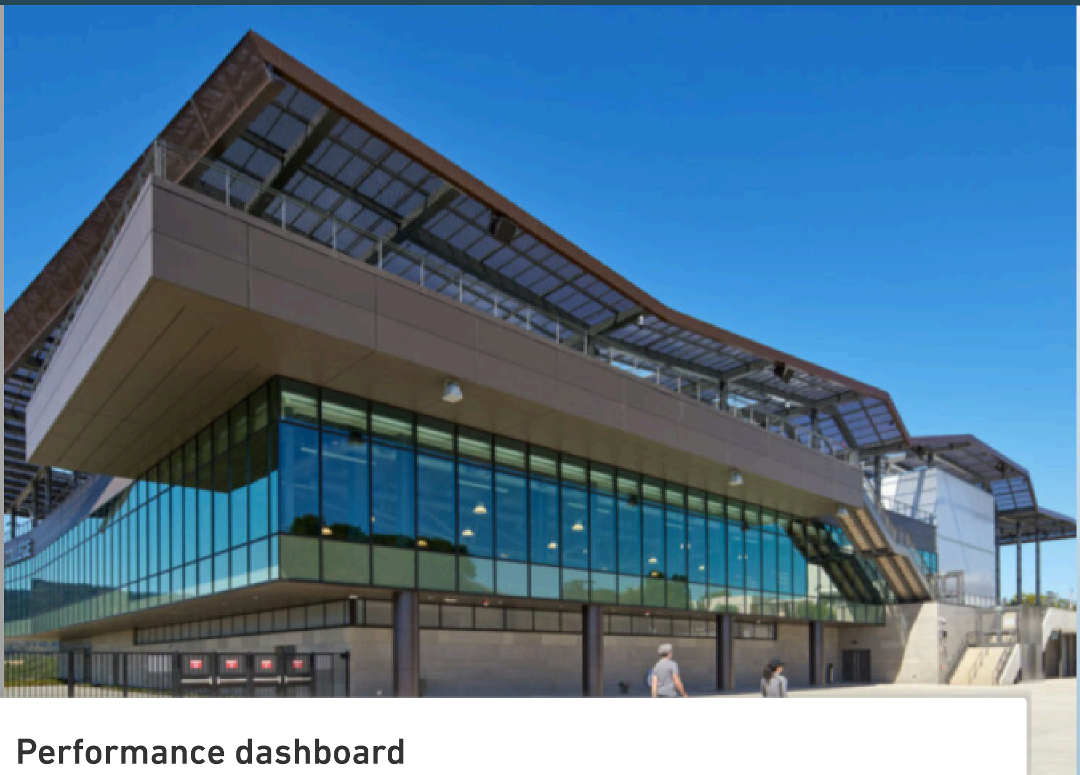
COLDSPRING®

StoneLite® Honeycomb Facade

StoneLite® is a natural stone composite panel comprised of a thin stone veneer and an aluminum honeycomb backing bonded between impervious, high-strength, fiber-reinforced skin. Our StoneLite panels may be produced from almost any natural stone; including limestone, granite, sandstone, slate and porcelain. Our natural stone panels are the perfect choice for exterior, interior, and renovation applications.



Performance dashboard

Features & functionality

TESTED: Proven for 40+ years worldwide

EASY INSTALL: Cuts costs, flexible scheduling

STRONG & FLEXIBLE: 60x stronger than 3cm stone

LIGHTWEIGHT: 80% lighter than 3cm stone

SUSTAINABLE: Meets LEED V3 and V4 standards

Visit Stone Panels International for more product information:

StoneLite®; Marble Falls, TX
limestone, granite, marble, porcelain

MasterFormat® 04 42 00, 07 42 00
StoneLite® Guide Specification
For spec help, contact us or 800-328-6275

Environment & materials

Improved by:

Lightweight honeycomb reduces resource use and structural load

Meets LEED V3 & V4 criteria for sustainable building

Low toxicity, comparable to Douglas fir wood

Reduced air infiltration & water resistance for energy efficiency

Certifications, rating systems & disclosures:

ICC-ES, ESR-1500

ASTM Standards (D-2015, E-108, E 84, E-695)

NFPA Fire Testing

Miami Dade – NOA certified/approved

See LCA, interpretation & rating systems

See materials, interpretation & rating systems

SM Transparency Report (EPD)™ + Material Health Overview™

EPD LCA

3rd-party reviewed ✓

Transparency Report (EPD)

3rd-party verified ✓

Validity: 02/20/2025 – 02/19/2030
SM-SPI – 20250220 – 001

MATERIAL HEALTH Material evaluation

Self-declared ✓

This environmental product declaration (EPD) was externally verified, according to ISO 21930:2017, ISO 14025:2006, UL Part A, and UL Part B: Cladding Product Systems by Jack Geibig, President, Ecoform.

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11903 Black Road,
Knoxville, TN 37932
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(865) 850-1883

SUMMARY

Reference PCR
UL Part B: Cladding Product Systems

Regions; system boundaries
North America; Cradle to grave

Functional unit; reference service life
1 m^2 of installed panels; 75 years

LCIA methodology: TRACI 2.1

LCA software; LCI database
SimaPro Developer 9.6; ecoinvent v3.10, US-EI 2.2, Industry data 2.0

Public LCA
LCA of StoneLite® Panels

In accordance with ISO 14044 and the reference PCR, this life cycle assessment was conducted by Sustainable Minds and reviewed by Jack Geibig, President, Ecoform.

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Contact us

LCA results & interpretation

StoneLite®

Limestone panels | Granite panels | Marble panels | Porcelain panels | EPD additional content | Material health

Scope and summary

○ Cradle to gate ○ Cradle to gate with options ☑ **Cradle to grave**

Application

Stone cladding is applied to a building's exterior to separate it from the natural environment and provide an outer layer to the building. It not only provides protection from the weather elements but also a durable, aesthetically pleasing building appearance. StoneLite® limestone panels are crafted by bonding a thin layer of limestone to a durable aluminum honeycomb core. The stone veneer maintains the authentic appearance and texture of solid stone, while the aluminum honeycomb core offers a high strength-to-weight ratio, enabling the panel to absorb and evenly distribute impact forces. These features make StoneLite® panels a superior choice for both interior and exterior applications where aesthetics, strength, and efficiency are essential.

Functional unit

One square meter of installed StoneLite® limestone panels over the building's estimated service life of 75 years. The installed panels, including accessories and other materials, weigh 19.5 kg and have a reference service life of 75 years when installed per the manufacturer's instructions.

Default installation, packaging, and disposal scenarios

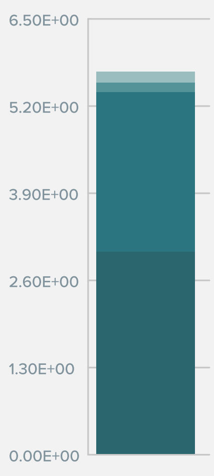
StoneLite® panels are cut to size based on customer-provided field measurements so that at the installation site, minimal cuts are required. As confirmed by an installer, approximately 1% of panels are disposed (23.95% landfilled, 1.67% incinerated, and the remainder recycled). 0.62 kg of masonry connectors are needed per functional unit. After installation is complete, lumber and foam packaging (67.16% landfilled, 15.70% incinerated, and the remainder recycled) and plastic packaging (69.44% landfilled, 16.93% incinerated, and the remainder recycled) are transported 100km via truck to the disposal site.

After installation, the panels are not expected to require cleaning, repair, or other activities over their 75-year service life. At the end of life, the panels are manually removed and transported 100km via truck to final disposal (74.4% recycled, 24.0% landfilled, 1.7% incinerated).

Material composition by wt%

PART	MATERIAL	% WT
Panel	Limestone facing	55-65%
Panel	Pre-impregnated fiberglass cloth skins	5-8%
Panel	Steel attachment plate	5-8%
Panel	Aluminum honeycomb core	3-5%
Panel	Bonding putty	3-5%
Panel	Epoxies and hardeners	3-5%
Panel	Fiberglass fabric	<2%
Packaging	Lumber packaging	15-20%
Packaging	Foam packaging	<1%

Total impacts by life cycle stage [mPts/func unit]



LIFE CYCLE STAGE	MPTS/FUNC. UNIT
● **Raw material acquistion**	3.15E+00
● **Manufacturing**	2.20E+00
● **Construction**	1.55E-01
● **End of life**	1.36E-01

Total impacts = 5.64E+00 mPts

What's causing the greatest impacts

All life cycle stages

For StoneLite® limestone panels, the production stage (A1-A3) dominates the life cycle impacts, which accounts for over ~88% of the total environmental impacts across all impact categories. Raw material acquisition and preprocessing, transportation of stone to the facility, and electricity used during manufacturing are the primary contributors in that stage. The impacts from distribution to installation sites, installation and packaging waste, and disposal at the end of life account for the remainder of impacts.

Raw material acquisition

Raw material extraction and upstream processing (A1) has the most substantial impact on five impact categories: smog formation, carcinogenics, non-carcinogenics, respiratory effects, and ecotoxicity. These impacts mainly arise from limestone quarrying and the upstream production of honeycomb cores, pre-impregnated fiberglass cloth skins materials, and attachment plates.

Impacts during transportation (A2) stem from the use of trucks to deliver raw materials to the manufacturing site, with the quarried limestone slabs contributing the most.

Manufacturing

The manufacturing stage (A3) is the largest contributor in four key impact categories: global warming, acidification, eutrophication, and fossil fuel depletion. The primary drivers of these impacts are the consumption of electricity and propane for various manufacturing operations within the production facility.

Construction and use

The distribution (A4) of panels to the installation site and activities during installation (A5) contribute about equally to the construction and use (B) phases. Transportation of the panels via truck is most impactful on ozone depletion, and the disposal of packaging and installation waste is more impactful on the global warming, smog, and non-carcinogenics impact categories.

Since the panels are expected to last the life of the building without any additional activities such as maintenance, replacement, or repair, there were no impacts in the use phase.

End of life

The transportation to disposal (C2) via truck dominates end-of-life impacts for most impact categories. Final product disposal (C4) contributes more to the eutrophication and carcinogenics impact categories in this phase.

Embodied carbon

Embodied carbon can be defined as the cradle-to-gate (A1-A3) global warming potential impacts. The total embodied carbon per functional unit of StoneLite® limestone panels is 1.16E+02 kg CO_2-eq per functional unit.

Manufacturing data

Stone quarrying data was extracted from Natural Stone Institute's industry-wide stone cladding LCA published in November 2022. Coldspring fabrication data covers a reporting period of January 2021 – December 2023 from the Marble Falls, TX manufacturing facility.

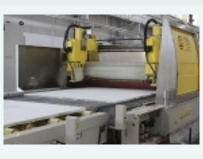
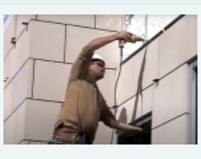
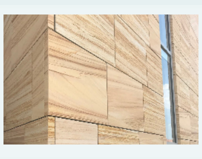
How we're making it greener

Coldspring is focused on designing solutions for sustainable cladding. From exterior hardscape and cladding to interior design elements, natural stone provides quality and durability that other materials cannot match.

At Coldspring, we offer end-to-end solutions and the highest-quality stone, giving you peace of mind that the finished product will stay intact and looking great far into the future. By using naturally occurring materials in our cladding solutions, we minimize the amount of additional processing needed to create an environment-conscious product

See how we make it greener

LCA results

LIFE CYCLE STAGE	RAW MATERIAL ACQUISITION	MANUFACTURING	CONSTRUCTION	USE	END OF LIFE
Information modules: Included (X) | Excluded (MND)* Stages B1-B7, C1, and C3 though included, have no associated activities. *Module D is excluded from this system boundary (MND).	**(X) A1 Raw material supply**	**(X) A3 Manufacturing**	**(X) A4 Distribution**	**(X) B1 Use**	**(X) C1 Deconstruction**
	(X) A2 Upstream transportation		**(X) A5 Installation**	**(X) B2 Maintenance**	**(X) C2 Waste Transportation**
				(X) B3 Repair	**(X) C3 Waste processing**
				(X) B4 Replacement	**(X) C4 Disposal**
				(X) B5 Refurbishment	
				(X) B6 Operational energy use	
				(X) B7 Operational water use	
					

SM Single Score

Learn about SM Single Score results

Impacts per 1 square meter of installed StoneLite® limestone panels	3.15E+00 mPts	2.20E+00 mPts	1.55E-01 mPts	0 mPts	1.36E-01 mPts
Materials or processes contributing >20% to total impacts in each life cycle stage	Manufacturing of purchased components and upstream transport of limestone.	Electricity and propane consumption during manufacturing.	Truck transportation to building site.	N/A	Waste transportation to disposal.

