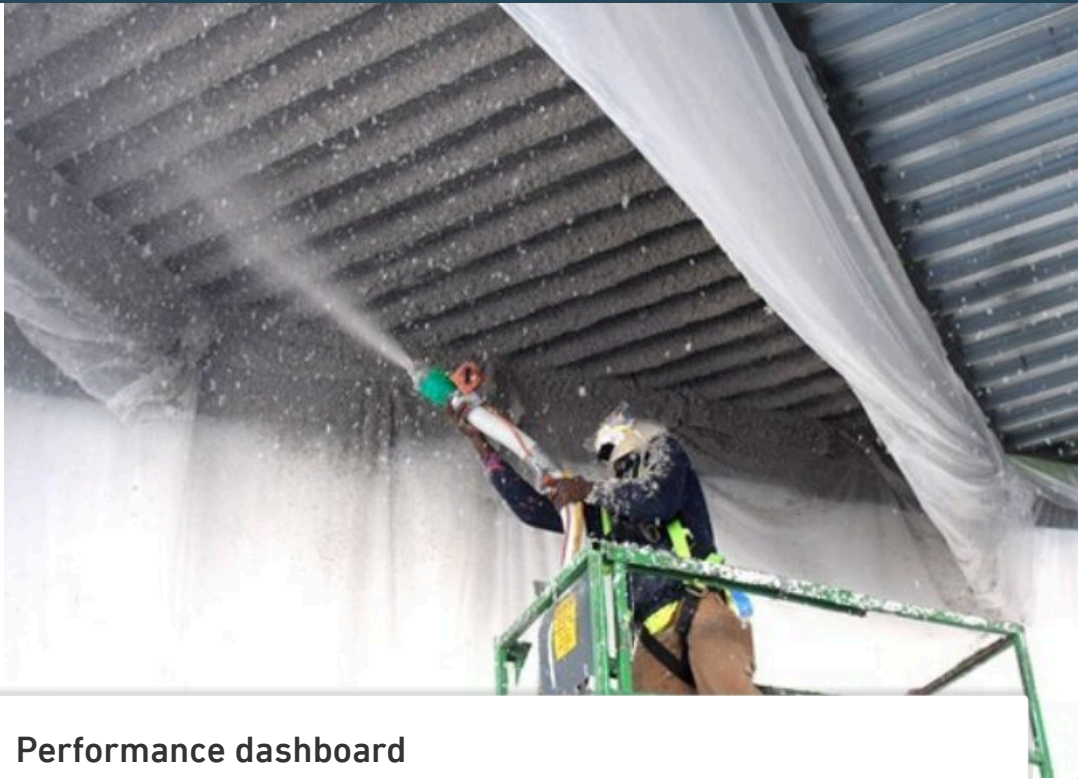




CELLU-SHIELD®

CELLU-SHIELD® is a specialized spray-applied cellulose material designed to address both thermal and acoustical needs. It is the ideal solution for environments such as restaurants, music venues, manufacturing facilities, and office spaces, where sound control, thermal insulation, and aesthetics are paramount.

This versatile product can be applied to a variety of substrates, including light gauge steel panels, concrete slabs, the undersides of roof decks, and cold storage facilities, making it an excellent choice for projects requiring a high thermal value (R-value) and effective acoustical treatment, thanks to its high noise reduction coefficient (NRC).



Performance dashboard

Features & functionality

- Unique, dual-purpose product combines acoustical benefits with thermal insulation
- Four standard, integral color offerings with ability to topcoat
- Tested R-Value of 3.90 per inch of material in accordance with ASTM C518
- Excellent noise reduction coefficient ratings (NRC) up to 1.05

Visit Isolatek for more product information:
[CELLU-SHIELD](#)

MasterFormat® 07 21 29
[CELLU-SHIELD Guide Spec](#)
For spec help, [contact us](#) or call 800-631-9600

Environment & materials

Improved by:

- Formulated to resist mold and fungal growth
- High recycled content (>80% post-consumer)

Certifications, rating systems & disclosures:

- Declare, Red List Free
- Health Product Declaration

[See LCA, interpretation & rating systems](#)

[See materials, interpretation & rating systems](#)

Declare.



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

EPD	LCA
3rd-party reviewed	✓
Transparency Report (EPD)	
3rd-party verified	✓
Validity: 12/16/24 – 12/15/29 SM-ISL – 12162024 – 001	
MATERIAL HEALTH	Material evaluation
Self-declared	✓

This environmental product declaration (EPD) was externally verified by Harmony Environmental, LLC, according to ISO 21930:2017; UL Part A; UL Part B for Building Envelope Thermal Insulation Products; and ISO 14025:2006. In accordance with ISO 14044 and the reference PCR, this life cycle assessment was conducted by Sustainable Minds and reviewed by Harmony Environmental, LLC.

