

# ENVIRONMENTAL PRODUCT DECLARATION

IN ACCORDANCE WITH ISO 14025:2006 AND ISO 21930:2017

SmartEPD-2026-152-1031-01

**BAROQUE™ CEILING PANELS (Baroque, Baroque Customline, Fine Fissured, Fine Fissured Customline, Directional Fissured, Sand Micro, Sand Micro Customline, School Board)**



|                       |                    |                      |
|-----------------------|--------------------|----------------------|
| <b>Date of Issue:</b> | <b>Expiration:</b> | <b>Last updated:</b> |
| Aug 18, 2026          | Aug 18, 2031       | Aug 18, 2026         |

Refer to the EPD Library at [www.smartepd.com](http://www.smartepd.com) for the latest EPD listing information



## General Information

### CertainTeed Saint-Gobain

📍 20 Moores Rd, Malvern, PA 19355, USA

📞 888-233-8990

✉ sustainability@saint-gobain.com

🌐 [certainteed.com](http://certainteed.com)



|                             |                                                                                                                                                                       |
|-----------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Product Name:               | BAROQUE™ CEILING PANELS (Baroque, Baroque Customline, Fine Fissured, Fine Fissured Customline, Directional Fissured, Sand Micro, Sand Micro Customline, School Board) |
| Functional Unit:            | 0.093 m2                                                                                                                                                              |
| Declaration Number:         | SmartEPD-2026-152-1031-01                                                                                                                                             |
| Date of Issue:              | August 18, 2026                                                                                                                                                       |
| Expiration:                 | August 18, 2031                                                                                                                                                       |
| Last updated:               | August 18, 2026                                                                                                                                                       |
| EPD Scope:                  | Cradle to grave<br>A1 - A3, A4, A5, B1 - B7, C1 - C4                                                                                                                  |
| Market(s) of Applicability: | North America                                                                                                                                                         |

## General Organization Information

CertainTeed Corporation, a subsidiary of Saint-Gobain, is a leading North American manufacturer of interior building materials including gypsum, ceilings, and insulation as well as exterior building materials which include roofing, vinyl siding, trim, fence, railing and decking. CertainTeed respects the environment through the responsible development of sustainable building products and systems. Architects, contractors and manufacturers continue to look for ways to reduce our industry's impact on the environment while meeting customer demand for products that deliver beauty, comfort, and performance. CertainTeed Ceilings' respect for the environment is reflected in our ongoing emphasis on sustainable building products and systems. Open sharing of the data we gather on these effects – as embodied in Environmental Product Declarations – is central to the process, and sets CertainTeed Ceilings apart.

Further information can be found at: <http://www.certainteed.com>

## Limitations, Liability and Ownership

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 whole building life cycle. EPD comparability is only possible 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. The EPD owner has sole ownership, liability, and responsibility for the EPD. EPDs within the same product category but registered in different EPD programmes, or not compliant with EN 15804, may not be comparable. For two EPDs to be comparable, they must be based on the same PCR (including the same version number) or be based on fully aligned PCRs or versions of PCRs; cover products with identical functions, technical performances and use (e.g. identical declared/functional units); have equivalent system boundaries and descriptions of data; apply equivalent data quality requirements, methods of data collection, and allocation methods; apply identical cut-off rules and impact assessment methods (including the same version of characterisation factors); have equivalent content declarations; and be valid at the time of comparison. For further information about comparability see ISO 14025.



The selection of a cradle-to-grave system boundary is consistent with prevailing practice within the SFRM (UN CPC 54650) EPD landscape and aligns with the applicable PCR requirements.

Reference Standards

|                                |                                                                                                                             |
|--------------------------------|-----------------------------------------------------------------------------------------------------------------------------|
| Standard(s):                   | ISO 14025:2006 and ISO 21930:2017                                                                                           |
| Core PCR:                      | UL Part A PCR for Building-Related Products and Services v.4<br>Date of issue: March 01, 2022                               |
| Sub-category PCR:              | UL Part B: Non-Metal Ceiling and Interior Wall Panels v.2<br>Date of issue: April 13, 2021<br>Valid until: October 31, 2026 |
| Sub-category PCR review panel: | Contact Smart EPD for more information.                                                                                     |
| General Program Instructions:  | Smart EPD General Program Instructions v.2.0, March 2025                                                                    |

Verification Information

|                       |                                                                                                                                                        |          |
|-----------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------|----------|
| LCA Author/Creator:   | Saint-Gobain North American ESG Sustainability Group<br>sustainability@saint-gobain.com                                                                |          |
| EPD Program Operator: | Smart EPD<br>info@smartepd.com<br>www.smartepd.com<br>585 Grove St., Ste. 145, Herndon, VA 20170, USA                                                  |          |
| Verification:         | Independent critical review of the LCA and data, according to ISO 14044 and ISO 14071:<br>Alena Raymond    AmSpec LLC    alena.raymond@amspecgroup.com | External |
|                       | Independent external verification of EPD, according to ISO 14025 and reference PCR(s):<br>Alena Raymond    AmSpec LLC    alena.raymond@amspecgroup.com | External |

Product Information

|                         |                                     |
|-------------------------|-------------------------------------|
| Functional Unit:        | 0.093 m2                            |
| Mass:                   | 0.405 kg                            |
| Reference Service Life: | 30 Years                            |
| Product Specificity:    | Product Average<br>Product Specific |

## Product Description

The Baroque Ceiling Panel product formula, which includes Baroque, Baroque Customline, Fine Fissured, Fine Fissured Customline, Sand Micro, Sand Micro Customline, and School Board, is a mineral fiber panel with a painted finish. The panels within the family are generally identical except for the finished visual, with some products having fissures, perforations, or both. These products are manufactured in L'Anse, MI. CertainTeed Architectural's quality assurance process is based on industry-accepted best practices that involve constant measurement and evaluation throughout the manufacturing process. CertainTeed Architectural's Protectone products are UL labeled for fire performance which is a process that involves strict oversight by UL Solutions. The Saint-Gobain Acoustical Laboratory is accredited by the National Voluntary Laboratory Accreditation Program (NVLAP) and has been assessed against the management and technical requirements published in the International Standard, ISO/IEC 17025:2017. This Environmental Product Declaration (EPD) is developed for these ceiling panel products only and does not include the ceiling suspension systems. Those are examined in a separate EPD.

