

Environmental Product Declaration

Northeast Precast XPS Insulated Wall Panel / EPS Insulated Wall
Panel Precast Concrete

With over 20 years in precast manufacturing, Northeast Precast continues to improve its operation in a sustainable way to support employees, customers and the environment. With this EPD, Northeast Precast intends to provide architects and engineers the life-cycle environmental impact of prestressed precast concrete.

NORTHEAST
PRECAST



Environmental Product Declaration
Northeast Precast XPS Insulated Wall Panel / EPS
Insulated Wall Panel Precast Concrete



According to
ISO 14025, ISO 14040,
and ISO 21930

This declaration is an environmental product declaration (EPD) in accordance with ISO 14025 and ISO 21930. EPDs rely on Life Cycle Assessment (LCA) to provide information on a number of environmental impacts of products over their life cycle. Exclusions: EPDs do not indicate that any environmental or social performance benchmarks are met, and there may be impacts that they do not encompass. LCAs do not typically address the site-specific environmental impacts of raw material extraction, nor are they meant to assess human health toxicity. EPDs can complement but cannot replace tools and certifications that are designed to address these impacts and/or set performance thresholds – e.g. Type 1 certifications, health assessments and declarations, environmental impact assessments, etc. Accuracy of Results: EPDs regularly rely on estimations of impacts, and the level of accuracy in estimation of effect differs for any particular product line and reported impact. Comparability: EPDs are not comparative assertions and are either not comparable or have limited comparability when they cover different life cycle stages, are based on different product category rules or are missing relevant environmental impacts. EPDs from different programs may not be comparable.

EPD PROGRAM AND PROGRAM OPERATOR NAME, ADDRESS, LOGO, AND WEBSITE	ASTM International 100 Barr Harbor Drive West Conshohocken, PA 19428 USA	
GENERAL PROGRAM INSTRUCTIONS AND VERSION NUMBER	ASTM, General Program Instructions, v8.0, April 29, 2020.	
MANUFACTURER NAME AND ADDRESS	Northeast Precast 4081 S. Lincoln Avenue Vineland, NJ 08361	
DECLARATION NUMBER	EPD 620	
DECLARED PRODUCT & DECLARED UNIT	Northeast Precast XPS Insulated Wall Panel / EPS Insulated Wall Panel Precast Concrete Declared Unit = 1 metric tonen of XPS Insulated Wall Panel / EPS Insulated Wall Panel	
REFERENCE PCR AND VERSION NUMBER	ASTM: Product Category Rule for Environmental Product Declarations: PCR for Precast Concrete – UNCPD: 37550, Version 3.0, Published May 2021	
DESCRIPTION OF PRODUCT(S) APPLICATION/USE	A total precast structure uses precast concrete components for the construction of an entire building, combining structural and cladding functions into one system. A total precast structure often includes horizontal members such as floor and roof elements, and vertical members such as walls and columns.	
MARKETS OF APPLICABILITY	US	
DATE OF ISSUE	1/16/2024	
PERIOD OF VALIDITY	5 years	
EPD TYPE	Product Specific	
DATASET VARIABILITY	N/A	
EPD SCOPE	Cradle-to-Gate	
YEAR(S) OF REPORTED PRIMARY DATA	2022	
LCA SOFTWARE & VERSION NUMBER	SimaPro 9.4	
LCI DATABASE(S) & VERSION NUMBER	Ecoinvent v3.9 & USLCI v2.0	
LCIA METHODOLOGY & VERSION NUMBER	TRACI 2.1; CML 4.1	
METHODOLOGY LIMITATIONS	Some LCA impact categories and inventory items are still under development and can have high levels of uncertainty. To promote uniform guidance on the data collection, calculation, and reporting of results, the ACLCA methodology (ACLCA 2019) was used.	
The sub-category PCR review was conducted by:	Dr. Thomas P. Gloria, PhD, t.gloria@industrial-ecology.com Mr. Bill Stough Dr. Michael Overcash	
This declaration was independently verified in accordance with ISO 21930:2017 and ISO 14025: 2006. Timothy S. Brooke, ASTM International		
<input type="checkbox"/> INTERNAL <input checked="" type="checkbox"/> EXTERNAL		
This life cycle assessment was independently verified in accordance with ISO 14044 and the reference PCR by:	Enter reviewer's signature here	
	Lindita Bushi, PhD, Athena Sustainable Materials Institute	

Environmental declarations from different programs (ISO 14025) may not be comparable. Comparison of the environmental performance using EPD information shall consider all relevant information modules over the full life cycle of the products within the building. This PCR allows EPD comparability only when the same functional requirements between products are ensured and the requirements of ISO 21930 §5.5 are met. It should be noted that different LCA software and background LCI datasets may lead to differences results for upstream or downstream of the life cycle stages declared.