Harmony Environmental, LLC
16362 W. Briarwood Ct.
Olathe, KS 66062
www.harmonyenviro.com
(913) 780-3328



SUMMARY

Reference PCR
UL Part B: Building Envelope Thermal Insulation v3.0

Regions; system boundaries
North America; Cradle-to-grave

Functional unit / ESL:
1 m² of installed insulation material with a thickness that gives an average thermal resistance of R_{SI} = 1m².K/W over an estimated service life (ESL) of 75 years

LCIA methodology: TRACI 2.1

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

Public LCA:
LCA of Isolatek International CELLU-SHIELD®

Isolatek International
14231 Seaway Rd., Suite 1003
Gulfport, MS 3950
www.isolatek.com
800 631 9600

Contact us

LCA results & interpretation

CELLU-SHIELD®

LCA results & interpretation

EPD additional content

Material health

Scope and summary

- Cradle to gate Cradle to gate with options Cradle to grave

Application

At the installation site, the spray-applied cellulose insulation system is installed using a machine which combines the cellulose material and adhesive/water admix at the nozzle. The spray is directed at the substrate and applied in an even, uninterrupted pattern to meet thermal and acoustical needs.

Functional unit

One square meter of installed insulation material with a thickness that gives an average thermal resistance of $R_{si} = 1 \text{ m}^2 \cdot \text{K/W}$ with a building service life of 75 years.

Reference service life: 75 years when installed per manufacturer's instructions
Reference flow: 2.43 kg of cured product, at a thickness of 0.037 m to achieve the functional unit. (ASTM C518)

Default installation, packaging, and disposal scenarios

At the installation site, cellulosic material is delivered in 30lb bags and adhesive is delivered in 55gal drums. The installer mixes the adhesive component with water, and the solution is sprayed with the cellulose material onto a surface using an application machine and adhesive pump, which consume 0.09kWh per functional unit. The potential impact of the installation equipment is assumed to be negligible since its use is spread out over hundreds of uses; therefore, it was not included in the model.

During installation, the product is applied assuming a VOC content of $\leq 500 \mu\text{g}/\text{m}^3$, and 5% of the insulation is assumed to be lost to scrap. While some scrap may be reused to fill cracks and crevices depending on the installation site, all scrap was assumed to be landfilled in this study. All packaging waste is assumed to be landfilled, although it would be possible for the 55gal drums to be reused or recycled. No maintenance or replacement is required over the life of the building. After removal, the insulation is assumed to be landfilled. Insulation and packaging waste are assumed to be transported 100km for disposal.

What's causing the greatest impacts

All life cycle stages

The raw material acquisition stage dominates the results for all impact categories. Among the raw materials, the adhesive component was the largest contributor to total results. The construction and end-of-life phases also notably contribute to total results, due to the use of trucks for outbound transportation, energy and water used during installation, and the landfilling of the insulation and packaging materials.

Raw materials acquisition and transportation

The raw material acquisition stage has the most significant contribution to all impact categories, primarily due to the water-based adhesive. While the cellulose component of the insulation system accounts for a larger share by weight of the raw materials, the use of post-consumer newspaper reduces its contribution to the potential impacts.

Manufacturing stage

The manufacturing stage has the least significant contribution to all impact categories. Activities in this stage include on-site operations, inspection and testing, and final product packaging.

Distribution and installation

The construction stage is the second highest contributor for all impact categories except for global warming and eutrophication. Trucks used for product distribution were the primary contributors in this stage, followed by the energy and water used during installation and the disposal of scrap and packaging.

End of life

The end-of-life impacts are largely due to landfilling of the product after it has been removed from the building and transported to a landfill. Since materials are assumed to be landfilled at the end of life rather than incinerated or reused/recycled, no materials are available for energy recovery or reuse/recycling. The durability of the applied product makes its removal difficult, so it is not expected that recovering the end-of-life product is possible for recycling or energy recovery.

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 applied insulation is $3.22\text{E}+00 \text{ kg CO}_2\text{-eq}$ per functional unit.

Manufacturing data

Reporting period: August 2023 – July 2024

Location: Warren, IN

How we're making it greener

Isolatek International is committed to legal compliance and ethical business practices in all of our operations. Isolatek's vendors must act in accordance with the applicable statutory and international standards regarding environmental protection. Isolatek's vendors must minimize environmental pollution and make continuous improvements in environmental protection.