### Features

- Most have mold/mildew resistant surfaces (BioShield®)
- Most offer non-directional patterns which will reduce scrap during installation
- Certified VOC compliant to CDPH v1.2, 2017
- Cost-effective options for acoustic treatment where UL time-rated, fire-resistive assemblies are desired

Further information can be found at: <https://www.certainteed.com/products/ceiling-wall-systems-products/baroque-baroque-customline>

## Product Specifications

|                                                                                                            |                                                      |
|------------------------------------------------------------------------------------------------------------|------------------------------------------------------|
| Product Classification Codes:                                                                              | EC3 - Finishes -> CeilingPanel -> AcousticalCeilings |
| Sound absorption coefficient (NRC) (ASTM C423):                                                            | 0.55                                                 |
| Light reflectance (ASTM E1477):                                                                            | 0.83 – 0.88 %                                        |
| Interzone Attenuation of Open Office Components (AC):                                                      | n/a                                                  |
| Sound Attenuation Between Rooms Sharing a Common Ceiling Plenum (CAC)(ASTM E1414 and Classification E413): | 33 – 35 dB                                           |
| Surface burning characteristics of building materials (ASTM E84, ASTM E1264):                              | Class A flame spread/smoke developed                 |
| Declared thickness:                                                                                        | 1.905 cm                                             |
| Surface weight per declared unit:                                                                          | 4.36 kg/m <sup>2</sup>                               |

## Material Composition

| Material/Component Category | Origin       | % Mass |
|-----------------------------|--------------|--------|
| Perlite                     | Confidential | 50-60  |
| Broke                       | Confidential | 10-20  |
| Newspaper                   | Confidential | 15-20  |
| Recovered CertainTeed Scrap | Confidential | 5-10   |
| Starch                      | Confidential | 5-10   |



| Material/Component Category | Origin       | % Mass |
|-----------------------------|--------------|--------|
| Clay                        | Confidential | 0-1    |

| Packaging Material | Origin       | kg Mass  |
|--------------------|--------------|----------|
| Label              | Confidential | 8.67E-04 |
| Pallet             | Confidential | 7.23E-02 |
| Sleeve             | Confidential | 2.84E-02 |
| Stretch Wrap       | Confidential | 2.53E-04 |

| Biogenic Carbon Content                           | kg C per 0.093 m2 |
|---------------------------------------------------|-------------------|
| Biogenic carbon content in product                | 0.0105            |
| Biogenic carbon content in accompanying packaging | 0.0126            |

| Hazardous Materials                                                                                   |
|-------------------------------------------------------------------------------------------------------|
| No substances required to be reported as hazardous are associated with the production of this product |

## EPD Data Specificity

Primary Data Year: 2025

Manufacturing Specificity:

- ✗ Industry Average
- ✗ Manufacturer Average
- ✓ Facility Specific

Averaging:

Averaging was not conducted for this EPD

## System Boundary

|              |    |                     |   |
|--------------|----|---------------------|---|
| Production   | A1 | Raw material supply | ✓ |
|              | A2 | Transport           | ✓ |
|              | A3 | Manufacturing       | ✓ |
| Construction | A4 | Transport to site   | ✓ |
|              | A5 | Assembly / Install  | ✓ |