TRACI v2.1 results per functional unit

LIFE CYCLE STAGE		RAW MATERIAL ACQUISITION	MANUFACTURING	CONSTRUCTION	USE	END OF LIFE
Ecological damage						
Impact category	Unit					
Global warming	**kg CO_2 eq**	5.67E+01	5.95E+01	4.16E+00	0	3.15E+00
Ozone depletion	**kg CFC-11 eq**	5.44E-06	1.67E-06	4.55E-07	0	4.79E-07
Acidification	**kg SO_2 eq**	2.12E-01	1.65E-01	1.26E-02	0	1.34E-02
Eutrophication	**kg N eq**	3.01E-02	2.82E-02	1.39E-03	0	3.32E-03
Human health damage						
Impact category	Unit					
Smog	**kg O_3 eq**	3.86E+00	1.79E+00	3.00E-01	0	3.92E-01
Respiratory effects	**kg $PM_{2.5}$ eq**	1.12E-02	2.78E-02	9.64E-04	0	1.56E-03
Carcinogenics	**CTU_h**	3.75E-07	1.00E-08	7.64E-09	0	5.51E-09
Non-carcinogenics	**CTU_h**	3.00E-06	9.42E-07	1.64E-07	0	1.20E-07
Additional environmental information						
Impact category	Unit					
Fossil fuel depletion	**MJ surplus**	8.62E+01	9.03E+01	5.26E+00	0	4.62E+00
Ecotoxicity	**CTU_e**	85.6%	11.4%	2.1%	0%	0.9%

References

LCA Background Report
LCA of StoneLite® panels (public version), Coldspring 2025. Developed using the TRACI v2.1, CML, and Cumulative Energy Demand (LHV) impact assessment methodologies, SimaPro Developer 9.6 modeling software, Ecoinvent v3.10, US-EI 2.2, and Industry Data 2.0 databases.

ISO 14025, "Sustainability in buildings and civil engineering works -- Core rules for environmental product declarations of construction products and services"

ISO 21930:2017, "Sustainability in Building Construction — Environmental Declaration of Building Products" serves as the core PCR.

UL Part A: Life Cycle Assessment Calculation Rules and Report Requirements v4.0
March, 2022. PCR review conducted by Lindita Bushi, PhD, Chair (Athena Sustainable Materials Institute), lindita.bushi@athenasmi.org; Hugues Imbeault-Tétreault (Group AGECO); and Jack Geibig (Ecoform).

UL Part B: Cladding Product Systems EPD Requirements, v2.0
April, 2021. PCR review conducted by Jim Mellentine (Thrive ESG); Christoph White, Ph.D. (NIST); and Philip S. Mose, P.E. (MA) (Simpson Gumpertz & Heger).

UL Environment General Program Instructions v2.5, March 2021 (available upon request)

Download PDF SM Transparency Report/ EPD

SM Transparency Reports (TR) are ISO 14025 Type III environmental declarations (EPD) that enable purchasers and users to compare the potential environmental performance of products on a life cycle basis. Environmental declarations from different programs (ISO 14025) may not be comparable. Comparison of the environmental performance of Cladding Product Systems using EPD information shall be based on the product's use and impacts at the building level, and therefore EPDs may not be used for comparability purposes when not considering the building energy use phase. Full conformance with the PCR for stone cladding allows EPD comparability only when all stages of a life cycle have been considered, when they comply with all referenced standards, use the same sub-category PCR, and use equivalent scenarios with respect to construction works. However, variations and deviations are possible. Example of variations: Different LCA software and background LCI datasets may lead to differences results for upstream or downstream of the life cycle stages declared.

Rating systems

The intent is to reward project teams for selecting products from manufacturers who have verified improved life-cycle environmental performance.

LEED BD+C: New Construction | v4 - LEED v4

Building product disclosure and optimization

Environmental product declarations

○ Industry-wide (generic) EPD	½ product
☑ Product-specific Type III EPD	1 product

LEED BD+C: New Construction | v4.1 - LEED v4.1

Building product disclosure and optimization

Environmental product declarations

○ Industry-wide (generic) EPD	1 product
☑ Product-specific Type III EPD	1.5 products

Collaborative for High Performance Schools National Criteria

MW C5.1 – Environmental Product Declarations

☑ Third-party certified type III EPD	2 points

Green Globes for New Construction and Sustainable Interiors

Materials and resources

☑ NC 3.5.1.2 Path B: Prescriptive Path for Building Core and Shell

☑ NC 3.5.2.2 and SI 4.1.2 Path B: Prescriptive Path for Interior Fit-outs

BREEAM New Construction 2018

Mat 02 - Environmental impacts from construction products

Environmental Product Declarations (EPD)

○ Industry-average EPD	.5 points
○ Multi-product specific EPD	.75 points
☑ Product-specific EPD	1 point

SM Transparency Report (EPD)™ + Material Health Overview™

EPD	LCA
3rd-party reviewed	✓
	Transparency Report (EPD)
3rd-party verified	✓

Validity: 02/20/2025 – 02/19/2030
SM-SPI – 20250220 – 001

MATERIAL HEALTH	Material evaluation
Self-declared	✓

This environmental product declaration (EPD) was externally verified, according to ISO 21930:2017, ISO 14025:2006, UL Part A, and UL Part B: Cladding Product Systems by Jack Geibig, President, Ecoform.

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SUMMARY

Reference PCR
UL Part B: Cladding Product Systems

Regions; system boundaries
North America; Cradle to grave

Functional unit; reference service life
1 m^2 of installed panels; 75 years

LCIA methodology: TRACI 2.1

LCA software; LCI database
SimaPro Developer 9.6; ecoinvent v3.10, US-EI 2.2, Industry data 2.0

Public LCA
LCA of StoneLite® Panels

In accordance with ISO 14044 and the reference PCR, this life cycle assessment was conducted by Sustainable Minds and reviewed by Jack Geibig, President, Ecoform.

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Contact us

LCA results & interpretation

StoneLite®

Limestone panels | Granite panels | Marble panels | Porcelain panels | EPD additional content | Material health

Scope and summary

○ Cradle to gate ○ Cradle to gate with options ☑ **Cradle to grave**

Application

Stone cladding is applied to a building's exterior to separate it from the natural environment and provide an outer layer to the building. It not only provides protection from the weather elements but also a durable, aesthetically pleasing building appearance. StoneLite® granite panels are crafted by bonding a thin layer of granite to a durable aluminum honeycomb core. The stone veneer maintains the authentic appearance and texture of solid stone, while the aluminum honeycomb core offers a high strength-to-weight ratio, enabling the panel to absorb and evenly distribute impact forces. These features make StoneLite® panels a superior choice for both interior and exterior applications where aesthetics, strength, and efficiency are essential.

Functional unit

One square meter of installed StoneLite® granite panels over the building's estimated service life of 75 years. The installed panels, including accessories and other materials, weigh 22.4 kg and have a reference service life of 75 years when installed per the manufacturer's instructions.

Default installation, packaging, and disposal scenarios

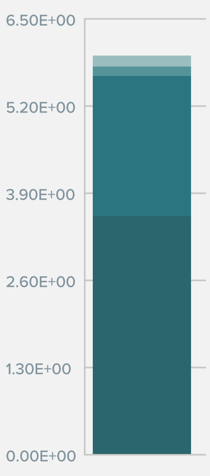
StoneLite® panels are cut to size based on customer-provided field measurements so that at the installation site, minimal cuts are required. As confirmed by an installer, approximately 1% of panels are disposed (23.95% landfilled, 1.67% incinerated, and the remainder recycled). 0.62 kg of masonry connectors are needed per functional unit. After installation is complete, lumber and foam packaging (67.16% landfilled, 15.70% incinerated, and the remainder recycled) and plastic packaging (69.44% landfilled, 16.93% incinerated, and the remainder recycled) are transported 100km via truck to the disposal site.

After installation, the panels are not expected to require cleaning, repair, or other activities over their 75-year service life. At the end of life, the panels are manually removed and transported 100km via truck to final disposal (74.4% recycled, 24.0% landfilled, 1.7% incinerated).

Material composition by wt%

PART	MATERIAL	% WT
Panel	Granite facing	55-65%
Panel	Pre-impregnated fiberglass cloth skins	5-8%
Panel	Steel attachment plate	5-8%
Panel	Aluminum honeycomb core	3-5%
Panel	Bonding putty	3-5%
Panel	Epoxies and hardeners	3-5%
Panel	Fiberglass fabric	<2%
Packaging	Lumber packaging	15-20%
Packaging	Foam packaging	<1%

Total impacts by life cycle stage [mPts/func unit]



LIFE CYCLE STAGE	MPTS/FUNC. UNIT
● **Raw material acquistion**	3.49E+00
● **Manufacturing**	2.19E+00
● **Construction**	1.64E-01
● **End of life**	1.53E-01
Total impacts = 6.00E+00 mPts	

What's causing the greatest impacts

All life cycle stages

For StoneLite® granite panels, the production stage (A1-A3) dominates the life cycle impacts, which accounts for over ~88% of the total environmental impacts across all impact categories. Raw material acquisition and preprocessing, transportation of stone to the facility, and electricity used during manufacturing are the primary contributors in that stage. The impacts from distribution to installation sites, installation and packaging waste, and disposal at the end of life account for the remainder of impacts.

Raw material acquisition

Raw material extraction and upstream processing (A1) has the most substantial impact on four impact categories: carcinogenics, non-carcinogenics, respiratory effects, and ecotoxicity. These impacts mainly arise from granite quarrying and the upstream production of honeycomb cores, pre-impregnated fiberglass cloth skins materials, and attachment plates.

Impacts during transportation (A2) stem from the use of trucks to deliver raw materials to the manufacturing site, with the quarried granite slabs contributing the most.

Manufacturing

The manufacturing stage (A3) is the largest contributor in four key impact categories: global warming, acidification, eutrophication, and fossil fuel depletion. The primary drivers of these impacts are the consumption of electricity and propane for various manufacturing operations within the production facility.

Construction and use

The distribution (A4) of panels to the installation site and activities during installation (A5) contribute about equally to the construction and use (B) phases. Transportation of the panels via truck is most impactful on ozone depletion, and the disposal of packaging and installation waste is more impactful on the global warming, smog, and non-carcinogenics impact categories.

Since the panels are expected to last the life of the building without any additional activities such as maintenance, replacement, or repair, there were no impacts in the use phase.

End of life

The transportation to disposal (C2) via truck dominates end-of-life impacts for most impact categories. Final product disposal (C4) contributes more to the eutrophication and carcinogenics impact categories in this phase.

Embodied carbon

Embodied carbon can be defined as the cradle-to-gate (A1-A3) global warming potential impacts. The total embodied carbon per functional unit of StoneLite® granite panels is 1.22E+02 kg CO_2-eq per functional unit.

Manufacturing data

Stone quarrying data was extracted from Natural Stone Institute's industry-wide stone cladding LCA published in November 2022. Coldspring fabrication data covers a reporting period of January 2021 – December 2023 from the Marble Falls, TX manufacturing facility.

How we're making it greener

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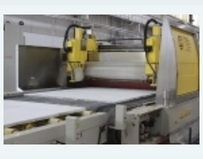
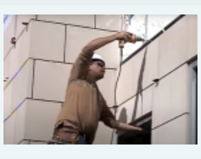
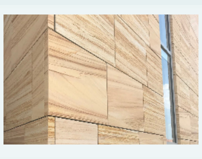
See how we make it greener

LCA results

LIFE CYCLE STAGE	RAW MATERIAL ACQUISITION	MANUFACTURING	CONSTRUCTION	USE	END OF LIFE
Information modules: **Included (X)** | Excluded (MND)* Stages B1-B7, C1, and C3 though included, have no associated activities. *Module D is excluded from this system boundary (MND).	**(X) A1 Raw material supply**	**(X) A3 Manufacturing**	**(X) A4 Distribution**	**(X) B1 Use**	**(X) C1 Deconstruction**
	(X) A2 Upstream transportation		**(X) A5 Installation**	**(X) B2 Maintenance**	**(X) C2 Waste Transportation**
				(X) B3 Repair	**(X) C3 Waste processing**
				(X) B4 Replacement	**(X) C4 Disposal**
				(X) B5 Refurbishment	
				(X) B6 Operational energy use	
				(X) B7 Operational water use	
					

SM Single Score

Learn about SM Single Score results

Impacts per 1 square meter of installed StoneLite® granite panels	3.49E+00 mPts	2.19E+00 mPts	1.64E-01 mPts	0 mPts	1.53E-01 mPts
Materials or processes contributing >20% to total impacts in each life cycle stage	Manufacturing of purchased components and upstream transport of granite.	Electricity and propane consumption during manufacturing.	Truck transportation to building site.	N/A	Waste transportation to disposal.