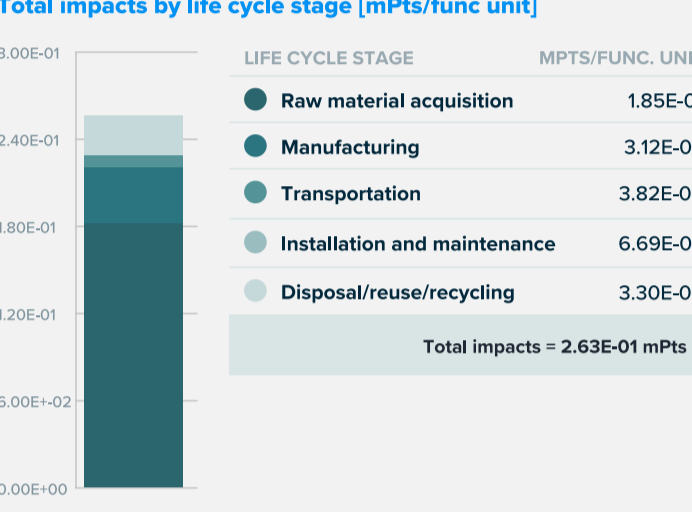
Isolatek's vendors must set up or use a reasonable environmental management system. In Isolatek's purchase arrangements, vendors must observe all applicable laws of their country and international standards, including but not limited to laws and standards relating to the environment, as well as health and safety.

[See how we make it greener](#)

Material composition by wt%

PART	MATERIAL	% WT
Cellulose material	Recycled newspaper	50-55%
Cellulose material	Boric acid	5-10%
Cellulose material	Mineral oil	2-5%
Uncured adhesive	VAE polymer	13-17%
Uncured adhesive	PVA solution	1-2%
Uncured adhesive	Biocide	<1%
Uncured adhesive	Organic defoamer	<1%
Uncured adhesive	Water	15-20%

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



LCA results

LIFE CYCLE STAGE	RAW MATERIAL ACQUISITION	MANUFACTURING	TRANSPORTATION	INSTALLATION AND MAINTENANCE	DISPOSAL/ REUSE/ RECYCLING
	(X) A1 Raw materials	(X) A3 Manufacturing	(X) A4 Distribution	(X) A5 Installation	(X) C1 Deconstruction
	(X) A2 Transportation			(X) B1 Use	(X) C2 Transportation
				(X) B2 Maintenance	(X) C3 Waste processing
				(X) B3 Repair	(X) C4 Disposal
				(X) B4 Replacement	
				(X) B5 Refurbishment	
				(X) B6 Operational energy use	
				(X) B7 Operational water use	

Information modules:

Included (X) | Excluded (MND)*

*Module D is also excluded from this system boundary (MND).

SM Single Score [Learn about SM Single Score results](#)

Impacts per 1 square meter of insulation material	1.85E-01 mPts	3.12E-04 mPts	3.82E-02 mPts	6.69E-03 mPts	3.30E-02 mPts
Materials or processes contributing >20% to total impacts in each life cycle stage	Extraction and preprocessing of adhesive component.	Packaging associated with the final product.	Truck transportation used to transport product to building site.	Transportation to landfill and landfilling of packaging materials.	Transportation to landfill and landfilling of product at end of life.

TRACI v2.1 results per functional unit

LIFE CYCLE STAGE	RAW MATERIAL ACQUISITION	MANUFACTURING	TRANSPORTATION	INSTALLATION AND MAINTENANCE	DISPOSAL/ REUSE/ RECYCLING
------------------	--------------------------	---------------	----------------	------------------------------	----------------------------

Ecological damage

Impact category	Unit	Raw Material Acquisition	Manufacturing	Transportation	Installation and Maintenance	Disposal/ Reuse/ Recycling
Global warming	kg CO ₂ eq	3.21E+00	6.97E-03	6.07E-01	2.13E-01	1.02E+00
Ozone depletion	kg CFC-11 eq	7.89E-08	1.24E-10	9.49E-09	3.15E-09	6.08E-09
Acidification	kg SO ₂ eq	1.56E-02	4.48E-05	2.12E-03	4.97E-04	1.85E-03
Eutrophication	kg N eq	2.04E-03	2.84E-06	1.41E-04	1.70E-04	1.05E-03

Human health damage

Impact category	Unit	Raw Material Acquisition	Manufacturing	Transportation	Installation and Maintenance	Disposal/ Reuse/ Recycling
Smog	kg O ₃ eq	2.08E-01	1.42E-03	6.05E-02	9.96E-03	5.31E-02
Respiratory effects	kg PM _{2.5} eq	2.42E-03	6.12E-06	2.14E-04	4.82E-05	2.31E-04

Additional environmental information

Impact category	Unit	Raw Material Acquisition	Manufacturing	Transportation	Installation and Maintenance	Disposal/ Reuse/ Recycling
Carcinogenics	CTU _h	91.7%	0.02%	3.3%	1.3%	3.7%
Non-carcinogenics	CTU _h	68.4%	0.01%	15.6%	1.8%	14.2%
Ecotoxicity	CTU _e	56.5%	0.01%	37.4%	0.9%	5.2%
Fossil fuel depletion	MJ surplus	7.19E+00	1.37E-02	1.17E+00	1.73E-01	6.83E-01

References

LCA Background Report

LCA of Isolatek International CELLU-SHIELD® (public version), Isolatek 2024. Developed using the TRACI v2.1 and CML impact assessment methodologies, SimaPro Analyst 9.6 modeling software, and ecoinvent v3.10, US-EI 2.2 databases.