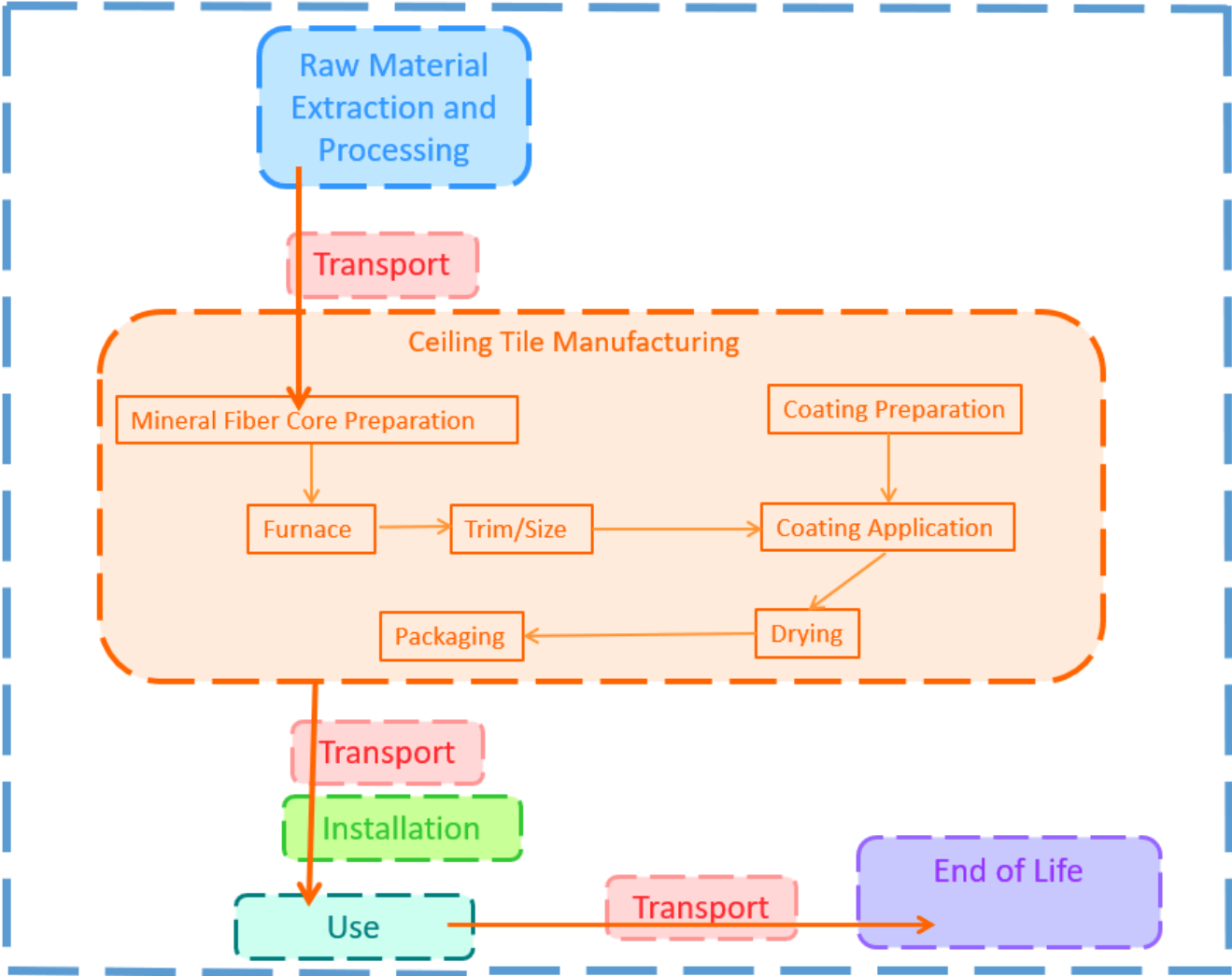


|                                         |    |                                     |    |
|-----------------------------------------|----|-------------------------------------|----|
| Use                                     | B1 | Use                                 | ✓  |
|                                         | B2 | Maintenance                         | ✓  |
|                                         | B3 | Repair                              | ✓  |
|                                         | B4 | Replacement                         | ✓  |
|                                         | B5 | Refurbishment                       | ✓  |
|                                         | B6 | Operational Energy Use              | ✓  |
|                                         | B7 | Operational Water Use               | ✓  |
| End of Life                             | C1 | Deconstruction                      | ✓  |
|                                         | C2 | Transport                           | ✓  |
|                                         | C3 | Waste Processing                    | ✓  |
|                                         | C4 | Disposal                            | ✓  |
| Benefits & Loads Beyond System Boundary | D  | Recycling, Reuse Recovery Potential | ND |

Note:  
ND = Module not declared

Plants

Product Flow Diagram



Software And Database

LCA Software:

☰ Sphera LCA for Experts (formerly GaBi) v. 10.9.2

LCI Foreground Database(s):

☰ Ecoinvent v. 3.12 | ☰ Sphera Professional + Extension v. 2023

LCI Background Database(s):

☰ US LCI v. 1.2025-06.0

A foreground LCI database is the database used to model the primary, site-specific data collected for this EPD. A background LCI database is the database used to model generic or non-specific data.

## Data Quality

Comprehensive data quality assessment was undertaken to ensure consistency, precision, and reproducibility, particularly for secondary data sources. Wherever secondary data is used, the study relies on critically reviewed and widely recognized databases that include built-in data quality indicators such as representativeness, completeness, temporal correlation, geographical relevance, and technological coverage. These indicators provide a general measure of reliability and uncertainty. Using these data quality metrics, the secondary datasets selected for this study are generally rated as having medium-to-high precision. Preference was given to datasets that are recent, geographically appropriate, and technologically relevant to the modeled system. Where older datasets were used due to lack of alternatives, their limitations have been clearly noted and considered in the interpretation of results. Primary data was collected directly by the Saint-Gobain North American ESG Department for the relevant manufacturing plant(s). This includes site-specific information on energy and material inputs, emissions, waste generation, water usage, and transportation impacts. Efforts were made to verify this primary data through consultation with plant personnel and internal documentation. Sub-metering and additional on-site monitoring are recommended in future assessments to further improve data granularity and accuracy.

## Life Cycle Module Description

This LCA study is characterized as a cradle-to-grave, examining the Baroque product lines from raw material extraction to end of life excluding the Use phase. For this life cycle assessment, the Saint-Gobain North America (SGNA) ESG department, with assistance from personnel at the manufacturing locations, collected specific data on energy and material inputs, wastes, water usage, emissions, and transportation impacts for the Life Cycle Assessment Report: Baroque products for the calendar year 2025.

### Raw Material (A1)

The panel consists of a core component and a proprietary surface coating. The coating is applied to the surface of the panel and is composed of a mixture of materials and additives. Multiple coating formulations are available for the product. For this EPD, the coating formulation modeled and used in the results represents the scenario with the highest environmental impacts.

### Raw Material Transportation (A2)

Raw materials are transported to the manufacturing sites by standard freight truck, and train. Unless otherwise noted, transport vehicles are fueled with diesel fuel.

### Manufacturing (A3)

A detailed analysis of the Baroque Product families manufacturing process was completed by the Saint-Gobain North America ESG group. A process flow diagram is attached illustrates all process steps, inputs, and outputs including material, energy, emissions, and wastes.

To produce ceiling panels, the core component raw materials are mixed and formed into the product. After the raw materials have been processed they are added to the mix tank where they are combined. The resulting slurry is then further filtered and processed to remove any impurities. The processed slurry is then sent to the board machine, where the wet mixture is formed into boards with the excess water being drained from below. The board sections are baked in a large oven heated with natural gas.

The panel sections of mineral fiber board are then trimmed, cut to size, and further finished with various fissuring or texturing options. Coating is then applied as necessary according to the specification of the individual product type being manufactured and the completed tile is heated a second time to cure the coating. Finally, the panels are packaged for shipping.

It is important to note that the waste from any process in the mineral wool ceiling tile manufacturing process that produces wet or dry scrap is collected and reused. The dry dust and trimmings as well as the wet scrap are mixed with water and pulped to produce "broke", which is then added to the mix tank along with the other raw materials. In addition, the wastewater, along with the impurities from the mix tank, is transferred to a settling pond. The water from the settling pond is then used to irrigate fields on site, and the solid waste is used as land applied fertilizer and soil amendments.