TRACI v2.1 results per functional unit

LIFE CYCLE STAGE		RAW MATERIAL ACQUISITION	MANUFACTURING	CONSTRUCTION	USE	END OF LIFE
Ecological damage						
Impact category	Unit					
Global warming	**kg CO_2 eq**	6.33E+01	5.92E+01	4.36E+00	0	3.52E+00
Ozone depletion	**kg CFC-11 eq**	6.62E-06	1.67E-06	4.97E-07	0	5.54E-07
Acidification	**kg SO_2 eq**	2.35E-01	1.67E-01	1.32E-02	0	1.55E-02
Eutrophication	**kg N eq**	3.25E-02	2.69E-02	1.48E-03	0	3.53E-03
Human health damage						
Impact category	Unit					
Smog	**kg O_3 eq**	4.45E+00	1.80E+00	3.18E-01	0	4.52E-01
Respiratory effects	**kg $PM_{2.5}$ eq**	2.93E-02	1.13E-02	1.01E-03	0	1.80E-03
Carcinogenics	**CTU_h**	4.09E-07	1.62E-07	7.72E-09	0	5.61E-09
Non-carcinogenics	**CTU_h**	3.29E-06	1.35E-06	1.72E-07	0	1.37E-07
Additional environmental information						
Impact category	Unit					
Fossil fuel depletion	**MJ surplus**	9.86E+01	9.08E+01	5.64E+00	0	5.33E+00
Ecotoxicity	**CTU_e**	86.3%	10.7%	2.1%	0%	0.9%

References

LCA Background Report
LCA of StoneLite® panels (public version), Coldspring 2025. Developed using the TRACI v2.1, CML, and Cumulative Energy Demand (LHV) impact assessment methodologies, SimaPro Developer 9.6 modeling software, Ecoinvent v3.10, US-EI 2.2, and Industry Data 2.0 databases.

ISO 14025, "Sustainability in buildings and civil engineering works -- Core rules for environmental product declarations of construction products and services"

ISO 21930:2017, "Sustainability in Building Construction — Environmental Declaration of Building Products" serves as the core PCR.

UL Part A: Life Cycle Assessment Calculation Rules and Report Requirements v4.0
March, 2022. PCR review conducted by Lindita Bushi, PhD, Chair (Athena Sustainable Materials Institute), lindita.bushi@athenasmi.org; Hugues Imbeault-Tétreault (Group AGECO); and Jack Geibig (Ecoform).

UL Part B: Cladding Product Systems EPD Requirements, v2.0
April, 2021. PCR review conducted by Jim Mellentine (Thrive ESG); Christoph White, Ph.D. (NIST); and Philip S. Mose, P.E. (MA) (Simpson Gumpertz & Heger).

UL Environment General Program Instructions v2.5, March 2021 (available upon request)

Download PDF SM Transparency Report/ EPD

SM Transparency Reports (TR) are ISO 14025 Type III environmental declarations (EPD) that enable purchasers and users to compare the potential environmental performance of products on a life cycle basis. Environmental declarations from different programs (ISO 14025) may not be comparable. Comparison of the environmental performance of Cladding Product Systems using EPD information shall be based on the product's use and impacts at the building level, and therefore EPDs may not be used for comparability purposes when not considering the building energy use phase. Full conformance with the PCR for stone cladding allows EPD comparability only when all stages of a life cycle have been considered, when they comply with all referenced standards, use the same sub-category PCR, and use equivalent scenarios with respect to construction works. However, variations and deviations are possible. Example of variations: Different LCA software and background LCI datasets may lead to differences results for upstream or downstream of the life cycle stages declared.

Rating systems

The intent is to reward project teams for selecting products from manufacturers who have verified improved life-cycle environmental performance.

LEED BD+C: New Construction | v4 - LEED v4

Building product disclosure and optimization

Environmental product declarations

○ Industry-wide (generic) EPD	½ product
☑ Product-specific Type III EPD	1 product

LEED BD+C: New Construction | v4.1 - LEED v4.1

Building product disclosure and optimization

Environmental product declarations

○ Industry-wide (generic) EPD	1 product
☑ Product-specific Type III EPD	1.5 products

Collaborative for High Performance Schools National Criteria

MW C5.1 – Environmental Product Declarations

☑ Third-party certified type III EPD	2 points

Green Globes for New Construction and Sustainable Interiors

Materials and resources

☑ NC 3.5.1.2 Path B: Prescriptive Path for Building Core and Shell

☑ NC 3.5.2.2 and SI 4.1.2 Path B: Prescriptive Path for Interior Fit-outs

BREEAM New Construction 2018

Mat 02 - Environmental impacts from construction products

Environmental Product Declarations (EPD)

○ Industry-average EPD	.5 points
○ Multi-product specific EPD	.75 points
☑ Product-specific EPD	1 point

SM Transparency Report (EPD)™ + Material Health Overview™

EPD	LCA
3rd-party reviewed	☑
	Transparency Report (EPD)
3rd-party verified	☑

Validity: 02/20/2025 – 02/19/2030
SM-SPI – 20250220 – 001

MATERIAL HEALTH	Material evaluation
Self-declared	☑

This environmental product declaration (EPD) was externally verified, according to ISO 21930:2017, ISO 14025:2006, UL Part A, and UL Part B: Cladding Product Systems by Jack Geibig, President, Ecoform.

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SUMMARY

Reference PCR
UL Part B: Cladding Product Systems

Regions; system boundaries
North America; Cradle to grave

Functional unit; reference service life
1 m^2 of installed panels; 75 years

LCIA methodology: TRACI 2.1

LCA software; LCI database
SimaPro Developer 9.6; ecoinvent v3.10, US-EI 2.2, Industry data 2.0

Public LCA
LCA of StoneLite® Panels

In accordance with ISO 14044 and the reference PCR, this life cycle assessment was conducted by Sustainable Minds and reviewed by Jack Geibig, President, Ecoform.

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Contact us

LCA results & interpretation

StoneLite®

Limestone panels | Granite panels | Marble panels | Porcelain panels | EPD additional content | Material health

Scope and summary

○ Cradle to gate ○ Cradle to gate with options ☑ **Cradle to grave**

Application

Stone cladding is applied to a building's exterior to separate it from the natural environment and provide an outer layer to the building. It not only provides protection from the weather elements but also a durable, aesthetically pleasing building appearance. StoneLite® marble panels are crafted by bonding a thin layer of marble to a durable aluminum honeycomb core. The stone veneer maintains the authentic appearance and texture of solid stone, while the aluminum honeycomb core offers a high strength-to-weight ratio, enabling the panel to absorb and evenly distribute impact forces. These features make StoneLite® panels a superior choice for both interior and exterior applications where aesthetics, strength, and efficiency are essential.

Functional unit

One square meter of installed StoneLite® marble panels over the building's estimated service life of 75 years. The installed panels, including accessories and other materials, weigh 21.8 kg and have a reference service life of 75 years when installed per the manufacturer's instructions.

Default installation, packaging, and disposal scenarios

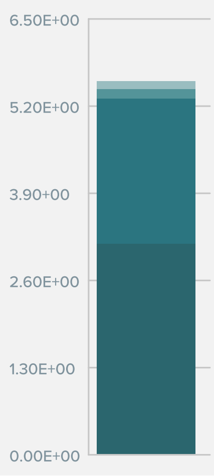
StoneLite® panels are cut to size based on customer-provided field measurements so that at the installation site, minimal cuts are required. As confirmed by an installer, approximately 1% of panels are disposed (23.95% landfilled, 1.67% incinerated, and the remainder recycled). 0.62 kg of masonry connectors are needed per functional unit. After installation is complete, lumber and foam packaging (67.16% landfilled, 15.70% incinerated, and the remainder recycled) and plastic packaging (69.44% landfilled, 16.93% incinerated, and the remainder recycled) are transported 100km via truck to the disposal site.

After installation, the panels are not expected to require cleaning, repair, or other activities over their 75-year service life. At the end of life, the panels are manually removed and transported 100km via truck to final disposal (74.4% recycled, 24.0% landfilled, 1.7% incinerated).

Material composition by wt%

PART	MATERIAL	% WT
Panel	Marble facing	55-65%
Panel	Pre-impregnated fiberglass cloth skins	5-8%
Panel	Steel attachment plate	5-8%
Panel	Aluminum honeycomb core	3-5%
Panel	Bonding putty	3-5%
Panel	Epoxies and hardeners	3-5%
Panel	Fiberglass fabric	<2%
Packaging	Lumber packaging	15-20%
Packaging	Foam packaging	<1%

Total impacts by life cycle stage [mPts/func unit]



LIFE CYCLE STAGE	MPTS/FUNC. UNIT
● Raw material acquistion	3.18E+00
● Manufacturing	2.19E+00
● Construction	1.62E-01
● End of life	1.49E-01
Total impacts = 5.68E+00 mPts	

What's causing the greatest impacts

All life cycle stages

For StoneLite® marble panels, the production stage(A1-A3) dominates the life cycle impacts, which accounts for over ~84% of the total environmental impacts across all impact categories. Raw material acquisition and preprocessing, transportation of stone to the facility, and electricity used during manufacturing are the primary contributors in that stage. The impacts from distribution to installation sites, installation and packaging waste, and disposal at the end of life account for the remainder of impacts.

Raw material acquisition

Raw materials extraction and upstream processing (A1) has the most substantial impact on six impact categories: smog formation, acidification, carcinogenics, non-carcinogenics, respiratory effects, and ecotoxicity. These impacts mainly arise from marble quarrying and the upstream production of honeycomb cores, pre-impregnated fiberglass cloth skins materials, and attachment plates.

Impacts during transportation (A2) stem from the use of trucks to deliver raw materials to the manufacturing site, with the quarried marble slabs contributing the most.

Manufacturing

The manufacturing stage (A3) is the largest contributor in three key impact categories: global warming, eutrophication, and fossil fuel depletion. The primary drivers of these impacts are the consumption of electricity and propane for various manufacturing operations within the production facility.

Construction and use

The distribution (A4) of panels to the installation site and activities during installation (A5) contribute about equally to the construction and use (B) phases. Transportation of the panels via truck is most impactful on ozone depletion, and the disposal of packaging and installation waste is more impactful on the global warming, smog, and non-carcinogenics impact categories.

Since the panels are expected to last the life of the building without any additional activities such as maintenance, replacement, or repair, there were no impacts in the use phase.

End of life

The transportation to disposal (C2) via truck dominates end-of-life impacts for most impact categories. Final product disposal (C4) contributes more to the eutrophication and carcinogenics impact categories in this phase.

Embodied carbon

Embodied carbon can be defined as the cradle-to-gate (A1-A3) global warming potential impacts. The total embodied carbon per functional unit of StoneLite® marble panels is 1.11E+02 kg CO_2-eq per functional unit.

Manufacturing data

Stone quarrying data was extracted from Natural Stone Institute's industry-wide stone cladding LCA published in November 2022. Coldspring fabrication data covers a reporting period of January 2021 – December 2023 from the Marble Falls, TX manufacturing facility.

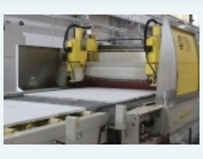
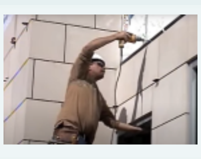
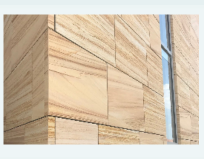
How we're making it greener

Coldspring is focused on designing solutions for sustainable cladding. From exterior hardscape and cladding to interior design elements, natural stone provides quality and durability that other materials cannot match.