General Information

Description of Company/Organization

Northeast Precast (NEP) delivers “Total Precast Solutions” from design & value engineering to manufacturing, logistics and installation of precast products. NEP serves industrial warehousing, highway infrastructure, total precast buildings, parking garages and residential housing. **Northeast Precast is a PCI and NPCA Certified plant.**

Product Description

A prestressed insulated wall panel consists of interior and exterior concrete wythes with a continuous layer of rigid insulation placed between them. Insulated wall panels offer the load-carrying ability of precast walls, while providing superior thermal performance.

Manufacturer Specific EPD

This product-specific EPD was developed based on the Cradle-to-Gate Life Cycle Assessment. The EPD accounts for raw material extraction and processing, transport, and product manufacturing. Manufacturing data were gathered directly from company personnel. When updated company-specific data were not available the ratio of production units, within the 2022 calendar year, was used as a proxy. For any product group EPDs, an impact assessment was completed for each product and the highest impacts were reported as conservative representations of the product group. Product grouping was considered appropriate if the individual product impacts differed by no more than ±10% in any impact category.

Application

Structural precast refers to reinforced concrete components fabricated in a controlled environment, and installed on site as part of the load-resisting system of a structure. Structural precast can also be used to meet other needs of a structure, such as aesthetic, thermal, and functional requirements.

Material Composition

This sub-category PCR recognizes fly ash, silica fume, and granulated blast furnace slag as recovered materials and thus the environmental impacts allocated to these materials are limited to the treatment and transportation required to use as a precast concrete material input.

The primary product components and/or materials must be indicated as a percentage mass to enable the user of the EPD to understand the composition of the product in delivery status.

The average composition of XPS Insulated Wall Panel / EPS Insulated Wall Panel is as follows:

Material	XPS Insulated Wall Panel	EPS Insulated Wall Panel
Minerals (Gypsum, TiO ₂ , Na ₂ CO ₃ , etc.)	90.30%	90.30%
Water	6.34%	6.34%
Water Reducer	0.09%	0.09%
Air Entrainer	0.01%	0.01%
Foam/Insulation	0.61%	0.61%
Fiber Reinforced Polymer Bars	0.05%	0.05%
Steel	2.59%	2.59%
Total	100.00%	100.00%

Placing on the Market / Application Rules

The XPS Insulated Wall Panel / EPS Insulated Wall Panel Precast Concrete conforms to the certifications and regulations below:

- PCI Policy 20
 - MNL-116 Manual for Quality Control for Plants and Production of Precast and Prestressed Concrete Products
 - MNL-117 Manual for Quality Control for Plants and Production of Architectural Precast Concrete Products
 - MNL-130 Manual for Quality Control for Plants and Production of Glass Fiber Reinforced Concrete Products
 - MNL-135 Tolerance Manual for Precast and Prestressed Concrete Construction
- ISO 9001:2015
- Including IAF Code 16 for Concrete and Construction
- Including IAF Code 28 for Concrete and Construction
- UNCPC: 37550

Properties of Declared Product as Shipped

The finished panels are hoisted onto a truck bed using a crane and strapped into place for transport. All packaging includes the ratchet straps that are used to strap the concrete into place. These ratchet straps are regularly reused.

Methodological Framework

Declared Unit

The declaration refers to the declared unit of 1 metric tonne of Northeast Precast XPS Insulated Wall Panel / EPS Insulated Wall Panel Precast Concrete as specified in the PCR.

Name	XPS Insulated Wall		EPS Insulated Wall	
	Value	Unit	Value	Unit
Declared unit	1 metric tonne of Insulated Wall Panel			
UNCPC code	37550			
Density	2602.1	kg/m ³	2602.1	kg/m ³

System Boundary

This is a Cradle-to-Gate Environmental Product Declaration. The following life cycle phases were considered:

Product Stage			Construction Process Stage		Use Stage							End of Life Stage*				Benefits and Loads Beyond the System Boundaries
Raw material supply	Transport	Manufacturing	Transport from gate to the site	Construction/ installation process	Use	Maintenance	Repair	Replacement	Refurbishment	Operational energy use	Operational water use	Deconstruction /demolition	Transport	Waste processing	Disposal	Reuse-Recovery- Recycling potential
A1	A2	A3	A4	A5	B1	B2	B3	B4	B5	B6	B7	C1	C2	C3	C4	D
X	X	X	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND

Description of the System Boundary Stages Corresponding to the PCR

(X = Included; MND = Module Not Declared)

Cradle-to-Gate EPDs are intended for Business to Business communication.