### Packaging (A3)

Packaging of the final product after production is included in the life cycle assessment. The product is stacked in cardboard sleeves, wrapped in shrink wrap, and paper labels affixed. The packages of product in cardboard sleeves are then stacked on a pallet with other finished product, and wrapped in shrink wrap again before final shipping. The purchased amount of packaging material was provided by the L'Anse facility personnel and the weight of each material per square foot of finished product was calculated.

### Final Product Transportation (A4)

Final products are transported on trucks throughout the United States. This study assumed an average of 800 km for the final shipment of product based on the assumption within the Product Category Rule (PCR).

### Installation (A5)

Ceiling Panels use a suspended grid system to hold them place. This study covers the ceiling panels only and does not include the grid system. Ceiling Panels are installed by hand, maneuvering and tilting the panels above the ceiling grid, then carefully resting the panels on the grid. Panels for borders are cut to size before installation with a hand held cutting tool. As required by the PCR, this study assumes a 7% scrap rate of the ceiling panels from the installation of the product.

### Use (B1-B7)

The use stage is excluded in the life cycle assessment. The PCR requires products with indoor applications to report on the VOC emissions as determined in accordance with the "Standard Method for the Testing and Evaluation of Volatile Organic Chemical Emissions from Indoor Sources Using Environmental Chambers Version 1.2." All of the product families included in this study have been tested and certified in compliance with the VOC emissions standard for individual VOCs of concern and formaldehyde.

### End of life (C1-C4)

This study assumes a reference service life of 30 years, consistent with the building service life specified in the applicable Product Category Rule (PCR) and the manufacturer's expert judgment regarding the product's expected performance. In accordance with the PCR, there is no industry-wide consensus on representative end-of-life scenarios for this product. Therefore, this assessment assumes that the product is disposed of in a landfill at the end of its service life. This assumption has been applied consistently for the end-of-life modeling presented in this EPD.

## LCA Discussion

### Allocation Procedure

The L'Anse, MI facility is the only location that produces the Baroque Ceiling Panel product line in the United States for CertainTeed Corporation. However, there are additional products produced at this location that were excluded from the study. Allocation was conducted based on the production mass data provided by the facility as a percentage of the overall production mass at each facility. Recycled paper and Recovered CertainTeed scrap the only secondary raw materials throughout the product life cycle. The secondary raw material are modeled using a cut-off methodology, excluding the primary production burden.

### Cut-off Procedure

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, as defined by the U.S. Resource Conservation and Recovery Act (RCRA), 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 known flows were deliberately excluded. Capital items for the production processes (machines, buildings, etc.) were not taken into consideration

## Renewable Electricity

Energy Attribute Certificates (EACs) such as Renewable Energy Certificates (RECs) or Power Purchase Agreements (PPAs) are included in the baseline reported results: ✗ No

## Scenarios

### Transport to the building/construction site (A4)

A4 Module

|                                        |                                                                                                                                                                                          |
|----------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Fuel Type:                             | Diesel                                                                                                                                                                                   |
| Liters of Fuel:                        | 30 l/100km                                                                                                                                                                               |
| Vehicle Type:                          | Standard Freight Trailer                                                                                                                                                                 |
| Transport Distance:                    | 800 km                                                                                                                                                                                   |
| Capacity Utilization:                  | 85 %                                                                                                                                                                                     |
| Gross density of products transported: | 229.1 kg/m3                                                                                                                                                                              |
| Capacity utilization volume factor:    | <1                                                                                                                                                                                       |
| Assumptions for scenario development:  | Final products are transported on trucks throughout the United States. This study assumed an average of 800 km for the final shipment of product based on the assumption within the PCR. |

### Installation in to the building/construction site (A5)

A5 Module

|                                                                   |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |
|-------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Installation Scrap Rate Assumed:                                  | 7 %                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
| Product Lost per Declared/Functional Unit:                        | 2.84E-02 kg                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |
| Waste Materials at the Construction Site Before Waste Processing: | 8.55E-02 kg                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |
| Mass of Packaging Waste Specified by Type:                        | 5.85E-02 kg                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |
| Biogenic Carbon Contained in Packaging (kg C):                    | 1.26E-02 kg                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |
| Assumptions for scenario development:                             | Ceiling Panels use a suspended grid system to hold them place. This study covers the ceiling panels only and does not include the grid system. Ceiling Panels are installed by hand, maneuvering and tilting the panels above the ceiling grid, then carefully resting the panels on the grid. Panels for borders are cut to size before installation with a hand held cutting tool. As required by the PCR, this study assumes a 7% scrap rate of the ceiling panels from the installation of the product. |



End of Life (C1 - C4)

C1 - C4 Modules

Collection Process

Collected with Mixed Construction Waste: 0.41 kg

Recovery

Landfill: 0.41 kg

Disposal

Product or Material for Final Disposal: 0.41 kg

Removals of Biogenic Carbon: 3.86E-02 kg CO2

Assumptions for scenario development:

This study assumes a product service life of 30 years. The selected service life used in this study reflects the expert opinion of the product manufacturer and the building service life indicated in the PCR. There is no industry consensus for end of life scenarios, per the PCR guidance. For this reason, the study will assume landfill disposal at end of life.

## Results

### Environmental Impact Assessment Results

IPCC AR6 GWP 100, TRACI 2.2, CML 2016 v4.8

per 0.093 m2 of product.