At Coldspring, we offer end-to-end solutions and the highest-quality stone, giving you peace of mind that the finished product will stay intact and looking great far into the future. By using naturally occurring materials in our cladding solutions, we minimize the amount of additional processing needed to create an environment-conscious product

See how we make it greener

LCA results

LIFE CYCLE STAGE	RAW MATERIAL ACQUISITION	MANUFACTURING	CONSTRUCTION	USE	END OF LIFE
Information modules: **Included (X)** | Excluded (MND)* Stages B1-B7, C1, and C3 though included, have no associated activities. *Module D is excluded from this system boundary (MND).	**(X) A1 Raw material supply**	**(X) A3 Manufacturing**	**(X) A4 Distribution**	**(X) B1 Use**	**(X) C1 Deconstruction**
	(X) A2 Upstream transportation		**(X) A5 Installation**	**(X) B2 Maintenance**	**(X) C2 Waste Transportation**
				(X) B3 Repair	**(X) C3 Waste processing**
				(X) B4 Replacement	**(X) C4 Disposal**
				(X) B5 Refurbishment	
				(X) B6 Operational energy use	
				(X) B7 Operational water use	
					

SM Single Score

Learn about SM Single Score results

Impacts per 1 square meter of installed StoneLite® marble panels	3.18E+00 mPts	2.19E+00 mPts	1.62E-01 mPts	0 mPts	1.49E-01 mPts
Materials or processes contributing >20% to total impacts in each life cycle stage	Manufacturing of purchased components and upstream transport of marble.	Electricity and propane consumption during manufacturing.	Truck transportation to building site.	N/A	Waste transportation to disposal.

TRACI v2.1 results per functional unit

LIFE CYCLE STAGE		RAW MATERIAL ACQUISITION	MANUFACTURING	CONSTRUCTION	USE	END OF LIFE
Ecological damage						
Impact category	Unit					
Global warming	**kg CO_2 eq**	5.15E+01	5.91E+01	4.32E+00	0	3.44E+00
Ozone depletion	**kg CFC-11 eq**	3.76E-06	1.67E-06	4.88E-07	0	5.39E-07
Acidification	**kg SO_2 eq**	2.18E-01	1.65E-01	1.31E-02	0	1.51E-02
Eutrophication	**kg N eq**	2.84E-02	2.71E-02	1.46E-03	0	3.49E-03
Human health damage						
Impact category	Unit					
Smog	**kg O_3 eq**	4.08E+00	1.79E+00	3.14E-01	0	4.40E-01
Respiratory effects	**kg $PM_{2.5}$ eq**	2.74E-02	1.12E-02	9.97E-04	0	1.75E-03
Carcinogenics	**CTU_h**	4.58E-07	1.62E-07	7.70E-09	0	5.59E-09
Non-carcinogenics	**CTU_h**	3.07E-06	1.35E-06	1.71E-07	0	1.34E-07
Additional environmental information						
Impact category	Unit					
Fossil fuel depletion	**MJ surplus**	7.52E+01	9.03E+01	5.58E+00	0	5.19E+00
Ecotoxicity	**CTU_e**	85.9%	11.0%	2.2%	0%	0.9%

References

LCA Background Report
LCA of StoneLite® panels (public version), Coldspring 2025. Developed using the TRACI v2.1, CML, and Cumulative Energy Demand (LHV) impact assessment methodologies, SimaPro Developer 9.6 modeling software, Ecoinvent v3.10, US-EI 2.2, and Industry Data 2.0 databases.

ISO 14025, "Sustainability in buildings and civil engineering works -- Core rules for environmental product declarations of construction products and services"

ISO 21930:2017, "Sustainability in Building Construction — Environmental Declaration of Building Products" serves as the core PCR.

UL Part A: Life Cycle Assessment Calculation Rules and Report Requirements v4.0
March, 2022. PCR review conducted by Lindita Bushi, PhD, Chair (Athena Sustainable Materials Institute), lindita.bushi@athenasmi.org; Hugues Imbeault-Tétreault (Group AGECO); and Jack Geibig (Ecoform).

UL Part B: Cladding Product Systems EPD Requirements, v2.0
April, 2021. PCR review conducted by Jim Mellentine (Thrive ESG); Christoph White, Ph.D. (NIST); and Philip S. Mose, P.E. (MA) (Simpson Gumpertz & Heger).

UL Environment General Program Instructions v2.5, March 2021 (available upon request)

Download PDF SM Transparency Report/ EPD

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Rating systems

The intent is to reward project teams for selecting products from manufacturers who have verified improved life-cycle environmental performance.

LEED BD+C: New Construction | v4 - LEED v4

Building product disclosure and optimization

Environmental product declarations

○ Industry-wide (generic) EPD	½ product
✓ Product-specific Type III EPD	1 product

LEED BD+C: New Construction | v4.1 - LEED v4.1

Building product disclosure and optimization

Environmental product declarations

○ Industry-wide (generic) EPD	1 product
✓ Product-specific Type III EPD	1.5 products

Collaborative for High Performance Schools National Criteria

MW C5.1 – Environmental Product Declarations

✓ Third-party certified type III EPD	2 points

Green Globes for New Construction and Sustainable Interiors

Materials and resources

- ✓ NC 3.5.1.2 Path B: Prescriptive Path for Building Core and Shell
- ✓ NC 3.5.2.2 and SI 4.1.2 Path B: Prescriptive Path for Interior Fit-outs

BREEAM New Construction 2018

Mat 02 - Environmental impacts from construction products

Environmental Product Declarations (EPD)

○ Industry-average EPD	.5 points
○ Multi-product specific EPD	.75 points
✓ Product-specific EPD	1 point

SM Transparency Report (EPD)™ + Material Health Overview™

EPD	LCA
3rd-party reviewed	✓
	Transparency Report (EPD)
3rd-party verified	✓

Validity: 02/20/2025 – 02/19/2030
SM-SPI – 20250220 – 001

MATERIAL HEALTH	Material evaluation
Self-declared	✓

This environmental product declaration (EPD) was externally verified, according to ISO 21930:2017, ISO 14025:2006, UL Part A, and UL Part B: Cladding Product Systems by Jack Geibig, President, Ecoform.

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SUMMARY
Reference PCR
UL Part B: Cladding Product Systems
Regions; system boundaries
North America; Cradle to grave
Functional unit; reference service life
1 m^2 of installed panels; 75 years
LCIA methodology: TRACI 2.1
LCA software; LCI database
SimaPro Developer 9.6; ecoinvent v3.10, US-EI 2.2, Industry data 2.0
Public LCA
LCA of StoneLite® Panels
In accordance with ISO 14044 and the reference PCR, this life cycle assessment was conducted by Sustainable Minds and reviewed by Jack Geibig, President, Ecoform.

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Contact us

LCA results & interpretation

StoneLite®

Limestone panels | Granite panels | Marble panels | Porcelain panels | EPD additional content | Material health

Scope and summary

○ Cradle to gate ○ Cradle to gate with options ☑ **Cradle to grave**

Application

Porcelain cladding is applied to a building's exterior to separate it from the natural environment and provide an outer layer to the building. It not only provides protection from the weather elements but also a durable, aesthetically pleasing building appearance. StoneLite® porcelain panels are crafted by bonding a thin layer of porcelain to a durable aluminum honeycomb core. The porcelain veneer maintains the authentic appearance and texture, while the aluminum honeycomb core offers a high strength-to-weight ratio, enabling the panel to absorb and evenly distribute impact forces. These features make StoneLite® panels a superior choice for both interior and exterior applications where aesthetics, strength, and efficiency are essential.

Functional unit

One square meter of installed StoneLite® porcelain panels over the building's estimated service life of 75 years. The installed panels, including accessories and other materials, weigh 19.9 kg and have a reference service life of 75 years when installed per the manufacturer's instructions.

Default installation, packaging, and disposal scenarios

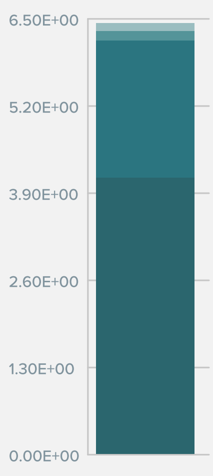
StoneLite® panels are cut to size based on customer-provided field measurements so that at the installation site, minimal cuts are required. As confirmed by an installer, approximately 1% of panels are disposed (23.95% landfilled, 1.67% incinerated, and the remainder recycled). 0.62 kg of masonry connectors are needed per functional unit. After installation is complete, lumber and foam packaging (67.16% landfilled, 15.70% incinerated, and the remainder recycled) and plastic packaging (69.44% landfilled, 16.93% incinerated, and the remainder recycled) are transported 100km via truck to the disposal site.

After installation, the panels are not expected to require cleaning, repair, or other activities over their 75-year service life. At the end of life, the panels are manually removed and transported 100km via truck to final disposal (74.4% recycled, 24.0% landfilled, 1.7% incinerated).

Material composition by wt%

PART	MATERIAL	% WT
Panel	Porcelain facing	55-65%
Panel	Pre-impregnated fiberglass cloth skins	5-8%
Panel	Steel attachment plate	5-8%
Panel	Aluminum honeycomb core	3-5%
Panel	Bonding putty	3-5%
Panel	Epoxies and hardeners	3-5%
Panel	Fiberglass fabric	<2%
Packaging	Lumber packaging	15-20%
Packaging	Foam packaging	<1%

Total impacts by life cycle stage [mPts/func unit]



LIFE CYCLE STAGE	MPTS/FUNC. UNIT
● **Raw material acquistion**	4.14E+00
● **Manufacturing**	2.03E+00
● **Construction**	1.56E-01
● **End of life**	1.38E-01
Total impacts = 6.46E+00 mPts	

What's causing the greatest impacts

All life cycle stages

For StoneLite® porcelain panels, the production stage (A1-A3) dominates the life cycle impacts, which accounts for over ~88% of the total environmental impacts across all impact categories. Raw material acquisition and preprocessing, transportation of porcelain to the facility, and electricity used during manufacturing are the primary contributors in that stage. The impacts from distribution to installation sites, installation and packaging waste, and disposal at the end of life account for the remainder of impacts.

Raw material acquisition

Raw materials extraction and upstream processing (A1) has the most substantial impact on six impact categories: smog formation, acidification, carcinogenic effects, non-carcinogenic effects, respiratory effects, and ecotoxicity. These impacts mainly arise from upstream production of porcelain sheets, honeycomb cores, pre-impregnated fiberglass cloth skins materials, and attachment plates.

Impacts during transportation (A2) stem from the use of trucks to deliver raw materials to the manufacturing site, with the porcelain sheets contributing the most.

Manufacturing

The manufacturing stage (A3) is the largest contributor in three key impact categories: global warming, eutrophication, and fossil fuel depletion. The primary drivers of these impacts are the consumption of electricity and propane for various manufacturing operations within the production facility.

Construction and use

The distribution (A4) of panels to the installation site and activities during installation (A5) contribute about equally to the construction and use (B) phases. Transportation of the panels via truck is most impactful on ozone depletion, and the disposal of packaging and installation waste is more impactful on the global warming, smog, and non-carcinogenics impact categories.

Since the panels are expected to last the life of the building without any additional activities such as maintenance, replacement, or repair, there were no impacts in the use phase.

End of life

The transportation to disposal (C2) via truck dominates end-of-life impacts for most impact categories. Final product disposal (C4) contributes more to the eutrophication and carcinogenics impact categories in this phase.

Embodied carbon

Embodied carbon can be defined as the cradle-to-gate (A1-A3) global warming potential impacts. The total embodied carbon per functional unit of StoneLite® porcelain panels is 1.18E+02 kg CO_2-eq per functional unit.

Manufacturing data

Coldspring fabrication data covers a reporting period of January 2021 – December 2023 from the Marble Falls, TX manufacturing facility.

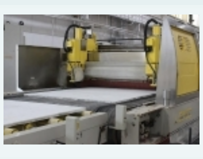
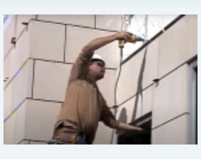
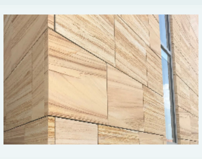
How we're making it greener

Coldspring is focused on designing solutions for sustainable cladding. From exterior hardscape and cladding to interior design elements, natural stone provides quality and durability that other materials cannot match.