Allocation

Allocation was determined on a per metric tonne basis for primary data. For secondary data, cut-off methodology was used. All upstream recycling benefits that would have been accounted for in module A1 were nullified and accounted for in module D to avoid allocation by system expansion within the system boundaries.

Cut-off Criteria

This LCA follows the attributional LCA approach. Processes whose total contribution to the final result, with respect to their mass and in relation to all considered impact categories, is less than 1% can be neglected. The sum of the neglected processes may not exceed 5% by mass of the considered impact categories. For that a documented assumption is admissible.

For Hazardous Substances the following requirements apply:

- The Life Cycle Inventory (LCI) of hazardous substances will be included, if the inventory is available.
- If the LCI for a hazardous substance is not available, the substance will appear as an input in the LCI of the product, if its mass represents more than 0.1% of the product composition.
- If the LCI of a hazardous substance is approximated by modeling another substance, documentation will be provided.

This EPD is in compliance with the cut-off criteria. No processes were neglected or excluded. Capital items for the production processes (machine, buildings, etc.) were not taken into consideration.

Data Sources

Primary data were collected for every process in the product system under the control of Northeast Precast. Secondary data from the SimaPro Ecoinvent v3.9 & USLCI v2.0 databases were utilized. These data were evaluated and have temporal, geographic, and technical coverage appropriate to the scope of the Precast Concrete product category.

Data Quality

The data sources used are complete and representative of North America in terms of the geographic and technological coverage and are a recent vintage (i.e. less than ten years old). The data used for primary data are based on direct information sources of the manufacturer. Secondary data sets were used for raw materials extraction and processing, end of life, transportation, and energy production flows. Wherever secondary data is used, the study adopts critically reviewed data for consistency, precision, and reproducibility to limit uncertainty. No "green power" certificates are used in this EPD.

Period Under Review

The period under review is the full calendar year of 2022.

Treatment of Biogenic Carbon

The uptake and release of biogenic carbon throughout the product life cycle follows ISO 21930 Section 7.2.7

Comparability and Benchmarking

Environmental declarations from different programs (ISO 14025) may not be comparable. EPDs are comparable only if they use the same PCR (or sub-category PCR where applicable), include all relevant information modules and are based on equivalent scenarios with respect to the context of construction works. This PCR allows EPD comparability only when the same functional requirements between products are ensured and the requirements of ISO 21930:2017 §5.5 are met. However, variations and deviations are possible. Example of variations: different LCA software and background LCI datasets may lead to different results for the life cycle stages declared.

Units

The LCA results within this EPD are reported in SI units.