LCIA results are relative expressions and do not predict impacts on category endpoints, the exceeding of thresholds, safety margins or risks.

| Impact Category           | Unit         | Method           | A1 - A3 | A4       | A5       | B1 | B2 | B3 | B4 | B5 | B6 | B7 | C1 | C2       | C3 | C4       |
|---------------------------|--------------|------------------|---------|----------|----------|----|----|----|----|----|----|----|----|----------|----|----------|
| GWP-total (excl biogenic) | kg CO2 eq    | IPCC AR6 GWP 100 | 5.67e-1 | 1.93e-2  | 2.58e-2  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 1.30e-3  | 0  | 6.08e-3  |
| GWP-total (incl biogenic) | kg CO2 eq    | IPCC AR6 GWP 100 | 4.85e-1 | 1.94e-2  | 3.20e-2  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 1.30e-3  | 0  | 6.06e-3  |
| GWP-total (excl biogenic) | kg CO2 eq    | TRACI 2.2        | 5.58e-1 | 1.90e-2  | 2.22e-2  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 1.29e-3  | 0  | 6.02e-3  |
| GWP-total (incl biogenic) | kg CO2 eq    | TRACI 2.2        | 4.76e-1 | 1.91e-2  | 2.84e-2  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 1.29e-3  | 0  | 6.00e-3  |
| ODP                       | kg CFC 11 eq | TRACI 2.2        | 2.97e-9 | 6.70e-15 | 5.70e-14 | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 1.42e-15 | 0  | 3.74e-14 |
| AP                        | kg SO2 eq    | TRACI 2.2        | 1.35e-3 | 5.80e-5  | 7.34e-5  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 2.24e-7  | 0  | 3.77e-5  |
| EP-freshwater             | kg P eq      | TRACI 2.2        | 1.51e-5 | 1.26e-8  | 1.26e-6  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0        | 0  | 3.49e-9  |
| EP-marine                 | kg N eq      | TRACI 2.2        | 7.90e-4 | 5.25e-5  | 2.67e-5  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 1.68e-7  | 0  | 1.95e-5  |
| POCP                      | kg O3 eq     | TRACI 2.2        | 2.50e-2 | 1.30e-3  | 5.72e-4  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 6.21e-6  | 0  | 7.04e-4  |
| ADP-fossil                | MJ           | CML 2016 v4.8    | 7.92e+0 | 2.43e-1  | 3.67e-2  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 4.79e-4  | 0  | 7.59e-2  |

Note:

Not all abbreviated indicators listed below may be present in the results above. The inclusion of indicators varies based on PCR requirements.

Abbreviations:

GWP = Global Warming Potential, 100 years (may also be denoted as GWP-total, GWP-fossil (fossil fuels), GWP-biogenic (biogenic sources), GWP-luluc (land use and land use change)), ODP = Ozone Depletion Potential, AP = Acidification Potential, EP = Eutrophication Potential, SFP = Smog Formation Potential, POCP = Photochemical oxidant creation potential, ADP-Fossil = Abiotic depletion potential for fossil resources, ADP-Minerals&Metals = Abiotic depletion potential for non-fossil resources, WDP = Water deprivation potential, PM = Particulate Matter Emissions, IRP = Ionizing radiation, human health, ETP-fw = Eco-toxicity (freshwater), HTP-c = Human toxicity (cancer), HTP-nc = Human toxicity (non-cancer), SQP = Soil quality index.

Comparisons cannot be made between product-specific or industry average EPDs at the design stage of a project, before a building has been specified. Comparisons may be made between product-specific or industry average EPDs at the time of product purchase when product performance and specifications have been established and serve as a functional unit for comparison. Environmental impact results shall be converted to a functional unit basis before any comparison is attempted. Any comparison of EPDs shall be subject to the requirements of ISO 21930 or EN 15804. EPDs are not comparative assertions and are either not comparable or have limited comparability when they have different system boundaries. EPDs are not comparative assertions and are either not comparable or have limited

**BAROQUE™ CEILING PANELS (Baroque, Baroque Customline, Fine Fissured, Fine Fissured Customline, Directional Fissured, Sand Micro, Sand Micro Customline, School Board)**  
 CertainTeed Saint-Gobain



comparability when they have different system boundaries, are based on different product category rules or are missing relevant environmental impacts. Such comparison can be inaccurate, and could lead to erroneous selection of materials or products which are higher-impact, at least in some impact categories.

## Resource Use Indicator

per 0.093 m2 of product.

| Indicator | Unit | A1 - A3 | A4      | A5      | B1 | B2 | B3 | B4 | B5 | B6 | B7 | C1 | C2      | C3 | C4      |
|-----------|------|---------|---------|---------|----|----|----|----|----|----|----|----|---------|----|---------|
| RPRE      | MJ   | 1.52e+0 | 9.88e-3 | 3.10e-3 | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 9.71e-3 | 0  | 1.59e-2 |
| RPRM      | MJ   | 0       | 0       | 0       | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0       | 0  | 0       |
| RPRT      | MJ   | 1.52e+0 | 9.88e-3 | 3.10e-3 | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 9.71e-3 | 0  | 1.59e-2 |
| NRPRE     | MJ   | 2.77e+0 | 2.45e-1 | 3.73e-2 | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 2.41e-1 | 0  | 7.61e-2 |
| NRPRM     | MJ   | 0       | 0       | 0       | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0       | 0  | 0       |
| NRPRT     | MJ   | 2.77e+0 | 2.45e-1 | 3.73e-2 | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 2.41e-1 | 0  | 7.61e-2 |
| RSF       | MJ   | 0       | 0       | 0       | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0       | 0  | 0       |
| NRSF      | MJ   | 0       | 0       | 0       | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0       | 0  | 0       |
| FW        | m3   | 1.02e-2 | 0       | 0       | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 7.47e-6 | 0  | 1.87e-5 |
| RE        | MJ   | 0       | 0       | 0       | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0       | 0  | 0       |

**Note:**

Not all abbreviated indicators listed below may be present in the results above. The inclusion of indicators varies based on PCR requirements.

**Abbreviations:**

RPRE or PERE = Renewable primary resources used as energy carrier (fuel), RPRM or PERM = Renewable primary resources with energy content used as material, RPRT or PERT = Total use of renewable primary resources with energy content, NRPRE or PENRE = Non-renewable primary resources used as an energy carrier (fuel), NRPRM or PENRM = Non-renewable primary resources with energy content used as material, NRPRT or PENRT = Total non-renewable primary resources with energy content, SM = Secondary materials, RSF = Renewable secondary fuels, NRSF = Non-renewable secondary fuels, RE = Recovered energy, ADPF = Abiotic depletion potential, FW = Use of net freshwater resources, VOCs = Volatile Organic Compounds.