At Coldspring, we offer end-to-end solutions and the highest-quality porcelain, giving you peace of mind that the finished product will stay intact and looking great far into the future. By using naturally occurring materials in our cladding solutions, we minimize the amount of additional processing needed to create an environment-conscious product

See how we make it greener

LCA results

LIFE CYCLE STAGE	RAW MATERIAL ACQUISITION	MANUFACTURING	CONSTRUCTION	USE	END OF LIFE
	(X) A1 Raw material supply	**(X) A3 Manufacturing**	**(X) A4 Distribution**	**(X) B1 Use**	**(X) C1 Deconstruction**
	(X) A2 Upstream transportation		**(X) A5 Installation**	**(X) B2 Maintenance**	**(X) C2 Waste Transportation**
				(X) B3 Repair	**(X) C3 Waste processing**
Information modules: **Included (X)** | Excluded (MND)* Stages B1-B7, C1, and C3 though included, have no associated activities. *Module D is excluded from this system boundary (MND).				**(X) B4 Replacement**	**(X) C4 Disposal**
				(X) B5 Refurbishment	
				(X) B6 Operational energy use	
				(X) B7 Operational water use	
					

SM Single Score

Learn about SM Single Score results

Impacts per 1 square meter of installed StoneLite® porcelain panels	4.14E+00 mPts	2.03E+00 mPts	1.56E-01 mPts	0 mPts	1.38E-01 mPts
Materials or processes contributing >20% to total impacts in each life cycle stage	Manufacturing of purchased components and upstream transport of porcelain.	Electricity and propane consumption during manufacturing.	Truck transportation to building site.	N/A	Waste transportation to disposal.

TRACI v2.1 results per functional unit

LIFE CYCLE STAGE		RAW MATERIAL ACQUISITION	MANUFACTURING	CONSTRUCTION	USE	END OF LIFE
Ecological damage						
Impact category	Unit					
Global warming	**kg CO_2 eq**	6.37E+01	5.42E+01	4.18E+00	0	3.19E+00
Ozone depletion	**kg CFC-11 eq**	5.40E-06	1.54E-06	4.61E-07	0	4.89E-07
Acidification	**kg SO_2 eq**	2.24E-01	1.48E-01	1.26E-02	0	1.37E-02
Eutrophication	**kg N eq**	3.13E-02	2.66E-02	1.41E-03	0	3.35E-03
Human health damage						
Impact category	Unit					
Smog	**kg O_3 eq**	3.84E+00	1.64E+00	3.03E-01	0	4.00E-01
Respiratory effects	**kg $PM_{2.5}$ eq**	1.84E-02	1.03E-02	9.69E-04	0	1.59E-03
Carcinogenics	**CTU_h**	4.12E-07	1.55E-07	7.65E-09	0	5.52E-09
Non-carcinogenics	**CTU_h**	3.66E-06	1.23E-06	1.65E-07	0	1.22E-07
Additional environmental information						
Impact category	Unit					
Fossil fuel depletion	**MJ surplus**	9.64E+01	8.27E+01	5.31E+00	0	4.71E+00
Ecotoxicity	**CTU_e**	86.1%	10.9%	2.1%	0%	0.9%

References

LCA Background Report
LCA of StoneLite® panels (public version), Coldspring 2025. Developed using the TRACI v2.1, CML, and Cumulative Energy Demand (LHV) impact assessment methodologies, SimaPro Developer 9.6 modeling software, Ecoinvent v3.10, US-EI 2.2, and Industry Data 2.0 databases.

ISO 14025, "Sustainability in buildings and civil engineering works -- Core rules for environmental product declarations of construction products and services"

ISO 21930:2017, "Sustainability in Building Construction — Environmental Declaration of Building Products" serves as the core PCR.

UL Part A: Life Cycle Assessment Calculation Rules and Report Requirements v4.0
March, 2022. PCR review conducted by Lindita Bushi, PhD, Chair (Athena Sustainable Materials Institute), lindita.bushi@athenasmi.org; Hugues Imbeault-Tétreault (Group AGECO); and Jack Geibig (Ecoform).

UL Part B: Cladding Product Systems EPD Requirements, v2.0
April, 2021. PCR review conducted by Jim Mellentine (Thrive ESG); Christoph White, Ph.D. (NIST); and Philip S. Mose, P.E. (MA) (Simpson Gumpertz & Heger).

UL Environment General Program Instructions v2.5, March 2021 (available upon request)

Download PDF SM Transparency Report/ EPD

SM Transparency Reports (TR) are ISO 14025 Type III environmental declarations (EPD) that enable purchasers and users to compare the potential environmental performance of products on a life cycle basis. Environmental declarations from different programs (ISO 14025) may not be comparable. Comparison of the environmental performance of Cladding Product Systems using EPD information shall be based on the product's use and impacts at the building level, and therefore EPDs may not be used for comparability purposes when not considering the building energy use phase. Full conformance with the PCR for stone cladding allows EPD comparability only when all stages of a life cycle have been considered, when they comply with all referenced standards, use the same sub-category PCR, and use equivalent scenarios with respect to construction works. However, variations and deviations are possible. Example of variations: Different LCA software and background LCI datasets may lead to differences results for upstream or downstream of the life cycle stages declared.

Rating systems

The intent is to reward project teams for selecting products from manufacturers who have verified improved life-cycle environmental performance.

LEED BD+C: New Construction | v4 - LEED v4

Building product disclosure and optimization

Environmental product declarations

○ Industry-wide (generic) EPD	½ product
☑ Product-specific Type III EPD	1 product

LEED BD+C: New Construction | v4.1 - LEED v4.1

Building product disclosure and optimization

Environmental product declarations

○ Industry-wide (generic) EPD	1 product
☑ Product-specific Type III EPD	1.5 products

Collaborative for High Performance Schools National Criteria

MW C5.1 – Environmental Product Declarations

☑ Third-party certified type III EPD	2 points

Green Globes for New Construction and Sustainable Interiors

Materials and resources

☑ NC 3.5.1.2 Path B: Prescriptive Path for Building Core and Shell

☑ NC 3.5.2.2 and SI 4.1.2 Path B: Prescriptive Path for Interior Fit-outs

BREEAM New Construction 2018

Mat 02 - Environmental impacts from construction products

Environmental Product Declarations (EPD)

○ Industry-average EPD	.5 points
○ Multi-product specific EPD	.75 points
☑ Product-specific EPD	1 point

SM Transparency Report (EPD)™ + Material Health Overview™

EPD	LCA
3rd-party reviewed	✓
	Transparency Report (EPD)
3rd-party verified	✓

Validity: 02/20/2025 – 02/19/2030
SM-SPI – 20250220 – 001

MATERIAL HEALTH	Material evaluation
Self-declared	✓

This environmental product declaration (EPD) was externally verified, according to ISO 21930:2017, ISO 14025:2006, UL Part A, and UL Part B: Cladding Product Systems by Jack Geibig, President, Ecoform.

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SUMMARY
Reference PCR
UL Part B: Cladding Product Systems

Regions; system boundaries
North America; Cradle to grave

Functional unit; reference service life
1 m^2 of installed panels; 75 years

LCIA methodology: TRACI 2.1

LCA software; LCI database
SimaPro Developer 9.6; ecoinvent v3.10, US-EI 2.2, Industry data 2.0

Public LCA
LCA of StoneLite® Panels

In accordance with ISO 14044 and the reference PCR, this life cycle assessment was conducted by Sustainable Minds and reviewed by Jack Geibig, President, Ecoform.

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17482 Granite West Road
Cold Spring, MN 56320
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https://www.stonepanels.com/

Contact us

EPD additional content

StoneLite®

Data

Background This product-specific plant-specific declaration was created by collecting production and supply chain data for Coldspring's manufacturing facility in Marble Falls, TX. Upstream data for stone quarrying operations was adopted from Natural Stone Institute's (NSI) industry-wide stone cladding LCA published in November 2022. All unit processes were modeled using primary data. Secondary data sources include those available in the ecoinvent v3.10, US-EI 2.2, and Industry data 2.0 databases.

Allocation Since manufacturing resources other than electricity were used across all types of StoneLite® panels, and not dedicated solely to specific panel types, they were evenly distributed based on production area. The annual manufacturing resource use was calculated relative to the annual production area and further weighted according to each year's production levels, providing a comprehensive, area-based annual resource allocation. Electricity measurement varied due to specific equipment requirements, and porcelain processing was estimated to need approximately 15% less electricity than stone-based processing. The total amount of electricity consumed each year was therefore calculated separately for natural stone panels and porcelain panels. No recycled materials are used in the product system, and there were no co-products manufactured.

Cut-off criteria for the inclusion of mass and energy flows are 1% of renewable primary resource (energy) usage, 1% nonrenewable primary resource (energy) usage, 1% of the total mass input of that unit process, and 1% of environmental impacts. The total of neglected input flows per module does not exceed 5% of energy usage, mass, and environmental impacts. The only exceptions to these criteria are substances with hazardous and toxic properties, which must be listed even when the given process unit is under the cut-off criterion of 1% of the total mass.

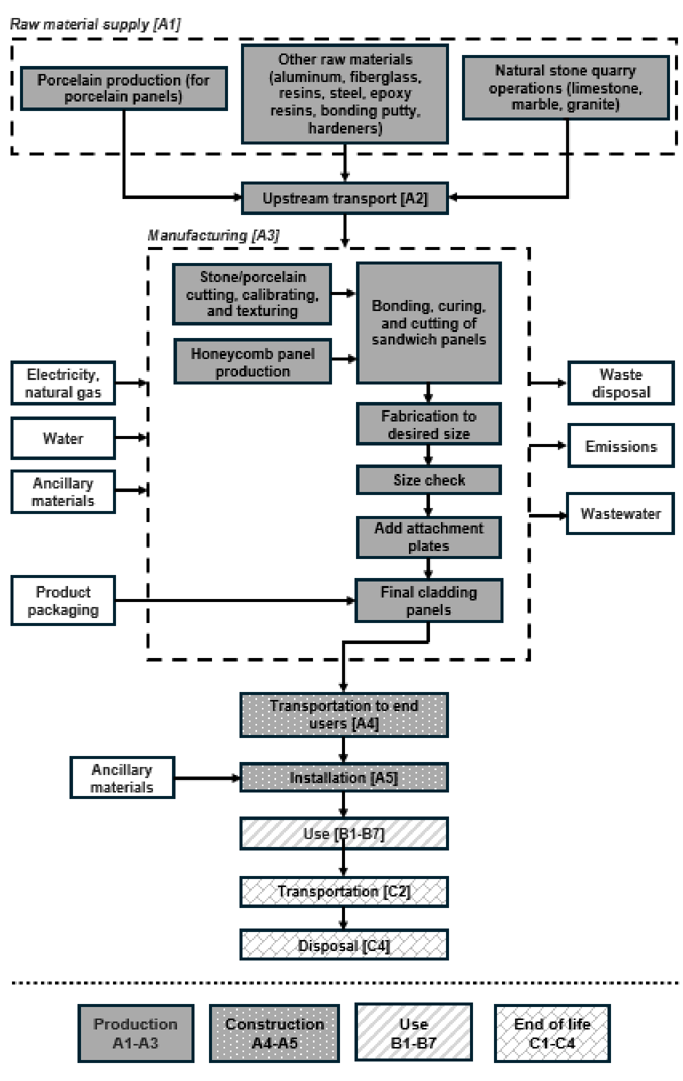
In the absence of suitable proxy data sets, some ingredients making up the epoxies and bonding putties were excluded; however, the cumulative mass of excluded ingredients is less than 1% of the product system. No known energy flow has been omitted in this study, and the excluded ingredients are expected to have an insignificant effect on environmental impacts.

All known hazardous wastes released from the manufacturing facility have been included in this study, including methyl ethyl ketone which is used for cleaning purposes and is not a part of the final product. No carbonation or calcination is expected to occur during the production and manufacture of the panels. Biogenic carbon is included in reported results.

Quality Temporal and technological representativeness are considered to be high. Geographical representativeness is considered to be high. All relevant process steps for the product system were considered and modeled. The process chain is considered sufficiently complete with regards to the goal and scope of this study.

The product system was checked for mass balance and completeness of the inventory. Capital goods were excluded since they are assumed not to significantly affect the conclusions of the LCA. Otherwise, no data were knowingly omitted. For more information on data quality, see the LCA background report.