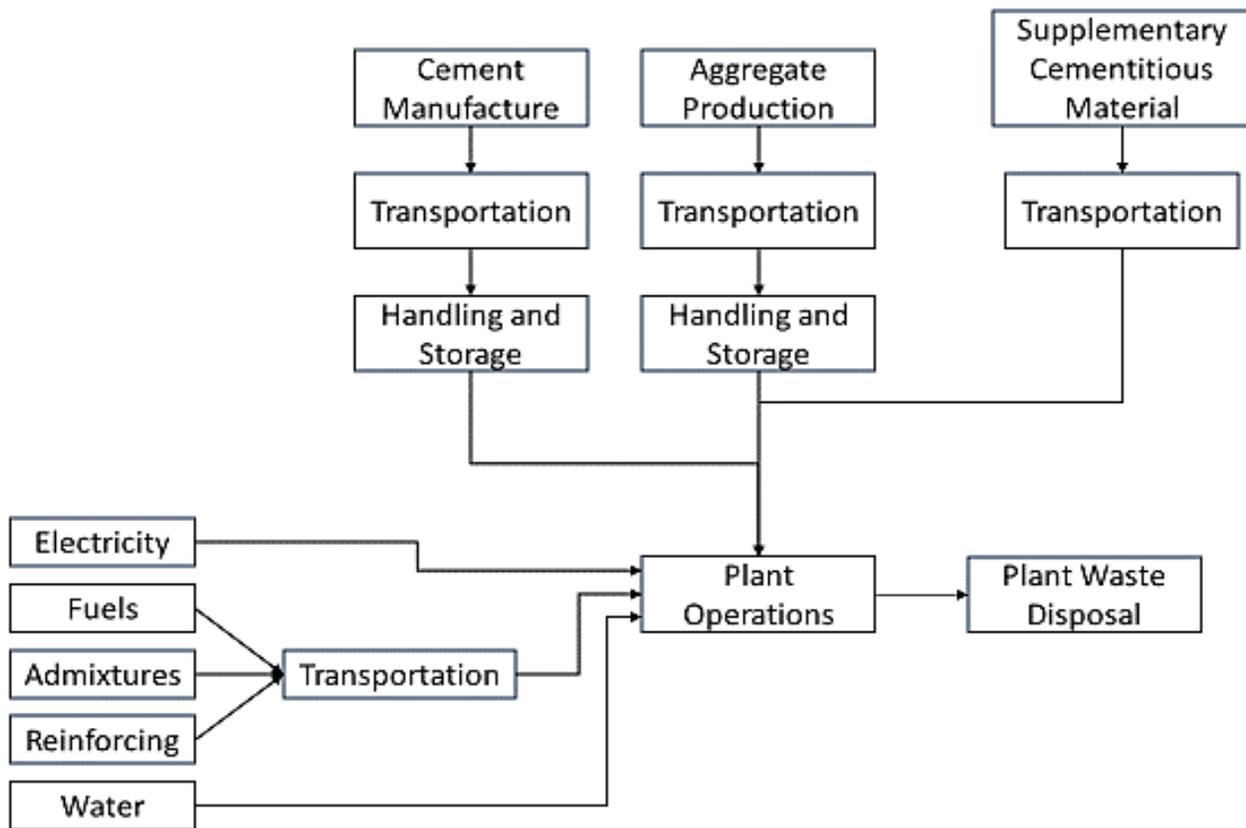
Additional Environmental Information

Background data

For life cycle modeling of the considered products, the SimaPro v9.4.0.2 software is used. Primary data were collected from the Northeast Precast owned facility. Secondary data was used for upstream raw material production and downstream inventory flows. This secondary data was sourced from either the Ecoinvent v3.9 or USLCI databases.

Manufacturing

Manufacturing of the precast concrete product starts with raw materials which are transported to a plant where they are mixed in batches to create concrete. The uncured concrete is then loaded into concrete mixing trucks and driven to the casting location. The uncured concrete is cast into a reusable mold along with steel reinforcement and foam insulation is added. The precast concrete is then left to cure.



XPS Insulated Wall Panel Results per Declared Unit

Results shown below were calculated using TRACI 2.1 Methodology.

TRACI 2.1 Impact Assessment						
Parameter	Parameter	Unit	A1	A2	A3	Total
GWP	Global warming potential (IPCC 2007 AR4)	kg CO ₂ -Eq.	9.38E+01	1.05E+01	2.09E+01	1.25E+02
ODP	Depletion potential of the stratospheric ozone layer	kg CFC-11 Eq.	1.18E-05	2.60E-06	2.02E-06	1.65E-05
AP Air	Acidification potential for air emissions	kg SO ₂ -Eq.	5.19E-01	6.62E-02	1.06E-01	6.91E-01
EP	Eutrophication potential	kg N-Eq.	1.57E+02	1.25E-02	6.38E-03	1.57E+02
SP	Smog formation potential	kg O ₃ -Eq.	3.03E+00	1.80E+00	2.12E+00	6.95E+00
FFD	Fossil Fuel Depletion	MJ-surplus	1.24E+02	2.18E+01	4.58E+01	1.91E+02

Results shown below were calculated using CML 2001 - April 2013 Methodology.

CML 4.1 Impact Assessment						
Parameter	Parameter	Unit	A1	A2	A3	Total
GWP	Global warming potential (IPCC 2013 AR5)	kg CO ₂ -Eq.	2.50E+02	1.05E+01	2.11E+01	2.81E+02
ODP	Depletion potential of the stratospheric ozone layer	kg CFC-11 Eq.	1.67E-04	1.95E-06	1.71E-06	1.71E-04
AP Air	Acidification potential for air emissions	kg SO ₂ -Eq.	2.13E+00	5.41E-02	9.72E-02	2.28E+00
EP	Eutrophication potential	kg(PO ₄) ³ -Eq.	2.98E-01	1.28E-02	1.20E-02	3.23E-01
POCP	Formation potential of tropospheric ozone photochemical oxidants	kg ethane-Eq.	1.97E-02	1.55E-03	8.80E-03	3.01E-02
ADPE	Abiotic depletion potential for non-fossil resources	kg Sb-Eq.	8.75E-03	2.40E-05	1.46E-05	8.79E-03
ADPF	Abiotic depletion potential for fossil resources	MJ	6.13E+02	1.61E+02	3.25E+02	1.10E+03

**Not all LCA datasets for upstream materials include these impact categories and thus results may be incomplete. Use caution when interpreting data in these categories.*

Results below contain the resource use throughout the life cycle of the product.