## Waste and Output Flow Indicators

per 0.093 m2 of product.

| Indicator | Unit | A1 - A3 | A4       | A5       | B1 | B2 | B3 | B4 | B5 | B6 | B7 | C1 | C2       | C3 | C4       |
|-----------|------|---------|----------|----------|----|----|----|----|----|----|----|----|----------|----|----------|
| HWD       | kg   | 3.03e-2 | 5.14e-11 | 3.65e-12 | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0        | 0  | 1.92e-11 |
| NHWD      | kg   | 2.34e-1 | 2.88e-5  | 3.56e-2  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0        | 0  | 3.99e-1  |
| RWD       | kg   | 0       | 0        | 0        | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0        | 0  | 0        |
| HLRW      | kg   | 1.50e-8 | 8.88e-10 | 1.96e-10 | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 8.73e-10 | 0  | 5.54e-10 |
| ILLRW     | kg   | 1.39e-5 | 2.45e-1  | 1.69e-7  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 7.33e-7  | 0  | 5.20e-7  |
| CRU       | kg   | 0       | 0        | 0        | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0        | 0  | 0        |
| MFR       | kg   | 0       | 0        | 0        | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0        | 0  | 0        |
| MER       | kg   | 0       | 0        | 0        | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0        | 0  | 0        |
| MNER      | kg   | 0       | 0        | 0        | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0        | 0  | 0        |
| EEE       | MJ   | 0       | 0        | 0        | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0        | 0  | 0        |

Note:

Not all abbreviated indicators listed below may be present in the results above. The inclusion of indicators varies based on PCR requirements.

Abbreviations:

HWD = Hazardous waste disposed, NHWD = Non-hazardous waste disposed, RWD = Radioactive waste disposed, HLRW = High-level radioactive waste, ILLRW = Intermediate- and low-level radioactive waste, CRU = Components for re-use, MFR or MR = Materials for recycling, MER = Materials for energy recovery, MNER = Materials for incineration, no energy recovery, EE or EEE = Recovered energy exported from the product system, EET = Exported thermal energy.

## Carbon Emissions and Removals

per 0.093 m2 of product.

| Indicator | Unit   | A1 - A3  | A4 | A5      | B1 | B2 | B3 | B4 | B5 | B6 | B7 | C1 | C2 | C3 | C4      |
|-----------|--------|----------|----|---------|----|----|----|----|----|----|----|----|----|----|---------|
| BCRP      | kg CO2 | -3.85e-2 | 0  | 0       | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0       |
| BCEP      | kg CO2 | 0        | 0  | 0       | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 3.85e-2 |
| BCRK      | kg CO2 | -4.62e-2 | 0  | 0       | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0       |
| BCEK      | kg CO2 | 0        | 0  | 4.62e-2 | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0       |

**BAROQUE™ CEILING PANELS (Baroque, Baroque Customline, Fine Fissured, Fine Fissured Customline, Directional Fissured, Sand Micro, Sand Micro Customline, School Board)**  
CertainTeed Saint-Gobain



Note:

Not all abbreviated indicators listed below may be present in the results above. The inclusion of indicators varies based on PCR requirements.

Abbreviations:

BCRP = Biogenic Carbon Removal from Product, BCEP = Biogenic Carbon Emission from Product, BCRK = Biogenic Carbon Removal from Packaging, BCEK = Biogenic Carbon Emission from Packaging, BCEW = Biogenic Carbon Emission from Combustion of Waste from Renewable Sources Used in Production Processes, CCE = Calcination Carbon Emissions, CCR = Carbonation Carbon Removals, CWNR = Carbon Emissions from Combustion of Waste from Non-Renewable Sources used in Production Processes, GWP-luc = Carbon Emissions from Land-use Change.