Flow diagram



Major system boundary exclusions

- Construction of major capital equipment
- Maintenance of operation and support equipment
- Human labor and employee transport
- Manufacture and transport of packaging not associated with final product
- Building operational energy and water use not associated with final product

Major assumptions and limitations

- It was estimated that porcelain panels consume 15% less electricity than natural stone panels; however, slight deviations are possible
- Generic data sets used for material inputs, transport, and waste processing are considered good quality, but actual impacts from material suppliers, transport carriers, and local waste processing may vary
- The impact assessment methodology categories do not represent all possible environmental impact categories
- Characterization factors used within the impact assessment methodology may contain varying levels of uncertainty
- LCA results are relative expressions and do not predict impacts on category endpoints, the exceeding of thresholds, safety margins or risks

Scenarios and additional technical information

PARAMETER	Lim	Gra	Mar	Por	UNIT
Transport to the building site [A4]					
Fuel type	Diesel				
Vehicle type	Lorry (16-32 metric ton)				
Liters of fuel	0.10	0.11	0.11	0.10	l/100 km
Avg distance from facility to installation site	500				km
Capacity utilization (mass based)	100				%
Gross density	766	882	858	782	kg/m³
Capacity utilization volume factor	1				

Installation into the building [A5]					
Installation scrap rate	1				%
Ancillary materials: Masonry connectors	0.62				kg
Product loss per functional unit	0.19	0.22	0.21	0.19	kg
Waste materials at the construction site before waste processing (installation scraps, and packaging waste)	4.78	4.81	4.8	4.78	kg
Output materials from on-site waste processing	0				kg
Mass of wood (lumber) packaging waste	4.44				kg
Mass of plastic foam packaging waste	0.15				kg
Biogenic carbon contained in packaging	8.15				kg CO2
Direct emissions to ambient air, soil, and water	0				kg
VOC emissions	0				µg/m3
Note: All other A5 parameters (net freshwater consumption, other resources, electricity consumption, other energy carriers) are not applicable.					

Use parameters [B1-B7]		
Reference service life (RSL)	75	years
Estimated service life (ESL)	75	years
Declared product properties	Refer to 'Product technical information' table below	
Design application parameters	ASTM E-84 Flame Spread: 5 maximum ASTM D-2015 Potential heat of combustion: 1150 BTU/lb maximum Modified ASTM E-108 Fire evaluation: Resist 30 minutes fire exposure ASTM E 283 Air infiltration: 0.06 cfm/ft2 maximum	
Assumed quality of work	Panel is expected to last the life of the building when installed per manufacturer's instructions	
Outdoor environment	All conditions, including extreme heat, freezing thaw, earthquakes, tornadoes, and hurricanes	
Indoor environment	Ideal for overhead applications, interior landscaping, feature walls etc.	
Use conditions	All conditions (indoor and outdoor)	
Maintenance process information	N/A	
Note: Modules B1-B7 were considered but deemed not to apply.		

End of life [C1-C4]					
Assumptions for scenario development	Following manual removal of panels, they are transported 100 km to the disposal site				
Collected with mixed construction waste	18.8	21.8	21.2	19.2	kg
Waste transport	100				km
Recycling	14	16.2	15.8	14.3	kg
Landfill	4.73	5.48	5.33	4.83	kg
Incinerated w/o energy recovery	0.09	0.09	0.09	0.09	kg
Removals of biogenic carbon (excluding packaging)	0				kg CO_2

Product technical information			
Parameters	**Values**	**Unit**	**Test method**
Panel thickness	25.4	mm	N/A
Standard panel dimensions	1.22 L * 2.44 m W, normalized to 1 m²		N/A
Width	2.44	m	N/A
Flexural strength	5.12 – 5.66	Mpa	ASTM C880
Thermal conductivity (k-value)	2.22 – 3.22	W/mK	ASTM C518
Thermal resistance (R-value)	0.32 – 0.47	mK/W	ASTM C518
Liquid water absorption	0.4% – 2.1%	% of dry weight	ASTM C97
Available product finishes	Available finishes are honed, polished, sanded, thermal, brushed, bush hammered, and water jet. Not all finishes are applicable for all types of stone.		

LCIA impact factors required by the PCR are global warming, ozone depletion, acidification, eutrophication, smog, and fossil fuel depletion; "These six impact categories are globally deemed mature enough to be included in Type III environmental declarations. Other categories are being developed and defined and LCA should continue making advances in their development. However, the EPD users shall not use additional measures for comparative purposes."

LCIA results, resource use, output and waste flows, and carbon emissions & removals per functional unit

Modules B1-B7, C1, and C2 each have a reported value of zero. Module D is not declared.

StoneLite® limestone panels: results per functional unit

Parameter	Unit	A1	A2	A3	A4	A5	C2	C4	Total
LCIA results									
Ozone depletion	kg CFC-11 eq	8.06E-07	4.63E-06	1.67E-06	3.23E-07	1.32E-07	4.76E-07	3.55E-09	**8.05E-06**
Global warming	kg CO2 eq	3.28E+01	2.39E+01	5.95E+01	1.62E+00	2.54E+00	2.37E+00	7.75E-01	**1.23E+02**
Smog	kg O3 eq	1.95E+00	1.91E+00	1.79E+00	1.33E-01	1.67E-01	3.85E-01	6.91E-03	**6.34E+00**
Acidification	kg SO2 eq	1.39E-01	7.30E-02	1.65E-01	5.07E-03	7.48E-03	1.31E-02	3.49E-04	**4.03E-01**
Eutrophication	kg N eq	2.03E-02	9.75E-03	2.82E-02	6.82E-04	7.12E-04	1.34E-03	1.98E-03	**6.30E-02**
Carcinogenics	CTUh	3.65E-07	1.00E-08	1.63E-07	6.72E-10	6.96E-09	6.78E-10	4.83E-09	**5.51E-07**
Non-carcinogenics	CTUh	2.06E-06	9.42E-07	1.35E-06	6.08E-08	1.04E-07	1.13E-07	6.48E-09	**4.64E-06**
Respiratory effects	kg PM2.5 eq	2.31E-02	4.73E-03	1.12E-02	3.18E-04	6.45E-04	1.53E-03	3.04E-05	**4.15E-02**
Additional environmental information									
Ecotoxicity	CTUe	3.94E+01	1.41E+01	7.16E+00	8.82E-01	4.44E-01	3.05E-01	2.40E-01	**6.25E+01**
Fossil fuel depletion	MJ surplus	4.05E+01	4.57E+01	9.03E+01	3.10E+00	2.16E+00	4.57E+00	5.06E-02	**1.86E+02**
Resource use indicators									
Renewable primary energy used as energy carrier (fuel)	MJ, LHV	2.34E+01	5.24E-01	1.59E+02	3.53E-02	6.26E-01	5.14E-02	1.72E-02	**1.84E+02**
Renewable primary resources with energy content used as material	MJ, LHV	3.46E-01	0	0	0	3.46E-03	0	0	**3.49E-01**
Total use of renewable primary resources with energy content	MJ, LHV	2.37E+01	5.24E-01	1.59E+02	3.53E-02	6.29E-01	5.14E-02	1.72E-02	**1.84E+02**
Non-renewable primary resources used as an energy carrier (fuel)	MJ, LHV	4.56E+02	3.20E+02	8.59E+02	2.17E+01	2.76E+01	3.20E+01	4.54E-01	**1.72E+03**
Non-renewable primary resources with energy content used as material	MJ, LHV	9.85E-02	0	0	0	9.85E-04	0	0	**9.95E-02**
Total use of non-renewable primary resources with energy content	MJ, LHV	4.56E+02	3.20E+02	8.59E+02	2.17E+01	2.76E+01	3.20E+01	4.54E-01	**1.72E+03**
Secondary materials	kg	0	0	0	0	0	0	0	**0**
Renewable secondary fuels	MJ, LHV	0	0	0	0	0	0	0	**0**
Non-renewable secondary fuels	MJ, LHV	0	0	0	0	0	0	0	**0**
Recovered energy	MJ, LHV	0	0	0	0	0	0	0	**0**
Use of net fresh water resources	m3	1.11E+02	1.53E+00	1.74E+01	1.01E-01	1.62E-01	1.47E-01	4.87E-02	**1.30E+02**
Abiotic depletion potential for fossil resources	MJ, LHV	4.15E+02	3.20E+01	2.40E+01	6.12E+01	1.60E+00	2.60E+00	2.37E+00	**5.39E+02**
Output flows and waste category indicators									
Hazardous waste disposed	kg	2.65E-04	0	0	0	0	0	0	**2.65E-04**
Non-hazardous waste disposed	kg	1.12E-02	0	1.09E+01	0	3.13E+00	0	4.73E+00	**1.87E+01**
High-level radioactive waste, conditioned, to final repository	kg	1.02E-04	5.58E-06	3.47E-04	3.82E-07	2.39E-07	5.55E-07	1.85E-07	**4.55E-04**
Intermediate- and low-level radioactive waste, conditioned, to final repository	kg	2.44E-04	1.24E-05	7.74E-04	8.51E-07	5.32E-07	1.24E-06	4.13E-07	**1.03E-03**
Components for re-use	kg	0	0	0	0	0	0	0	**0**
Materials for recycling	kg	4.88E+01	0	1.01E+01	0	9.23E-01	0	1.40E+01	**7.38E+01**
Materials for energy recovery	kg	0	0	4.39E-01	0	7.23E-01	0	9.29E-02	**1.25E+00**
Exported energy	MJ, LHV	0	0	0	0	0	0	0	**0**
Carbon emissions and removals									
Biogenic carbon removal from product	kg CO2	0	0	0	0	0	0	0	**0**
Biogenic carbon emission from product	kg CO2	0	0	0	0	0	0	0	**0**
Biogenic carbon removal from packaging	kg CO2	0	0	8.15E+00	0	0	0	0	**8.15E+00**
Biogenic carbon emission from packaging	kg CO2	0	0	0	0	8.15E+00	0	0	**8.15E+00**
Biogenic carbon emission from combustion of waste from renewable sources used in production processes	kg CO2	0	0	0	0	0	0	0	**0**
Calcination carbon emissions	kg CO2	0	0	0	0	0	0	0	**0**
Carbonation carbon removals	kg CO2	0	0	0	0	0	0	0	**0**
Carbon emissions from combustion of waste from renewable sources used in production processes	kg CO2	0	0	0	0	0	0	0	**0**
Carbon emissions from combustion of waste from non-renewable sources used in production processes	kg CO2	0	0	0	0	0	0	0	**0**