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

ISO 21930:2017 serves as the core PCR along with UL Part A.

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-Tétrault (Group AGECO); and Jack Geibig (Ecoform).

UL Part B: Building Envelope Thermal Insulation EPD Requirements, v3.0

February, 2024. PCR review conducted by Thomas Gloria, PhD, Chair (Industrial Ecology Consultants) t.gloria@industrial-ecology.com; Christoph Koffler, PhD (thinkstep); Andre Desjarlais (Oak Ridge National Laboratory).

UL Environment General Program Instructions v2.4, July 2018 (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 products 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 envelope use phase as instructed under this PCR. Full conformance with the PCR for Building Envelope Thermal Insulation allows EPD comparability only when all stages of a life cycle have been considered. 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: 12/16/24 – 12/15/29
SM-ISL – 12162024 – 001

MATERIAL HEALTH Material evaluation
Self-declared

This environmental product declaration (EPD) was externally verified by Harmony Environmental, LLC, according to ISO 21930:2017; UL Part A; UL Part B for Building Envelope Thermal Insulation Products; and ISO 14025:2006.

In accordance with ISO 14044 and the reference PCR, this life cycle assessment was conducted by Sustainable Minds and reviewed by Harmony Environmental, LLC.

Harmony Environmental, LLC
16362 W. Briarwood Ct.
Olathe, KS 66062
www.harmonyenviro.com
(913) 780-3328



SUMMARY

Reference PCR
UL Part B: Building Envelope Thermal Insulation v3.0

Regions; system boundaries
North America; Cradle-to-grave

Functional unit / ESL:
1 m² of installed insulation material with a thickness that gives an average thermal resistance of $R_{si} = 1 \text{ m}^2 \cdot \text{K/W}$ over an estimated service life (ESL) of 75 years

LCA methodology: TRACI 2.1
LCA software; LCI database
SimaPro Developer 9.6; ecoinvent v3.10, US-EI 2.2

Public LCA:
LCA of Isolatek International CELLU-SHIELD®

Isolatek International
14231 Seaway Rd., Suite 1003
Gulfport, MS 3950
www.isolatek.com
800 631 9600

Contact us

EPD additional content

CELLU-SHIELD®

LCA results & interpretation

EPD additional content

Material health

Data

Background This product-specific plant-specific declaration was created by collecting production data from the Isolatak team for product shipped from Warren, IN. Secondary data sources include those available in the ecoinvent v3.10 and US-EI 2.2 databases.

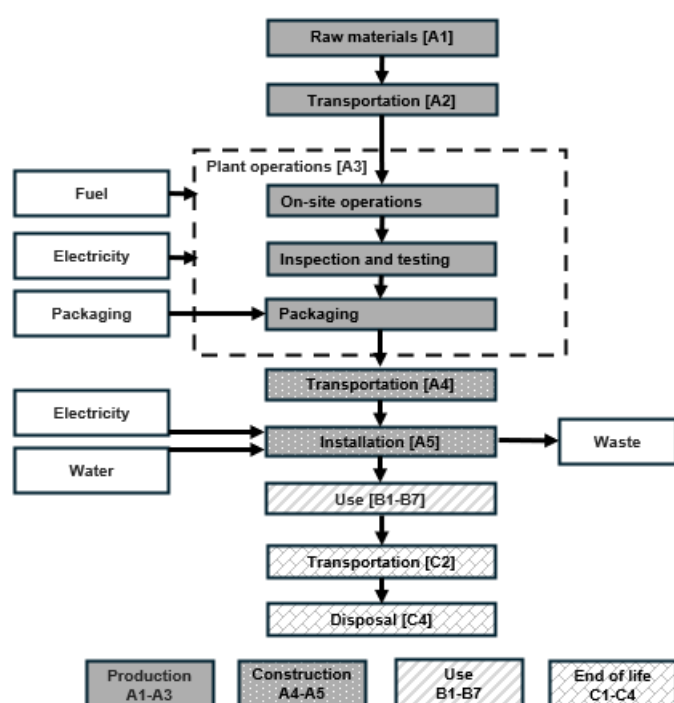
Allocation The PCR prescribes where and how allocation occurs. Since only facility-level data were available, allocation among the facility's other co-products was necessary to determine the energy consumption associated with the product. Allocation of energy was done on a mass basis for all products. Allocation of transportation was based on weight, since volume is not assumed to be limiting factor. For recycled content and disposal at end of life, system boundaries were drawn consistent with the cut-off allocation approach. Recycled newspaper, which is used as the cellulose material, is assumed to enter the system burden-free in that burden associated with the production of virgin cellulose is not allocated to the cellulose material life cycle. Likewise, the system boundary was drawn to include landfilling of the cellulose material at end-of-life (following the polluter pays principle) but exclude any credits from material or energy recovery.