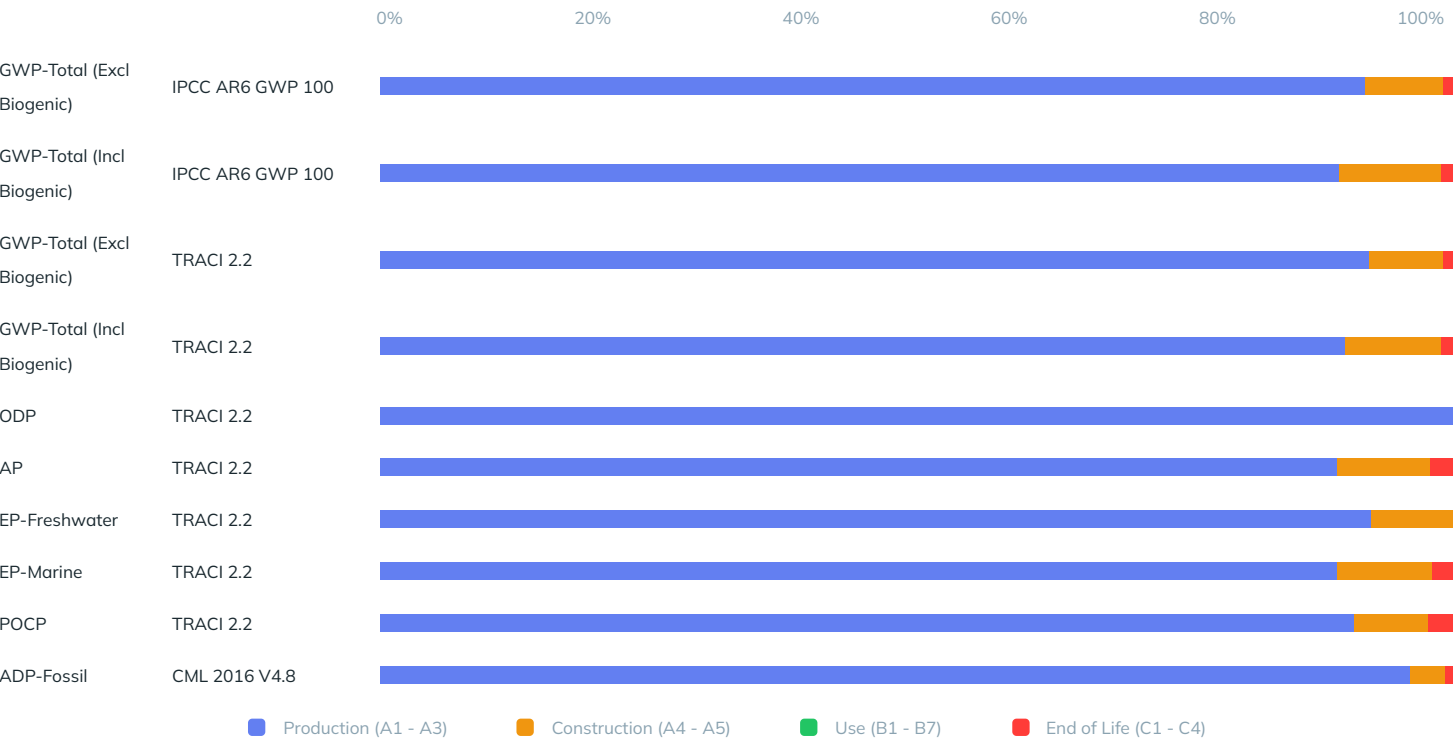


Interpretation

The Life Cycle Assessment (LCA) results indicate that the environmental impacts of the ceiling panel are primarily concentrated in the product stage (A1–A3), which includes raw material extraction, transportation, and manufacturing. The construction stage (A4–A5) contributes a smaller share of impacts, while the use stage (B1–B7) has negligible environmental burdens.

For Global Warming Potential (GWP), manufacturing (A3) is the largest contributor, followed by raw material extraction (A1) and transportation (A2), highlighting the significance of energy use and material production in the product's carbon footprint. The lower GWP results when biogenic carbon is included indicate the presence of renewable or bio-based materials that provide carbon storage benefits.

A similar trend is observed across other impact categories, including Ozone Depletion Potential (ODP), Acidification Potential (AP), Eutrophication Potential, Photochemical Ozone Creation Potential (POCP), and Abiotic Depletion Potential for Fossil Fuels (ADP-Fossil). In all cases, the product stage (A1–A3) dominates the environmental profile, demonstrating that material production and manufacturing activities are the primary drivers of environmental impacts.



Additional Environmental Information

Environment and Health During Manufacturing

CertainTeed has well-established Environmental, Health, and Safety (EHS) and product stewardship programs which help to enforce proper evaluation and monitoring of chemicals that are chosen to manufacture products. These programs ensure that all environmental and OSHA requirements are met or exceeded to ensure the health and safety of all employees and contractors. In addition, this plant is zero discharge to Publicly Owned Treatment Works (POTWs). The water system utilizes a settling pond on-site and discharges the remaining water to a spray field rather than a sewer system.

Environment and Health During Installation

Installation has minimal impacts due to the modular nature of ceiling panels and minimal energy required for installation. The assumption is that ceiling panels require no cleaning or maintenance so use phase impacts are zero.

#### Extraordinary Effects

- **Fire**

ASTM E1264 – Class A

ASTM E84 – Flame spread of 25 or less, smoke developed of 50 or less

- **Water**

This product is subject to water damage. No water or water vapor from sources including, but not limited to, condensation, leaking pipes and/or ducts, or steam must come in contact with the ceiling panels.

- **Mechanical Destruction**

This product is intended for commercial applications. Use and Practice information can be found in "Acoustical Ceilings: Use and Practice" published by Ceilings & Interior Systems Construction Association (CISCA). The product should be installed according to CertainTeed Ceilings installation instructions.

## Further Information

### Embodied Carbon Reduction Assessment: EPD Optimization

**Product Category Rules:** ISO 21930:2017

**Core PCR:** UL Part A PCR for Building-Related Products and Services v.4 Date of issue: March 01, 2022

**Sub-category PCR:** UL Part B: Non-Metal Ceiling and Interior Wall Panels v.2 Date of issue: April 13, 2021 Valid until: October 31, 2026

**Optimized Product:** Current EPD

**Baseline Product:** EPD-UL 4790601028.101.1

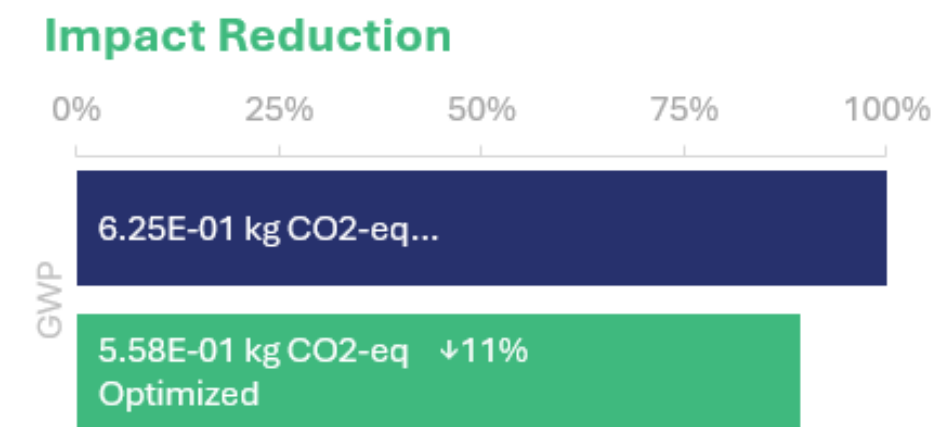
**Scope of Comparison:** Cradle -to-Gate (A1-A3)

### EPD Optimization: Drivers of Impact Reduction

The reduction in environmental impacts observed in the updated Baroque product is primarily driven by changes in raw material sourcing and composition. The most significant improvement is the replacement of virgin mineral wool with recycled scrap material recovered from another CertainTeed manufacturing facility. By incorporating this internally generated scrap into the product, the demand for virgin mineral wool is reduced, resulting in substantially lower impacts associated with raw material extraction, processing, and transportation.