Resource Use						
Parameter	Parameter	Unit	A1	A2	A3	Total
RPR _E	Renewable primary energy as energy carrier	MJ	9.99E+01	1.34E+00	7.68E-01	1.02E+02
RPR _M	Renewable primary energy resources as material utilization	MJ	1.21E+01	4.55E-01	1.57E-01	1.27E+01
NRPR _E	Nonrenewable primary energy as energy carrier	MJ	5.63E+02	1.73E+02	3.57E+02	1.09E+03
NRPR _M	Nonrenewable primary energy as material utilization	MJ	9.62E+02	0.00E+00	0.00E+00	9.62E+02
SM	Use of secondary material	kg	3.20E+02	0.00E+00	0.00E+00	3.20E+02
RSF	Use of renewable secondary fuels	MJ	9.07E+00	0.00E+00	0.00E+00	9.07E+00
NRSF	Use of nonrenewable secondary fuels	MJ	8.80E+01	0.00E+00	0.00E+00	8.80E+01
RE	Energy recovered from disposed waste	MJ	0.00E+00	0.00E+00	0.00E+00	0.00E+00
FW	Use of net fresh water	m ³	1.25E+00	1.80E-02	1.97E-03	1.27E+00

Results below contain the output flows and wastes throughout the life cycle of the product.

Output Flows and Waste Categories						
Parameter	Parameter	Unit	A1	A2	A3	Total
HWD	Hazardous waste disposed	kg	7.47E-03	3.96E-04	2.62E-04	8.13E-03
NHWD	Non-hazardous waste disposed	kg	6.63E+01	1.49E+01	6.21E+00	8.74E+01
HLRW	High-level radioactive waste	kg	2.13E-03	1.07E-03	3.88E-05	3.24E-03
ILLRW	Intermediate- and low-level radioactive waste	kg	0.00E+00	0.00E+00	0.00E+00	0.00E+00
CRU	Components for re-use	kg	0.00E+00	0.00E+00	0.00E+00	0.00E+00
MR	Materials for recycling	kg	8.68E-02	0.00E+00	0.00E+00	8.68E-02
MER	Materials for energy recovery	kg	0.00E+00	0.00E+00	0.00E+00	0.00E+00
RE	Recovered energy exported from system	MJ	0.00E+00	0.00E+00	0.00E+00	0.00E+00

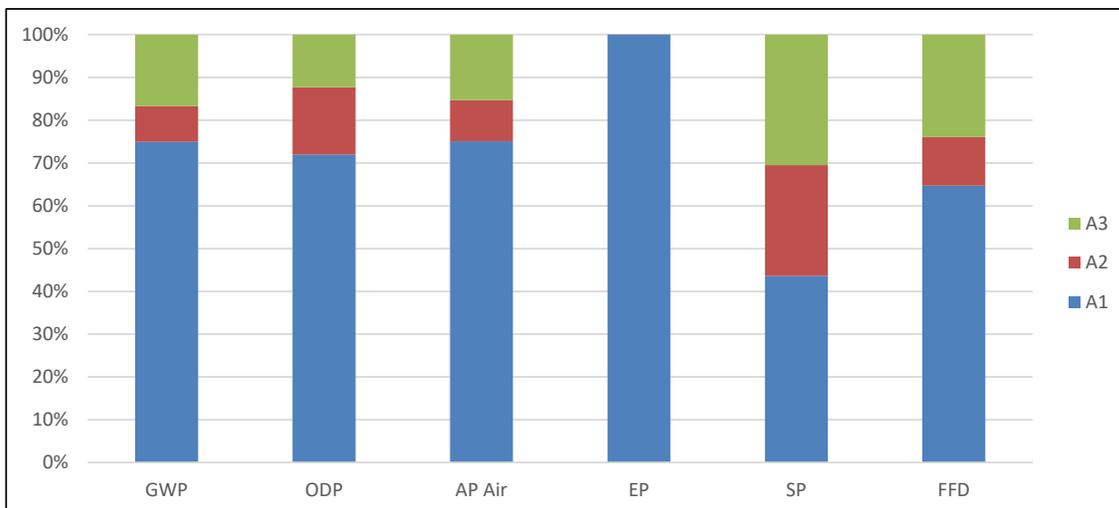
**All use phase and disposal stages have been considered and only those with non-zero values have been reported*

Results below contain direct greenhouse gas emissions and removals throughout the life cycle of the product.