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. No known flows are deliberately excluded from this declaration, and no substances required to be reported as hazardous are associated with the production of this product including upstream raw material supply and raw material manufacturing. Therefore, these criteria have been met. 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.

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."

Flow diagram



Scenarios and additional technical information

PARAMETER	VALUE	UNIT
Transport to the building site [A4]		
Fuel type	Diesel	-
Vehicle type	Truck and trailer (16-32 metric ton)	-
Liters of fuel	34.5	L/100 km
Average distance from manufacturing to installation site	1,207	km
Capacity utilization	50	%
Gross density: cellulose component	1,710	kg/m ³
Gross density: uncured adhesive component	1,198	kg/m ³
Installation into the building [A5]		
Mass of packaging waste	0.24	kg
Biogenic carbon content of pallet portion of packaging	0.37	kg CO2
Net freshwater consumption	3.32	kg
Electricity consumption	0.09	kWh
Mass of scrap waste	0.128	kg
VOC content	≤ 500	µg/m ³
End of life [C1-C4]		
Assumptions for scenario development	Following manual removal of the insulation, it was assumed to be transported 100 km to landfill, where no prior waste processing is required.	
Removals of biogenic carbon (excluding packaging)	0	kg CO2
Emissions of biogenic carbon (excluding packaging)	3.03	kg CO2
Collection process	Collected with mixed construction waste	2.43 kg
Disposal	Product for final deposition in landfill	2.43 kg

Technical properties

Dimensions/quantities delivered to installation site	Cellulosic material is delivered in 30lb bags, and adhesive is delivered in 55gal drums.
Bond strength	ASTM E 736; >150 psf
Class	ASTM E 84/ UL 723; Class 1 Class A
Corrosivity	ASTM C 739; Non-corrosive
Bond deflection	ASTM E 759; 1" deflection in 10' span – no spalling or delamination
R-value	ASTM C 518; 3.9 per inch
Building code	Comply with 2018 IBC Section 803.14 stability requirements for interior finishes
Product specification	Meet ASTM C 1149
For more information about the product specifications, visit https://www.astm.org/ and https://codes.iccsafe.org/ .	

Major system boundary exclusions

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

Major assumptions and limitations

- Variations in color choices are assumed to be negligible.
- 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.