StoneLite® granite panels: results per functional unit

Parameter	Unit	A1	A2	A3	A4	A5	C2	C4	Total
LCIA results									
Ozone depletion	kg CFC-11 eq	8.55E-07	5.77E-06	1.67E-06	3.63E-07	1.33E-07	5.50E-07	3.86E-09	**9.34E-06**
Global warming	kg CO2 eq	3.37E+01	2.96E+01	5.92E+01	1.82E+00	2.54E+00	2.74E+00	7.77E-01	**1.30E+02**
Smog	kg O3 eq	2.07E+00	2.37E+00	1.80E+00	1.50E-01	1.68E-01	4.45E-01	7.44E-03	**7.02E+00**
Acidification	kg SO2 eq	1.44E-01	9.07E-02	1.67E-01	5.71E-03	7.50E-03	1.51E-02	3.67E-04	**4.31E-01**
Eutrophication	kg N eq	2.04E-02	1.21E-02	2.69E-02	7.68E-04	7.14E-04	1.55E-03	1.98E-03	**6.44E-02**
Carcinogenics	CTUh	3.97E-07	1.24E-08	1.62E-07	7.56E-10	6.96E-09	7.83E-10	4.83E-09	**5.85E-07**
Non-carcinogenics	CTUh	2.14E-06	1.16E-06	1.35E-06	6.84E-08	1.04E-07	1.31E-07	6.50E-09	**4.96E-06**
Respiratory effects	kg PM2.5 eq	2.35E-02	5.84E-03	1.13E-02	3.58E-04	6.48E-04	1.76E-03	3.27E-05	**4.34E-02**
Additional environmental information									
Ecotoxicity	CTUe	4.07E+01	1.72E+01	7.17E+00	9.93E-01	4.45E-01	3.52E-01	2.40E-01	**6.70E+01**
Fossil fuel depletion	MJ surplus	4.20E+01	5.66E+01	9.05E+01	3.49E+00	2.16E+00	5.28E+00	5.43E-02	**2.00E+02**
Resource use indicators									
Renewable primary energy used as energy carrier (fuel)	MJ, LHV	2.41E+01	6.48E-01	1.59E+02	3.97E-02	6.25E-01	5.94E-02	1.73E-02	**1.85E+02**
Renewable primary resources with energy content used as material	MJ, LHV	4.22E-01	0	0	0	4.22E-03	0	0	**4.26E-01**
Total use of renewable primary resources with energy content	MJ, LHV	2.45E+01	6.48E-01	1.59E+02	3.97E-02	6.29E-01	5.94E-02	1.73E-02	**1.85E+02**
Non-renewable primary resources used as an energy carrier (fuel)	MJ, LHV	4.71E+02	3.96E+02	8.63E+02	2.44E+01	2.77E+01	3.69E+01	4.80E-01	**1.82E+03**
Non-renewable primary resources with energy content used as material	MJ, LHV	1.20E-01	0	0	0	1.20E-03	0	0	**1.21E-01**
Total use of non-renewable primary resources with energy content	MJ, LHV	4.72E+02	3.96E+02	8.63E+02	2.44E+01	2.77E+01	3.69E+01	4.80E-01	**1.82E+03**
Secondary materials	kg	0	0	0	0	0	0	0	**0**
Renewable secondary fuels	MJ, LHV	0	0	0	0	0	0	0	**0**
Non-renewable secondary fuels	MJ, LHV	0	0	0	0	0	0	0	**0**
Recovered energy	MJ, LHV	0	0	0	0	0	0	0	**0**
Use of net fresh water resources	m3	1.14E+02	1.89E+00	1.73E+01	1.14E-01	1.62E-01	1.70E-01	4.89E-02	**1.34E+02**
Abiotic depletion potential for fossil resources	MJ, LHV	4.15E+02	3.20E+01	2.96E+01	6.08E+01	1.81E+00	2.60E+00	2.74E+00	**5.45E+02**
Output flows and waste category indicators									
Hazardous waste disposed	kg	3.24E-04	0	0	0	0	0	0	**3.24E-04**
Non-hazardous waste disposed	kg	1.37E-02	0	1.09E+01	0	3.14E+00	0	5.48E+00	**1.95E+01**
High-level radioactive waste, conditioned, to final repository	kg	1.13E-04	6.91E-06	3.47E-04	4.29E-07	2.40E-07	6.42E-07	1.86E-07	**4.68E-04**
Intermediate- and low-level radioactive waste, conditioned, to final repository	kg	2.64E-04	1.54E-05	7.74E-04	9.57E-07	5.34E-07	1.43E-06	4.14E-07	**1.06E-03**
Components for re-use	kg	0	0	0	0	0	0	0	**0**
Materials for recycling	kg	5.96E+01	0	1.23E+01	0	9.44E-01	0	1.62E+01	**8.90E+01**
Materials for energy recovery	kg	0	0	4.39E-01	0	7.23E-01	0	9.29E-02	**1.25E+00**
Exported energy	MJ, LHV	0	0	0	0	0	0	0	**0**
Carbon emissions and removals									
Biogenic Carbon Removal from Product	kg CO2	0	0	0	0	0	0	0	**0**
Biogenic Carbon Emission from Product	kg CO2	0	0	0	0	0	0	0	**0**
Biogenic Carbon Removal from Packaging	kg CO2	0	0	8.15E+00	0	0	0	0	**8.15E+00**
Biogenic Carbon Emission from Packaging	kg CO2	0	0	0	0	8.15E+00	0	0	**8.15E+00**
Biogenic Carbon Emission from Combustion of Waste from Renewable Sources Used in Production Processes	kg CO2	0	0	0	0	0	0	0	**0**
Calcination Carbon Emissions	kg CO2	0	0	0	0	0	0	0	**0**
Carbonation Carbon Removals	kg CO2	0	0	0	0	0	0	0	**0**
Carbon Emissions from Combustion of Waste from Non-Renewable Sources used in Production Processes	kg CO2	0	0	0	0	0	0	0	**0**
Carbon Emissions from Combustion of Waste from Non-Renewable Sources used in Production Processes	kg CO2	0	0	0	0	0	0	0	**0**

StoneLite® marble panels: results per functional unit

Parameter	Unit	A1	A2	A3	A4	A5	C2	C4	Total

LCIA results									
Ozone depletion	kg CFC-11 eq	9.06E-07	2.85E-06	1.67E-06	3.55E-07	1.33E-07	5.35E-07	3.80E-09	**6.45E-06**
Global warming	kg CO2 eq	3.66E+01	1.50E+01	5.91E+01	1.78E+00	2.54E+00	2.67E+00	7.77E-01	**1.18E+02**
Smog	kg O3 eq	2.91E+00	1.17E+00	1.79E+00	1.47E-01	1.68E-01	4.33E-01	7.33E-03	**6.62E+00**
Acidification	kg SO2 eq	1.73E-01	4.50E-02	1.65E-01	5.58E-03	7.50E-03	1.47E-02	3.63E-04	**4.11E-01**
Eutrophication	kg N eq	2.24E-02	5.99E-03	2.71E-02	7.50E-04	7.13E-04	1.51E-03	1.98E-03	**6.05E-02**
Carcinogenics	CTUh	4.51E-07	6.29E-09	1.62E-07	7.39E-10	6.96E-09	7.62E-10	4.83E-09	**6.33E-07**
Non-carcinogenics	CTUh	2.46E-06	6.07E-07	1.35E-06	6.69E-08	1.04E-07	1.27E-07	6.49E-09	**4.72E-06**
Respiratory effects	kg PM2.5 eq	2.44E-02	2.97E-03	1.12E-02	3.50E-04	6.47E-04	1.72E-03	3.23E-05	**4.13E-02**
Additional environmental information									
Ecotoxicity	CTUe	4.63E+01	9.21E+00	7.10E+00	9.71E-01	4.44E-01	3.43E-01	2.40E-01	**6.46E+01**
Fossil fuel depletion	MJ surplus	4.66E+01	2.86E+01	9.03E+01	3.41E+00	2.16E+00	5.14E+00	5.35E-02	**1.76E+02**
Resource use indicators									
Renewable primary energy used as energy carrier (fuel)	MJ, LHV	3.07E+01	3.29E-01	1.59E+02	3.88E-02	6.25E-01	5.78E-02	1.72E-02	**1.91E+02**
Renewable primary resources with energy content used as material	MJ, LHV	4.07E-01	0	0	0	4.07E-03	0	0	**4.11E-01**
Total use of renewable primary resources with energy content	MJ, LHV	3.11E+01	3.29E-01	1.59E+02	3.88E-02	6.29E-01	5.78E-02	1.72E-02	**1.91E+02**
Non-renewable primary resources used as an energy carrier (fuel)	MJ, LHV	5.13E+02	2.00E+02	8.59E+02	2.39E+01	2.76E+01	3.60E+01	4.75E-01	**1.66E+03**
Non-renewable primary resources with energy content used as material	MJ, LHV	1.16E-01	0	0	0	1.16E-03	0	0	**1.17E-01**
Total use of non-renewable primary resources with energy content	MJ, LHV	5.13E+02	2.00E+02	8.59E+02	2.39E+01	2.76E+01	3.60E+01	4.75E-01	**1.66E+03**
Secondary materials	kg	0	0	0	0	0	0	0	**0**
Renewable secondary fuels	MJ, LHV	0	0	0	0	0	0	0	**0**
Non-renewable secondary fuels	MJ, LHV	0	0	0	0	0	0	0	**0**
Recovered energy	MJ, LHV	0	0	0	0	0	0	0	**0**
Use of net fresh water resources	m3	1.19E+02	9.76E-01	1.73E+01	1.11E-01	1.62E-01	1.65E-01	4.89E-02	**1.38E+02**
Abiotic depletion potential for fossil resources	MJ, LHV	4.15E+02	3.20E+01	1.50E+01	6.08E+01	1.77E+00	2.60E+00	2.67E+00	**5.30E+02**
Output flows and waste category indicators									
Hazardous waste disposed	kg	3.12E-04	0	0	0	0	0	0	**3.12E-04**
Non-hazardous waste disposed	kg	1.32E-02	0	1.09E+01	0	3.14E+00	0	5.33E+00	**1.94E+01**
High-level radioactive waste, conditioned, to final repository	kg	1.36E-04	3.47E-06	3.47E-04	4.20E-07	2.40E-07	6.24E-07	1.86E-07	**4.88E-04**
Intermediate- and low-level radioactive waste, conditioned, to final repository	kg	3.02E-04	7.75E-06	7.74E-04	9.36E-07	5.34E-07	1.39E-06	4.14E-07	**1.09E-03**
Components for re-use	kg	0	0	0	0	0	0	0	**0**
Materials for recycling	kg	5.74E+01	0	1.18E+01	0	9.39E-01	0	1.58E+01	**8.60E+01**
Materials for energy recovery	kg	0	0	4.39E-01	0	7.23E-01	0	9.29E-02	**1.25E+00**
Exported energy	MJ, LHV	0	0	0	0	0	0	0	**0**
Carbon emissions and removals									
Biogenic Carbon Removal from Product	kg CO2	0	0	0	0	0	0	0	**0**
Biogenic Carbon Emission from Product	kg CO2	0	0	0	0	0	0	0	**0**
Biogenic Carbon Removal from Packaging	kg CO2	0	0	8.15E+00	0	0	0	0	**8.15E+00**
Biogenic Carbon Emission from Packaging	kg CO2	0	0	0	0	8.15E+00	0	0	**8.15E+00**
Biogenic Carbon Emission from Combustion of Waste from Renewable Sources Used in Production Processes	kg CO2	0	0	0	0	0	0	0	**0**
Calcination Carbon Emissions	kg CO2	0	0	0	0	0	0	0	**0**
Carbonation Carbon Removals	kg CO2	0	0	0	0	0	0	0	**0**
Carbon Emissions from Combustion of Waste from Non-Renewable Sources used in Production Processes	kg CO2	0	0	0	0	0	0	0	**0**
Carbon Emissions from Combustion of Waste from Non-Renewable Sources used in Production Processes	kg CO2	0	0	0	0	0	0	0	**0**

StoneLite® porcelain panels: results per functional unit

Parameter	Unit	A1	A2	A3	A4	A5	C2	C4	Total
LCIA results									
Ozone depletion	kg CFC-11 eq	9.85E-07	4.42E-06	1.54E-06	3.28E-07	1.33E-07	4.86E-07	3.59E-09	**7.89E-06**
Global warming	kg CO2 eq	4.09E+01	2.28E+01	5.42E+01	1.65E+00	2.54E+00	2.42E+00	7.75E-01	**1.25E+02**
Smog	kg O3 eq	2.02E+00	1.82E+00	1.64E+00	1.36E-01	1.67E-01	3.93E-01	6.98E-03	**6.18E+00**
Acidification	kg SO2 eq	1.55E-01	6.96E-02	1.48E-01	5.16E-03	7.48E-03	1.33E-02	3.51E-04	**3.99E-01**
Eutrophication	kg N eq	2.20E-02	9.30E-03	2.66E-02	6.94E-04	7.12E-04	1.37E-03	1.98E-03	**6.27E-02**
Carcinogenics	CTUh	4.03E-07	9.55E-09	1.55E-07	6.83E-10	6.96E-09	6.92E-10	4.83E-09	**5.80E-07**
Non-carcinogenics	CTUh	2.75E-06	9.02E-07	1.23E-06	6.18E-08	1.04E-07	1.15E-07	6.48E-09	**5.17E-06**
Respiratory effects	kg PM2.5 eq	1.80E-01	4.52E-03	1.03E-02	3.24E-04	6.45E-04	1.56E-03	3.07E-05	**1.97E-01**
Additional environmental information									
Ecotoxicity	CTUe	4.07E+01	1.35E+01	6.89E+00	8.97E-01	4.44E-01	3.11E-01	2.40E-01	**6.30E+01**
Fossil fuel depletion	MJ surplus	5.28E+01	4.36E+01	8.27E+01	3.15E+00	2.16E+00	4.66E+00	5.11E-02	**1.89E+02**
Resource use indicators									
Renewable primary energy used as energy carrier (fuel)	MJ, LHV	2.94E+01	5.00E-01	1.50E+02	3.59E-02	6.27E-01	5.25E-02	1.72E-02	**1.80E+02**
Renewable primary resources with energy content used as material	MJ, LHV	2.23E-01	0	0	0	2.23E-03	0	0	**2.25E-01**
Total use of renewable primary resources with energy content	MJ, LHV	2.96E+01	5.00E-01	1.50E+02	3.59E-02	6.29E-01	5.25E-02	1.72E-02	**1.81E+02**
Non-renewable primary resources used as an energy carrier (fuel)	MJ, LHV	5.74E+02	3.06E+02	7.79E+02	2.21E+01	2.76E+01	3.26E+01	4.58E-01	**1.74E+03**
Non-renewable primary resources with energy content used as material	MJ, LHV	6.34E-02	0	0	0	6.34E-04	0	0	**6.40E-02**
Total use of non-renewable primary resources with energy content	MJ, LHV	5.74E+02	3.06E+02	7.79E+02	2.21E+01	2.76E+01	3.26E+01	4.58E-01	**1.74E+03**
Secondary materials	kg	0	0	0	0	0	0	0	**0**
Renewable secondary fuels	MJ, LHV	0	0	0	0	0	0	0	**0**
Non-renewable secondary fuels	MJ, LHV	0	0	0	0	0	0	0	**0**
Recovered energy	MJ, LHV	0	0	0	0	0	0	0	**0**
Use of net fresh water resources	m3	1.47E+02	1.47E+00	1.64E+01	1.03E-01	1.62E-01	1.50E-01	4.88E-02	**1.65E+02**
Abiotic depletion potential for fossil resources	MJ, LHV	4.16E+02	3.20E+01	2.29E+01	5.59E+01	1.63E+00	2.60E+00	2.42E+00	**5.33E+02**
Output flows and waste category indicators									
Hazardous waste disposed	kg	1.71E-04	0	0	0	0	0	0	**1.71E-04**
Non-hazardous waste disposed	kg	7.23E-03	0	1.09E+01	0	3.13E+00	0	4.83E+00	**1.88E+01**
High-level radioactive waste, conditioned, to final repository	kg	1.39E-04	5.32E-06	3.04E-04	3.88E-07	2.39E-07	5.67E-07	1.85E-07	**4.50E-04**
Intermediate- and low-level radioactive waste, conditioned, to final repository	kg	3.44E-04	1.19E-05	6.80E-04	8.65E-07	5.32E-07	1.26E-06	4.13E-07	**1.04E-03**
Components for re-use	kg	0	0	0	0	0	0	0	**0**
Materials for recycling	kg	3.14E+01	0	0.00E+00	0	9.25E-01	0	1.43E+01	**4.66E+01**
Materials for energy recovery	kg	0	0	4.39E-01	0	7.23E-01	0	9.29E-02	**1.25E+00**
Exported energy	MJ, LHV	0	0	0	0	0	0	0	**0**
Carbon emissions and removals									
Biogenic Carbon Removal from Product	kg CO2	0	0	0	0	0	0	0	**0**
Biogenic Carbon Emission from Product	kg CO2	0	0	0	0	0	0	0	**0**
Biogenic Carbon Removal from Packaging	kg CO2	0	0	8.15E+00	0	0	0	0	**8.15E+00**
Biogenic Carbon Emission from Packaging	kg CO2	0	0	0	0	8.15E+00	0	0	**8.15E+00**
Biogenic Carbon Emission from Combustion of Waste from Renewable Sources Used in Production Processes	kg CO2	0	0	0	0	0	0	0	**0**
Calcination Carbon Emissions	kg CO2	0	0	0	0	0	0	0	**0**
Carbonation Carbon Removals	kg CO2	0	0	0	0	0	0	0	**0**
Carbon Emissions from Combustion of Waste from Non-Renewable Sources used in Production Processes	kg CO2	0	0	0	0	0	0	0	**0**
Carbon Emissions from Combustion of Waste from Non-Renewable Sources used in Production Processes	kg CO2	0	0	0	0	0	0	0	**0**