Resource Use						
Parameter	Parameter	Unit	A1	A2	A3	Total
BCRP	Biogenic Carbon Removal from Product	kg CO ₂	0.00E+00	0.00E+00	0.00E+00	0.00E+00
BCEP	Biogenic Carbon Emissions from Product	kg CO ₂	0.00E+00	0.00E+00	0.00E+00	0.00E+00
BCRK	Biogenic Carbon Removal from Packaging	kg CO ₂	0.00E+00	0.00E+00	0.00E+00	0.00E+00
BCEK	Biogenic Carbon Emissions from Packaging	kg CO ₂	0.00E+00	0.00E+00	0.00E+00	0.00E+00
BCEW	Biogenic Carbon Emissions from Combustion of Waste from Renewable Sources Used in Production Process	kg CO ₂	0.00E+00	0.00E+00	0.00E+00	0.00E+00
CCE	Calcination Carbon Emissions	kg CO ₂	0.00E+00	0.00E+00	0.00E+00	0.00E+00
CCR	Carbonation Carbon Removal	kg CO ₂	8.02E+01	0.00E+00	0.00E+00	8.02E+01
CWNR	Carbon Emissions from Combustion of Waste from Non-renewable Sources Used in Production Process	kg CO ₂	0.00E+00	0.00E+00	0.00E+00	0.00E+00

XPS Insulated Wall Panel LCA Interpretation

The raw material extraction and processing life cycle stage dominates the impacts across all impact categories.



EPS Insulated Wall Panel Results per Declared Unit

Results shown below were calculated using TRACI 2.1 Methodology.

TRACI 2.1 Impact Assessment						
Parameter	Parameter	Unit	A1	A2	A3	Total
GWP	Global warming potential (IPCC 2007 AR4)	kg CO ₂ -Eq.	6.65E+01	1.05E+01	2.09E+01	9.79E+01
ODP	Depletion potential of the stratospheric ozone layer	kg CFC-11 Eq.	1.18E-05	2.60E-06	2.02E-06	1.64E-05
AP Air	Acidification potential for air emissions	kg SO ₂ -Eq.	3.61E-01	6.62E-02	1.06E-01	5.34E-01
EP	Eutrophication potential	kg N-Eq.	1.56E+02	1.25E-02	6.38E-03	1.56E+02
SP	Smog formation potential	kg O ₃ -Eq.	4.69E+01	1.80E+00	2.12E+00	5.08E+01
FFD	Fossil Fuel Depletion	MJ-surplus	4.75E+02	2.18E+01	4.58E+01	5.43E+02

Results shown below were calculated using CML 2001 - April 2013 Methodology.

CML 4.1 Impact Assessment						
Parameter	Parameter	Unit	A1	A2	A3	Total
GWP	Global warming potential (IPCC 2013 AR5)	kg CO ₂ -Eq.	2.22E+02	1.05E+01	2.11E+01	2.53E+02
ODP	Depletion potential of the stratospheric ozone layer	kg CFC-11 Eq.	7.22E-06	1.95E-06	1.71E-06	1.09E-05
AP Air	Acidification potential for air emissions	kg SO ₂ -Eq.	7.61E-01	5.41E-02	9.72E-02	9.12E-01
EP	Eutrophication potential	kg(PO ₄) ³ -Eq.	3.17E-01	1.28E-02	1.20E-02	3.42E-01
POCP	Formation potential of tropospheric ozone photochemical oxidants	kg ethane-Eq.	9.00E-02	1.55E-03	8.80E-03	1.00E-01
ADPE	Abiotic depletion potential for non-fossil resources	kg Sb-Eq.	8.84E-03	2.40E-05	1.46E-05	8.88E-03
ADPF	Abiotic depletion potential for fossil resources	MJ	1.15E+03	1.61E+02	3.25E+02	1.63E+03

Results below contain the resource use throughout the life cycle of the product.

Resource Use						
Parameter	Parameter	Unit	A1	A2	A3	Total
RPR _E	Renewable primary energy as energy carrier	MJ	9.78E+01	1.34E+00	7.68E-01	9.99E+01
RPR _M	Renewable primary energy resources as material utilization	MJ	1.21E+01	4.55E-01	1.57E-01	1.27E+01
NRPR _E	Nonrenewable primary energy as energy carrier	MJ	1.01E+03	1.73E+02	3.57E+02	1.54E+03
NRPR _M	Nonrenewable primary energy as material utilization	MJ	6.87E+02	0.00E+00	0.00E+00	6.87E+02
SM	Use of secondary material	kg	2.52E+02	0.00E+00	0.00E+00	2.52E+02
RSF	Use of renewable secondary fuels	MJ	6.89E+02	0.00E+00	0.00E+00	6.89E+02
NRSF	Use of nonrenewable secondary fuels	MJ	8.74E+01	0.00E+00	0.00E+00	8.74E+01
RE	Energy recovered from disposed waste	MJ	0.00E+00	0.00E+00	0.00E+00	0.00E+00
FW	Use of net fresh water	m ³	1.25E+00	1.80E-02	1.97E-03	1.27E+00

Environmental Product Declaration
Northeast Precast XPS Insulated Wall Panel / EPS
Insulated Wall Panel Precast Concrete



According to
 ISO 14025, ISO 14040,
 and ISO 21930

Results below contain the output flows and wastes throughout the life cycle of the product.