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

Parameter	Unit	A1-A3	A4	A5	B1-B7	C1	C2	C3	C4	Total
LCIA results										
Global warming	kg CO2 eq	3.22E+00	6.07E-01	2.13E-01	0	0	3.21E-01	0	6.96E-01	5.06E+00
Ozone depletion	kg CFC-11 eq	7.90E-08	9.49E-09	3.15E-09	0	0	5.31E-09	0	7.70E-10	9.77E-08
Acidification	kg SO2 eq	1.57E-02	2.12E-03	4.97E-04	0	0	1.57E-03	0	2.84E-04	2.01E-02
Eutrophication	kg N eq	2.04E-03	1.41E-04	1.70E-04	0	0	9.93E-05	0	9.48E-04	3.40E-03
Smog	kg O3 eq	2.09E-01	6.05E-02	9.96E-03	0	0	4.82E-02	0	4.83E-03	3.33E-01
Fossil fuel depletion	MJ surplus	7.20E+00	1.17E+00	1.73E-01	0	0	6.02E-01	0	8.16E-02	9.23E+00
Additional environmental information										
Respiratory effects	kg PM2.5 eq	2.43E-03	2.14E-04	4.82E-05	0	0	1.96E-04	0	3.49E-05	2.92E-03
Carcinogenics	CTUh	91.7%	3.3%	1.3%	0%	0%	0.6%	0%	3.1%	100%
Non carcinogenics	CTUh	68.4%	15.6%	1.8%	0%	0%	2.9%	0%	11.3%	100%
Ecotoxicity	CTUe	56.5%	37.4%	0.9%	0%	0%	1.0%	0%	4.2%	100%
Resource use indicators										
Renewable primary energy used as energy carrier (fuel)	MJ, NCV	5.42E+00	1.35E-02	8.45E-02	0	0	8.06E-03	0	1.12E-02	5.53E+00
Renewable primary resources with energy content used as material	MJ, NCV	3.39E+01	0	0	0	0	0	0	0	3.39E+01
Total renewable primary resources	MJ, NCV	3.93E+01	1.35E-02	8.45E-02	0	0	8.06E-03	0	1.12E-02	3.94E+01
Non-renewable primary resources used as an energy carrier (fuel)	MJ, NCV	2.19E+01	8.80E+00	1.80E+00	0	0	4.47E+00	0	6.66E-01	3.76E+01
Non-renewable primary resources with energy content used as material	MJ, NCV	4.68E+01	0	0	0	0	0	0	0	4.68E+01
Total non-renewable primary resources	MJ, NCV	6.87E+01	8.80E+00	1.80E+00	0	0	4.47E+00	0	6.66E-01	8.45E+01
Secondary materials	kg	1.67E+00	0	0	0	0	0	0	0	1.67E+00
Renewable secondary fuels	MJ, NCV	0	0	0	0	0	0	0	0	0.00E+00
Non-renewable secondary fuels	MJ, NCV	0	0	0	0	0	0	0	0	0.00E+00
Recovered energy	MJ, NCV	0	0	0	0	0	0	0	0	0.00E+00
Use of net fresh water resources	m3	1.21E+01	1.36E-01	3.27E-01	0	0	9.16E-02	0	7.02E-02	1.27E+01
Abiotic depletion potential, fossil	MJ, NCV	5.99E+01	8.26E+00	1.40E+00	0	0	4.19E+00	0	6.11E-01	7.44E+01
Output flows and waste category indicators										
Hazardous waste disposed	kg	0	0	0	0	0	0	0	0	0.00E+00
Non-hazardous waste disposed	kg	0	0	3.44E-01	0	0	0	0	2.43E+00	2.77E+00
High-level radioactive waste	kg	1.62E-05	9.88E-08	8.76E-07	0	0	5.70E-08	0	6.54E-08	1.73E-05
Intermediate- and low-level radioactive waste, conditioned, to final repository	kg	3.78E-05	1.94E-07	1.96E-06	0	0	1.30E-07	0	1.64E-07	4.02E-05
Components for re-use	kg	0	0	0	0	0	0	0	0	0.00E+00
Materials for recycling	kg	0	0	0	0	0	0	0	0	0.00E+00
Materials for energy recovery	kg	0	0	0	0	0	0	0	0	0.00E+00
Exported energy	MJ, LHV	0	0	0	0	0	0	0	0	0.00E+00
Carbon emissions and removals										
Biogenic carbon removal from product	kg CO2	3.19E+00	0	0	0	0	0	0	0	3.19E+00
Biogenic carbon emission from product	kg CO2	0	0	1.60E-01	0	0	0	0	3.03E+00	3.19E+00
Biogenic carbon removal from packaging	kg CO2	3.65E-01	0	0	0	0	0	0	0	3.65E-01
Biogenic carbon emission from packaging	kg CO2	0	0	3.65E-01	0	0	0	0	0	3.65E-01
Biogenic carbon emission from combustion of waste	kg CO2	0	0	0	0	0	0	0	0	0.00E+00
Calcination carbon emissions	kg CO2	0	0	0	0	0	0	0	0	0.00E+00
Carbonation carbon removals	kg CO2	0	0	0	0	0	0	0	0	0.00E+00
Carbon emissions from combustion of waste from renewable sources used in production processes + Carbon emissions from combustion of waste from non renewable sources used in production processes	kg CO2	0	0	0	0	0	0	0	0	0.00E+00

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

EPD	LCA
3rd-party reviewed	<input checked="" type="checkbox"/>
Transparency Report (EPD)	
3rd-party verified	<input checked="" type="checkbox"/>
Validity: 12/16/24 – 12/15/29 SM-ISL – 12162024 – 001	
MATERIAL HEALTH	Material evaluation
Self-declared	<input checked="" type="checkbox"/>

This environmental product declaration (EPD) was externally verified by **Harmony Environmental, LLC**, according to **ISO 21930:2017; UL Part A; UL Part B for Building Envelope Thermal Insulation Products; and ISO 14025:2006**. In accordance with **ISO 14044** and the reference PCR, this life cycle assessment was conducted by **Sustainable Minds and reviewed by Harmony Environmental, LLC**.

Harmony Environmental, LLC
16362 W. Briarwood Ct.
Olathe, KS 66062
www.harmonyenviro.com
(913) 780-3328



SUMMARY

Reference PCR
UL Part B: Building Envelope Thermal Insulation v3.0

Regions; system boundaries
North America; Cradle-to-grave

Functional unit / ESL:
1 m² of installed insulation material with a thickness that gives an average thermal resistance of R_{eq} = 1m²·K/W over an estimated service life (ESL) of 75 years

LCIA methodology: TRACI 2.1

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

Public LCA:
LCA of Isolatak International CELLU-SHIELD®

Isolatak International
14231 Seaway Rd., Suite 1003
Gulfport, MS 3950
www.isolatak.com
800 631 9600