SM Transparency Report (EPD)™ + Material Health Overview™

EPD	LCA
3rd-party reviewed	✓
	Transparency Report (EPD)
3rd-party verified	✓

Validity: 02/20/2025 – 02/19/2030
SM-SPI – 20250220 – 001

MATERIAL HEALTH	Material evaluation
Self-declared	✓

This environmental product declaration (EPD) was externally verified, according to ISO 21930:2017, ISO 14025:2006, UL Part A, and UL Part B: Cladding Product Systems by Jack Geibig, President, Ecoform.

Ecoform, LLC
11903 Black Road,
Knoxville, TN 37932
www.ecoform.com
(865) 850-1883

SUMMARY

Reference PCR
UL Part B: Cladding Product Systems

Regions; system boundaries
North America; Cradle to grave

Functional unit; reference service life
1 m^2 of installed panels; 75 years

LCIA methodology: TRACI 2.1

LCA software; LCI database
SimaPro Developer 9.6; ecoinvent v3.10, US-EI 2.2, Industry data 2.0

Public LCA
LCA of StoneLite® Panels

In accordance with ISO 14044 and the reference PCR, this life cycle assessment was conducted by Sustainable Minds and reviewed by Jack Geibig, President, Ecoform.

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Contact us

LCA & material health results & interpretation

StoneLite®

Limestone panels | Granite panels | Marble panels | Porcelain panels | EPD additional content | Material health

Evaluation programs

The Health Product Declaration®

The HPD Open Standard provides a consistent, and transparent format to accurately disclose the material contents and associated hazard classifications for a building product.

How it works

Material ingredients are screened and categorized according to the hazards that international governmental bodies and toxicology experts have associated with them, based on two listings:

- Authoritative lists maintained or recognized by government bodies
- Screening lists, which include chemicals that government bodies determined need further scrutiny, as well as chemical lists not recognized by any government body.

Assessment scope and results

Health Product Declaration®

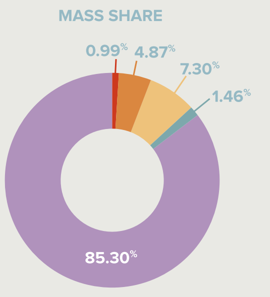
StoneLite® Stone Panel

Inventory threshold: 1,000 ppm

Full disclosure known hazards: Yes

Based on the selected content inventory threshold:

☑ Characterized ☑ Screened ○ Identified



GreenScreen® List Translator Scores

- 🟥 List Translator Likely Benchmark 1 / Benchmark 1
- ● List Translator Possible Benchmark 1
- ● List Translator Benchmark Unknown
- ● Benchmark 2
- ● Benchmark 3
- ● Benchmark 4
- ● No GS data available

Learn about the GreenScreen® List Translator

Total VOC Content

VOC Content data is not applicable for this product category.

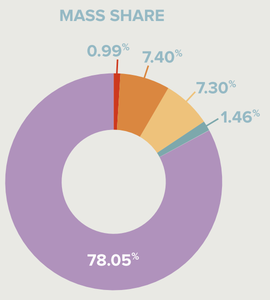
StoneLite® Porcelain Panel

Inventory threshold: 1,000 ppm

Full disclosure known hazards: Yes

Based on the selected content inventory threshold:

☑ Characterized ☑ Screened ○ Identified



Total VOC Content

VOC Content data is not applicable for this product category.

What's in this product and why

Once the StoneLite® panels (stone and porcelain) are manufactured and installed, minimal to no exposure is expected during the normal, daily use of the product. Many of the listed hazards are only present during the manufacturing process.

Natural stone is a geologically derived material that constitutes a significant portion of stone panels. Under HPDC's special conditions policy, hazard screening is not applicable to natural stone, as it is considered to have inherently minimal human health impacts in its finished form. Being a naturally occurring material, it does not undergo significant chemical transformations during processing, and any trace elements present are typically bound within its mineral structure, limiting potential exposure risks.

In the case of porcelain panels, the porcelain mass also constitutes a significant portion of the material composition. While frits used in porcelain may exhibit human health hazards during screening, they undergo a high-temperature vitrification process that renders them insoluble and chemically stable. In the final product, any hazardous raw materials are rendered inert, minimizing human health risks during use. Additionally, porcelain's low porosity and resistance to degradation further reduce the likelihood of any chemical release over time.

In the composition of both types of StoneLite® panels, potential chemical exposure hazards are primarily associated with the manufacturing stage. Certain ingredients in resins, epoxies, and hardeners may present health warnings in their raw form. However, once these materials are fully cured and the panels are installed, they undergo chemical changes that stabilize them. As a result, under normal use conditions, the finished product is not expected to pose health hazards to customers.

How we're making it healthier

In the case of porcelain panels, Coldspring uses porcelain with unleaded frits, eliminating lead and heavy metals that pose health risks. This reduces worker exposure and prevents harmful leaching, making the final product safer for consumers. By choosing unleaded frits, Coldspring ensures a healthier product with lower human health risks, both during production and throughout its use.

The epoxies and bonding agents used in the panels are free from isocyanates, reducing health risks associated with these chemicals. Isocyanates can trigger allergic reactions and respiratory issues. By opting for safer formulations, Coldspring protect workers during production and minimize harmful off-gassing, improving indoor air quality in spaces where the products are installed.

Coldspring opts for non-toxic adhesives and binders whenever possible. This choice reduces the use of volatile organic compounds (VOCs) that can degrade indoor air quality and pose long-term health risks. It enhances safety in manufacturing environments and helps create healthier living spaces by minimizing exposure to harmful chemicals, ensuring the final products are safer for end users.

See how we make it greener

References

Health Product Declaration®
StoneLite® Stone Panel
StoneLite® Porcelain Panel

Health Product Declaration Open Standard v2.3
The standard provides guidance to accurately disclose the material contents of a building product using a standard, consistent, and transparent format.

Rating systems

LEED BD+C: New Construction | v4 - LEED v4

Building product disclosure and optimization

Material Ingredients

Credit value options	1 product each

☑ 1. Reporting ○ 2. Optimization ○ 3. Supply Chain Optimization

LEED BD+C: New Construction | v4.1 - LEED v4.1

Materials and resources

Material Ingredients

Credit value options	1 product each

☑ 1. Reporting ○ 2. Optimization ○ 3. Supply Chain Optimization

Living Building Challenge

Materials petals imperatives

○ 10. Red List Free ○ 12. Responsible Industry ○ 13. Living Economy Sourcing

WELL Building Standard®

Air and Mind Features

☑ **X07** Materials Transparency

○ **X08** Materials Optimization

Collaborative for High Performance Schools National Criteria

EQ C7.1 Material Health Disclosures

☑ Performance Approach	2 points
☑ Prescriptive Approach	2 points

SM Transparency Report (EPD)™ + Material Health Overview™

EPD	LCA
3rd-party reviewed	✓
	Transparency Report (EPD)
3rd-party verified	✓

Validity: 02/20/2025 – 02/19/2030
SM-SPI – 20250220 – 001

MATERIAL HEALTH	Material evaluation
Self-declared	✓

This environmental product declaration (EPD) was externally verified, according to ISO 21930:2017, ISO 14025:2006, UL Part A, and UL Part B: Cladding Product Systems by Jack Geibig, President, Ecoform.

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SUMMARY

Reference PCR
UL Part B: Cladding Product Systems

Regions; system boundaries
North America; Cradle to grave

Functional unit; reference service life
1 m^2 of installed panels; 75 years

LCIA methodology: TRACI 2.1

LCA software; LCI database
SimaPro Developer 9.6; ecoinvent v3.10, US-EI 2.2, Industry data 2.0

Public LCA
LCA of StoneLite® Panels

In accordance with ISO 14044 and the reference PCR, this life cycle assessment was conducted by Sustainable Minds and reviewed by Jack Geibig, President, Ecoform.

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Contact us

How we make it greener

StoneLite®

Expand all

RAW MATERIAL ACQUISITION

Lightweight

StoneLite® panels are 80% lighter than traditional stone cladding, with a panel averaging 3-4 lb/sqft as compared to the 20-30 lb/sqft of a 3cm natural stone slab. In addition to being lightweight, the impact strength of StoneLite® panels is 60x greater than that of 3cm stone.

Substantial reductions in the structure and foundations of a building are possible with this reduced weight, which can have a profound effect on the amount of steel and concrete required.

TRANSPORTATION

Local sourcing

Coldspring offers locally sourced stone as a finishing option for StoneLite® panels, minimizing the amount of transportation necessary to transfer stone from the quarry to its fabrication facility. This cuts down on emissions from truck transportation, leading to less impact on the environment.

MANUFACTURING

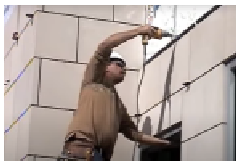
Water savings

Water usage in the manufacturing facility operates within a closed-loop system, where water is continuously reclaimed and recirculated through four sets of retention ponds for treatment.

Waste reclamation

A methyl ethyl ketone reclamation system was installed in Coldspring's fabrication facility in March of 2024, which is expected to greatly reduce the amount of hazardous waste generated and treated.

INSTALLATION



Speed and ease of installation

StoneLite® panels are cut to size based on customer-provided field measurements, minimizing installation waste. The precut panels allow for limited or no crane time or field cuts, resulting in less waste going to landfill and incineration.

SM Transparency Report (EPD)™ + Material Health Overview™

EPD LCA

3rd-party reviewed ✓

Transparency Report (EPD)

3rd-party verified ✓

Validity: 02/20/2025 – 02/19/2030
SM-SPI – 20250220 – 001

MATERIAL HEALTH Material evaluation

Self-declared ✓

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