Output Flows and Waste Categories						
Parameter	Parameter	Unit	A1	A2	A3	Total
HWD	Hazardous waste disposed	kg	8.94E-03	3.96E-04	2.62E-04	9.59E-03
NHWD	Non-hazardous waste disposed	kg	6.64E+01	1.49E+01	6.21E+00	8.75E+01
HLRW	High-level radioactive waste	kg	2.13E-03	1.07E-03	3.88E-05	3.24E-03
ILLRW	Intermediate- and low-level radioactive waste	kg	0.00E+00	0.00E+00	0.00E+00	0.00E+00
CRU	Components for re-use	kg	0.00E+00	0.00E+00	0.00E+00	0.00E+00
MR	Materials for recycling	kg	2.09E-01	0.00E+00	0.00E+00	2.09E-01
MER	Materials for energy recovery	kg	0.00E+00	0.00E+00	0.00E+00	0.00E+00
RE	Recovered energy exported from system	MJ	0.00E+00	0.00E+00	0.00E+00	0.00E+00

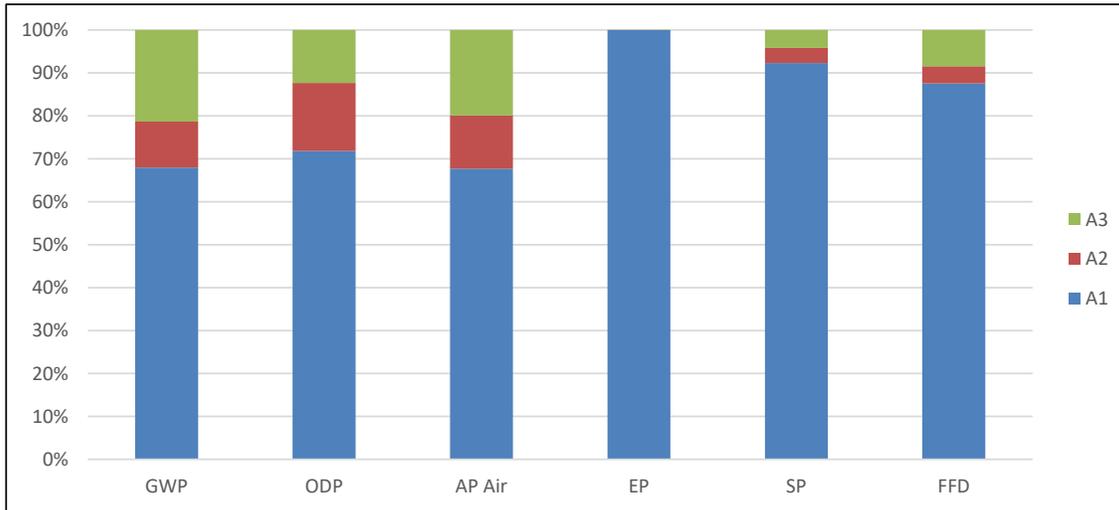
**All use phase and disposal stages have been considered and only those with non-zero values have been reported*

Results below contain direct greenhouse gas emissions and removals throughout the life cycle of the product.

Resource Use						
Parameter	Parameter	Unit	A1	A2	A3	Total
BCRP	Biogenic Carbon Removal from Product	kg CO ₂	0.00E+00	0.00E+00	0.00E+00	0.00E+00
BCEP	Biogenic Carbon Emissions from Product	kg CO ₂	0.00E+00	0.00E+00	0.00E+00	0.00E+00
BCRK	Biogenic Carbon Removal from Packaging	kg CO ₂	0.00E+00	0.00E+00	0.00E+00	0.00E+00
BCEK	Biogenic Carbon Emissions from Packaging	kg CO ₂	0.00E+00	0.00E+00	0.00E+00	0.00E+00
BCEW	Biogenic Carbon Emissions from Combustion of Waste from Renewable Sources Used in Production Process	kg CO ₂	0.00E+00	0.00E+00	0.00E+00	0.00E+00
CCE	Calcination Carbon Emissions	kg CO ₂	0.00E+00	0.00E+00	0.00E+00	0.00E+00
CCR	Carbonation Carbon Removal	kg CO ₂	8.02E+01	0.00E+00	0.00E+00	8.02E+01
CWNR	Carbon Emissions from Combustion of Waste from Non-renewable Sources Used in Production Process	kg CO ₂	0.00E+00	0.00E+00	0.00E+00	0.00E+00

EPS Insulated Wall Panel LCA Interpretation

The raw material extraction and processing life cycle stage dominates the impacts across all impact categories.