Contact us

LCA & material health results & interpretation

CELLU-SHIELD®

LCA results & interpretation

EPD additional content

Material health

Assessment scope and results

Declare™

Inventory threshold: 100 ppm

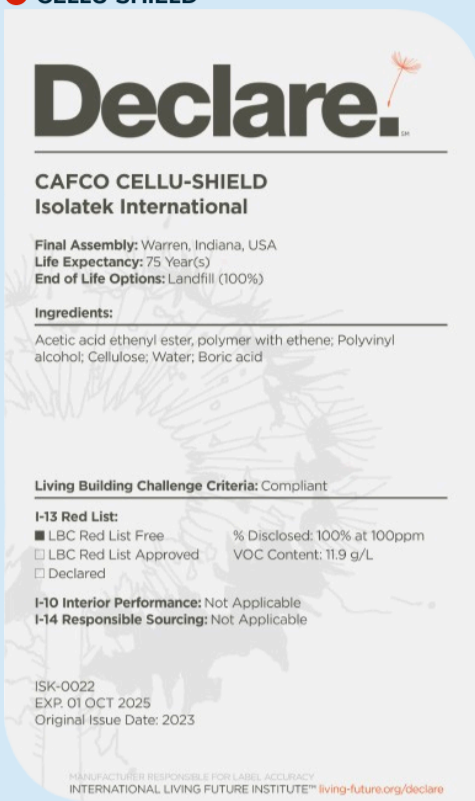
Declare level:

The Declare product database and label are used to select products that meet the LBC's stringent materials requirements, streamlining the materials specification and certification process.

- LBC Red List Free [?]
- LBC Red List Approved [?]
- Declared [?]

Click the label to see the full declaration.

● CELLU-SHIELD



Health Product Declaration®

CELLU-SHIELD

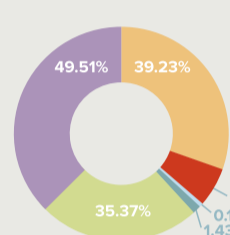
Inventory threshold: 1,000ppm

Full disclosure known hazards: Yes

Based on the selected content inventory threshold:

- Characterized Screened Identified

MASS SHARE



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 Content²

Material (g/l): 0.26 Regulatory (g/l): 0.26

Does the product contain exempt VOCs: Yes

Are colorants available that do not increase the VOC content of the base paint when tinted: Yes

Evaluation programs

Declare

Declare labels are issued to products disclosing ingredient inventory, sourcing and end of life options. Declare labels are based on the Manufacturers Guide to Declare, administered by the International Living Future Institute.

How it works

Material ingredients are inventoried and screened against the [Living Building Challenge](#) (LBC) Red List which represents the 'worst in class' materials, chemicals, and elements known to pose serious risks to human health and the greater ecosystem.

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.

References

[Declare](#)
CELLU-SHIELD®

Manufacturer's Guide to Declare

A comprehensive guide providing information about the program, the assessment methodology, how to submit material data to obtain a Declare label and how they are used to meet the Health & Happiness and Materials Petals of the Living Building Challenge.

[Health Product Declaration®](#)
CELLU-SHIELD®

Health Product Declaration Open Standard

The standard provides guidance to accurately disclose the material contents of a building product using a standard, consistent, and transparent format.

What's in this product and why

Declare level

The Declare program holds manufacturers accountable for their ingredients used in their products and allows the specifiers, architects and others the ability to better understand the products' environmental and sustainable qualities through transparency. Isolatek International takes pride in the fact that CELLU-SHIELD is labeled as Declare™ Red List Free.

What's in the product and why

The ingredients used to manufacture Isolatek International's CELLU-SHIELD provide the required thermal and acoustical performance needed for light gauge steel panels, concrete slab construction, underside of roof decks, cold storage facilities, or when a high thermal value (R-value) is required. In addition to its thermal properties, CELLU-SHIELD can be effectively used for acoustical treatment, due to the material's high noise reduction coefficient (NRC).

The unique dual purpose product combines acoustical benefits with thermal insulation.

The product's primary components are post-consumer newspaper, which constitutes at least 80% recycled content of the material by weight, and a water-based adhesive used to provide a firmer surface and increase cohesive bonding of the material.

What's been done in the design and manufacture in consideration of the potential human health and environmental impacts in the use stage

CELLU-SHIELD is shipped on wood pallets that can be reused or recycled. During installation, the low-VOC water-based adhesive locks down loose particulates, reducing the potential emissions to air.

Where it goes at the end of its life

Isolatek International's CELLU-SHIELD is designed to provide the required thermal and acoustical performance on its substrate to last the lifetime of the building when applied in accordance with the specified design criteria, our written Application Instructions and are not damaged or altered in any way after their installation.

Although CELLU-SHIELD is designed to last the lifetime of the building, the end life of the product is generally the result of a rehabilitation, which may require removal and replacement of the materials. The removal depends upon the degree of the rehabilitation. Otherwise, the end life of the material is based on the end life of the structure in its entirety. The material is then processed along with the remainder of the structure, primarily as landfill material.

