^{*4)}	MJ, LHV	0	0	0	0	0
SM ^{*4)}	kg	4.64	5.76	6.70	0	0
RSF ^{*4)}	MJ, LHV	0	0	0	0	0
NRSF ^{*4)}	MJ, LHV	0	0	0	0	0
RE ^{*4)}	MJ, LHV	0	0	0	0	0
FW ^{*4)}	m ³	0.15	0.19	0.22	0.14	0.16
HWD ^{*4)}	kg	3.90E-04	4.80E-04	5.60E-04	0	0
NHWD ^{*4)}	kg	1.17	1.17	1.17	1.23	1.24
HLRW ^{*4) 5)}	m ³	1.07E-07	1.35E-07	1.37E-07	1.76E-08	1.74E-08
ILLRW ^{*4) 5)}	m ³	1.31E-06	1.65E-06	1.84E-06	1.30E-07	1.30E-07
CRU ^{*4)}	kg	0	0	0	0	0
MR ^{*4)}	kg	2.93E-02	2.93E-02	2.93E-02	7.43E-02	7.93E-02
MER ^{*4)}	kg	0	0	0	0	0
EE ^{*4)}	MJ, LHV	0	0	0	0	0
GWP _{calc} ^{*4)}	kg CO ₂	94	116	135	61	68
GWP _{bio-pack} ^{*4)}	kg CO ₂	-26.0	-26.0	-26.0	-26.6	-26.1





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Table 6: Production Stage EPD Results (A1 to A3 Total) – Quikrete of Albany – Grouts

Impact category and inventory indicators	Unit	Coarse Grout 3000	Coarse Grout 5000	Fine Grout 3000	Low Carbon Fine Grout 3000-15 w/ Pozzotive®	Low Carbon Fine Grout 5000-15 w/ Pozzotive®
		A1-A3 Total	A1-A3 Total	A1-A3 Total	A1-A3 Total	A1-A3 Total
GWP 100 ^{1) 2)}	kg CO ₂ eq	237	271	263	212	259
AP ¹⁾	kg SO ₂ eq	0.49	0.54	0.54	0.68	0.80
EP ¹⁾	kg N eq	0.16	0.21	0.20	0.11	0.13
SFP ¹⁾	kg O ₃ eq	12.5	13.7	13.8	16.6	19.2
ODP ¹⁾	kg CFC-11 eq	7.47E-06	8.73E-06	8.43E-06	4.35E-06	5.45E-06
ADPe ^{*3)}	kg Sb eq	1.54E-05	1.96E-05	1.87E-05	3.33E-05	4.12E-05
ADPf ^{*3)}	MJ, LHV	1438	1473	1463	1046	1164
RPR ^{E*4)}	MJ, LHV	364	457	441	492	537
RPR ^{M*4)}	MJ, LHV	0	0	0	0	0
NRPR ^{E*4)}	MJ, LHV	1639	1693	1667	1104	1230
NRPR ^{M*4)}	MJ, LHV	0	0	0	0	0
SM ^{*4)}	kg	5.28	6.24	6.00	74	94
RSF ^{*4)}	MJ, LHV	0	0	0	0	0
NRSF ^{*4)}	MJ, LHV	0	0	0	0	0
RE ^{*4)}	MJ, LHV	0	0	0	0	0
FW ^{*4)}	m ³	0.18	0.21	0.20	0.27	0.35
HWD ^{*4)}	kg	4.40E-04	5.20E-04	5.00E-04	0	0
NHWD ^{*4)}	kg	1.17	1.17	1.17	1.17	1.17
HLRW ^{*4) 5)}	m ³	1.18E-07	1.27E-07	1.10E-07	5.16E-08	6.05E-08
ILLRW ^{*4) 5)}	m ³	1.48E-06	1.69E-06	1.58E-06	2.50E-07	2.80E-07
CRU ^{*4)}	kg	0	0	0	0	0
MR ^{*4)}	kg	2.93E-02	2.93E-02	2.93E-02	0.23	0.29
MER ^{*4)}	kg	0	0	0	0	0
EE ^{*4)}	MJ, LHV	0	0	0	0	0
GWP _{calc} ^{*4)}	kg CO ₂	107	126	121	91	117
GWP _{bio-pack} ^{*4)}	kg CO ₂	-23.5	-25.9	-25.7	-25.5	-25.9





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Notes:

- 1) Calculated as per U.S EPA TRACI 2.1, v1.05, SimaPro v.9.5.0.2
- 2) GWP-100 excludes biogenic CO₂ removals and emissions associated with biobased products, including bio-based packaging. Biogenic carbon content of packaging materials is reported separately. 100-year time horizon GWP factors are provided by the IPCC 2013 Fifth Assessment Report (AR5), TRACI 2.1, v1.05.
- 3) Calculated as per CML-IA baseline, V4.7, SimaPro v.9.5.0.2. ADP_r is required in LEED v4.0/v4.1 MR2 Credit: Building Product Disclosure and Optimization – Environmental Product Declarations.
- 4) Calculated as per ACLCA ISO 21930 Guidance (12).
- 5) It should be noted that the foreground system (A3 manufacturing process) does not generate any high-level radioactive waste or low/intermediate level radioactive waste. Radioactive waste is primarily generated from electricity production. High level radioactive waste consists mainly of spent fuel from reactors. Low/intermediate level radioactive waste is primarily generated from routine facility maintenance and operation (2).

LCA Interpretation

The Extraction and Upstream Production module (A1) drives most of the potential environmental impacts. The A1 impacts are primarily driven by cement manufacturing and the associated emissions during the pyroprocessing of limestone in the production of clinker. Manufacturing (A3) is the second largest contributor to the Production stage EPD results, followed by Transportation (A2).

Additional Environmental Information

The Quikrete of Albany plant operates baghouse filters, sweepers, and industrial vacuum technology to limit the emissions of particulates.

References

1. PRé Sustainability. SimaPro LCA Software. Version 9.5.0.2. 2024.
2. ISO 21930:2017 Sustainability in buildings and civil engineering works - Core rules for environmental product declarations of construction products and services.
3. ISO 14020:2000 Environmental labels and declarations.
4. ISO 14040:2006/Amd 1:2020 Environmental Management – Life Cycle Assessment – Principles and Framework.
5. ISO 14044/Amd1:2017/Amd2:2020 Environmental Management – Life Cycle Assessment – Requirements and guidelines.
6. ISO 14025: 2006 Environmental labeling and declarations - Type III environmental declarations - Principles and procedures.
7. ASTM Program Operator Rules. Version: 8.0, Revised April 2020.
8. Athena Sustainable Materials Institute. A Cradle-to-Gate Life Cycle Assessment of Packaged Concrete Mixes, Mortars, and Grouts Manufactured by Package Pavement Company, Inc. December 2024.
9. ASTM C387/C387M - Standard Specification for Packaged, Dry, Combined Materials for Concrete and High Strength Mortar.
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