Additional Environmental Information

Environmental and Health During Manufacturing

Northeast Precast is a PCI and NPCA certified plant.

Environmental and Health During Installation

There is no harmful emissive potential. No damage to health or impairment is expected under normal use of the product.

Extraordinary Effects

Fire

No danger to the environment is anticipated during exposure to fire.

Water

No substances are used which have a negative impact on ecological water quality on contact by the product with water.

Mechanical Destruction

No danger to the environment is anticipated during mechanical destruction.

Delayed Emissions

Global warming potential is calculated using the TRACI 2.1 and CML 4.1 impact assessment methodologies. Delayed emissions are not considered.

Environmental Activities and Certifications

Northeast Precast is at the forefront of our industry in sustainability initiatives. NEP is committed to sustainability through innovation. We demonstrate this dedication through lean manufacturing practices, state-of-the-art batch plant reclaiming systems, turning concrete waste into reusable material, energy efficient plants and harnessing new technologies to reduce environmental impacts. NEP is continuously seeking new ways to strengthen performance and reduce environmental impacts.

References

- General Program Instructions ASTM, General Program Instructions, v8.0, April 29, 2020.
- PCR ASTM: Product Category Rule for Environmental Product Declarations: PCR for Precast Concrete – UNCPC: 37550, Version 3.0, Published May 2021
- SimaPro 9.4 PRe Sustainability. SimaPro Life Cycle Assessment version 9.4 (software).
- Ecoinvent 3.9 Ecoinvent version 3.9 (Life Cycle Inventory database).
- ISO 14025 ISO 14025:2006, Environmental labels and declarations — Type III environmental declarations — Principles and procedures.
- ISO 14040 ISO 14040:2006/Amd1:2020, Environmental management — Life cycle assessment — Principles and framework
- ISO 14044 ISO 14044:2006/Amd1:2017/Amd2:2022, Environmental management — Life cycle assessment — Requirements and guidelines.
- ISO 21930 ISO 21930:2017, Sustainability in buildings and civil engineering works - Core rules for environmental product declarations of construction products and services.
- PCI Policy 20 Precast/Prestressed Concrete Institute Policy statement page of - PCI. Precast/Prestressed Concrete Institute. (2023).
- ACLCA Guidance to Calculating Non-LCIA Inventory Metrics in Accordance with ISO 21930:2017. May 2019
- TRACI 2.1 Tool for Reduction and Assessment of Chemicals and Other Environmental Impacts, United States Environmental Protection Agency, Version 2.1
- Characterization Method IPCC. 2014. Climate Change 2013. The Physical Science Basis. Cambridge University Press. (<http://www.ipcc.ch/report/ar5/wg1/>).
- Characterization Method Hauschild M.Z., & Wenzel H. Environmental Assessment of Products. Springer, US, Vol. 2, 1998.
- Characterization Method Heijungs R., Guinée J.B., Huppes G., Lankreijer R.M., Udo de Haes H.A., Wegener Sleeswijk A. Environmental Life Cycle Assessment of Products: Guide and Backgrounds. CML. Leiden University, Leiden, 1992.
- Characterization Method Jenkin M.E., & Hayman G.D. Photochemical ozone creation potentials for oxygenated volatile organic compounds: sensitivity to variations in kinetic and mechanistic parameters. Atmospheric Environment. 1999, 33 (8) pp. 1275-1293.
- Characterization Method WMO. 1999. Scientific Assessment of Ozone Depletion: 1998, World Meteorological Organization Global Ozone Research and Monitoring Project - Report No. 44, WMO, Geneva.
- Characterization Method Standard Method for the Testing and Evaluation of Volatile Organic Chemical Emissions from Indoor Sources using Environmental Chambers- version 1.2, January 2017.

Environmental Product Declaration
Northeast Precast XPS Insulated Wall Panel / EPS
Insulated Wall Panel Precast Concrete



According to
ISO 14025, ISO 14040,
and ISO 21930

Contact Information

Study Commissioner



Northeast Precast
4081 S. Lincoln Avenue Vineland, NJ 08361
Renee Fabbri- Quality Assurance Manager
rfabbri@northeastprecast.com
856-765-9088

LCA Practitioner



SustainableSolutions
CORPORATION

Sustainable Solutions Corporation
155 Railroad Plaza, Suite 203
Royersford, PA 19468 USA
(+1) 610 569-1047
info@sustainablesolutionscorporation.com
www.sustainablesolutionscorporation.com