How we're making it healthier

- Isolatek International is committed to legal compliance and ethical business practices in all of our operations.
- Isolatek's vendors must act in accordance with the applicable statutory and international standards regarding environmental protection.
- Isolatek's vendors must minimize environmental pollution and make continuous improvements in environmental protection.
- Isolatek's vendors must set up or use a reasonable environmental management system.
- In Isolatek's purchase arrangements, vendors must observe all applicable laws of their country and international standards, including but not limited to laws and standards relating to the environment, as well as health and safety.

[See how we make it greener](#)

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 <input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
Transparency Report (EPD)	
3rd-party verified <input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
Validity: 12/16/24 – 12/15/29 SM-ISL – 12162024 – 001	
MATERIAL HEALTH	Material evaluation
Self-declared <input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>

This environmental product declaration (EPD) was externally verified by Harmony Environmental, LLC, according to ISO 21930:2017; UL Part A; UL Part B for Building Envelope Thermal Insulation Products; and ISO 14025:2006.

In accordance with ISO 14044 and the reference PCR, this life cycle assessment was conducted by Sustainable Minds and reviewed by Harmony Environmental, LLC.

Harmony Environmental, LLC
16362 W. Briarwood Ct.
Olathe, KS 66062
www.harmonyenviro.com
(913) 780-3328



SUMMARY

Reference PCR

UL Part B: Building Envelope Thermal Insulation v3.0

Regions; system boundaries
North America; Cradle-to-grave

Functional unit / ESL:

1 m² of installed insulation material with a thickness that gives an average thermal resistance of R_{si} = 1m²·K/W over an estimated service life (ESL) of 75 years

LCIA methodology: TRACI 2.1

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

Public LCA:

LCA of Isolatek International CELLU-SHIELD®

Isolatek International
14231 Seaway Rd., Suite 1003
Gulfport, MS 3950
www.isolatek.com
800 631 9600

Contact us

How we make it greener

CELLU-SHIELD®

Expand all

RAW MATERIAL ACQUISITION



Reuse of recycled spent materials

CELLU-SHIELD incorporates post-consumer cellulose in the production of our products, which contains over 80% post-consumer newspapers. This approach helps reduce waste and promotes the use of sustainable materials.

Sustainable partnerships

Isolatak aims to collaborate with vendors who provide environmentally neutral products that minimize impact, conserve energy, reduce waste, and support sustainability.



MANUFACTURING



Centralized manufacturing

Isolatak is committed to minimizing energy use in our manufacturing plants, buildings, and processes. We focus on conserving resources and reducing the consumption of natural, particularly non-renewable, resources to promote sustainability.



TRANSPORTATION



Centrally located distribution

Isolatak's strategically located distribution center helps reduce the overall shipping distance for most projects. By minimizing the distance goods need to travel, we significantly lower emissions and reduce the time required for freight delivery, contributing to a more sustainable and efficient supply chain.

INSTALLATION AND END OF LIFE



Durability

CELLU-SHIELD's thermal/acoustical products are engineered to provide long-lasting protection throughout the building's lifespan. However, the end of life for the product typically occurs during a building rehabilitation, which may necessitate the removal and replacement of the thermal/acoustical materials. The extent of removal depends on the scope of the rehabilitation. In other cases, the material's life aligns with the overall lifespan of the structure. Once the material reaches its end of life, it is processed alongside the rest of the building, often as landfill material.



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

EPD LCA

3rd-party reviewed

Transparency Report (EPD)

3rd-party verified

Validity: 12/16/24 – 12/15/29
SM-ISL – 12162024 – 001

MATERIAL HEALTH Material evaluation

Self-declared

This environmental product declaration (EPD) was externally verified by Harmony Environmental, LLC, according to ISO 21930:2017; UL Part A; UL Part B for Building Envelope Thermal Insulation Products; and ISO 14025:2006.

In accordance with ISO 14044 and the reference PCR, this life cycle assessment was conducted by Sustainable Minds and reviewed by Harmony Environmental, LLC.

Harmony Environmental, LLC
16362 W. Briarwood Ct.
Olathe, KS 66062
www.harmonyenviro.com
(913) 780-3328



SUMMARY

Reference PCR
UL Part B: Building Envelope Thermal Insulation v3.0

Regions; system boundaries
North America; Cradle-to-grave

Functional unit / ESL:
1 m² of installed insulation material with a thickness that gives an average thermal resistance of R_{eq} = 1m²·K/W over an estimated service life (ESL) of 75 years

LCIA methodology: TRACI 2.1

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

Public LCA:
LCA of Isolatak International CELLU-SHIELD®

Isolatak International
14231 Seaway Rd., Suite 1003
Gulfport, MS 3950
www.isolatak.com
800 631 9600

Contact us