This material optimization is reflected in the A1 (Raw Material Supply) stage, which shows a 44.98% reduction in Global Warming Potential (GWP) compared to the previous EPD. The reduction in raw material impacts more than offsets the modest increase observed in the manufacturing stage (A3), leading to an overall reduction of 11% in cradle-to-gate GWP (A1–A3).

The results demonstrate that the environmental improvements are primarily attributable to the increased use of recycled content and circular material flows within the manufacturing system. By diverting mineral wool scrap from waste streams and reintroducing it into production, the product achieves meaningful reductions in embodied carbon while improving resource efficiency and supporting circular economy objectives.



EPD Optimization: Impact Reduction

| Impact Category    | Baseline A1-A3 | Optimized A1-A3 | % Change |
|--------------------|----------------|-----------------|----------|
| GWP (kg CO2-eq)    | 6.25E-01       | 5.58E-01        | -11%     |
| ODP (kg CFC-11 eq) | 1.81E-08       | 2.97E-09        | -84%     |
| AP (kg SO2-eq)     | 2.85E-03       | 1.35E-03        | -53%     |
| EP (kg N-eq)       | 9.80E-04       | 1.51E-05        | -98%     |
| SFP (kg O3-eq)     | 3.96E-02       | 2.50E-02        | -37%     |
| ADP (MJ surplus)   | 6.24E+00       | 7.92E+00        | 27%      |

GREEN BUILDING STANDARDS: LEED v4.1 MRc2 – Environmental Product Declaration — Option 2:  
Embodied Carbon/LCA Optimization

| Framework – Option / Path | Criteria                                   | Contributing Valuation (up to)* | Eligible |
|---------------------------|--------------------------------------------|---------------------------------|----------|
| ≥10% reduction in GWP     | ≥10% reduction in GWP relative to baseline | Valued as 1.5 products          | Yes      |

EPD Optimization: Comparison Criteria

The optimized product was evaluated against the baseline EPD using 14 Smart EPD Optimization Comparison Indicators. A single score of 0 (**Not Comparable**) or multiple scores of 1 or 2 (**Problematic for Comparison**) would indicate that the optimized and baseline products cannot be validly compared.

In this comparison, both the optimized product and the baseline product from CertainTeed meet the criteria for comparability in accordance with ISO 14025 (§5.6, §6.7.2) and ISO 21930 (§5.5, §7.3). The results presented here reflect a direct comparison of outcomes derived from EPDs.

Therefore, the results presented represent a robust and valid comparison of environmental performance, and the observed reductions in GWP and other impact categories are attributable to actual improvements in product formulation and manufacturing efficiency, rather than methodological inconsistencies.

EPD Optimization: Smart EPD Optimization Comparison Indicators

| Smart EPD Optimization Comparison Indicators | Score | Description                                                                       |
|----------------------------------------------|-------|-----------------------------------------------------------------------------------|
| Product Type                                 | 3     | The products are of the same type and composition, ensuring direct comparability. |

| Smart EPD Optimization Comparison Indicators | Score | Description                                                                                                                                                                                                                                                                                 |
|----------------------------------------------|-------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Product Category Rule                        | 3     | Different PCR versions were applied; however, both conform to ISO 21930 and maintain methodological consistency for A1–A3 comparison.                                                                                                                                                       |
| Product Function                             | 3     | The products fulfill the same intended function with no variation in application.                                                                                                                                                                                                           |
| Product Performance                          | 3     | Technical performance characteristics are equivalent, ensuring performance equivalence.                                                                                                                                                                                                     |
| Functional Unit                              | 3     | Identical functional units were used, ensuring a consistent basis for comparison.                                                                                                                                                                                                           |
| System Boundary                              | 3     | System boundaries are aligned and limited to A1–A3 as prescribed by the applicable PCR.                                                                                                                                                                                                     |
| Scenarios and Calculation Procedures         | 2     | Minor differences in practitioner implementation exist; however, all assumptions are aligned and produce functionally equivalent modeling outcomes.                                                                                                                                         |
| Wastes and Co-Products, Allocation           | 3     | Identical classification of wastes, secondary materials/energy, and co-products, and co-product allocation method                                                                                                                                                                           |
| LCIA Method                                  | 2     | The same LCIA methodology and impact indicators were applied, ensuring consistency in impact assessment results                                                                                                                                                                             |
| Software                                     | 3     | Different LCA tools (SimaPro and Sphera LCA for Experts (LCA software)) were used; both are industry-standard, ISO-compliant platforms. Consistent LCIA methods and modeling structures were applied, ensuring that software-related differences do not materially influence comparability. |
| Background Data                              | 3     | Both assessments utilized the same background database family (GaBi/Managed LCA), with different data vintages reflecting periodic updates. These variations are considered minor and are not expected to materially influence the comparability of results.                                |
| Primary Data Reporting Year                  | 1     | Primary data reflect different reporting periods (2019 vs 2025) and an updated facility scope, including the exclusion of the Irondale facility. These updates improve temporal and operational representativeness and do not affect the validity of the comparison.                        |
| Data Quality                                 | 2     | All data quality indicators for time, geography, technological representativeness, completeness, reliability, and consistency are equivalent in the modeling.                                                                                                                               |
| Cut-off Rules                                | 3     | Identical cut-off criteria were applied in both assessments, ensuring consistent system completeness and inclusion of relevant flows.                                                                                                                                                       |

## References

- Product Category Rules for Building-Related Product and Services: Part A – Life Cycle Assessment Calculation Rules and Report Requirements, Version 4. March 2022. UL Environment.
- Product Category Rule Guidance for Building-Related Products and Services Part B: Non-Metal Ceiling and Interior Wall Panel EPD Requirements, Version 2.0 2021. UL Environment.
- ISO 14025: 2006 Series – Environmental Management-Life Cycle Assessment
- ISO 14040: 2006 Series – Environmental Management-Life Cycle Assessment
- ISO 14044: 2006 Series – Environmental Management-Life Cycle Assessment
- ISO 21930 – Sustainability in building construction – Environmental declaration of building products
- Sphera LCA FE Databases. <https://lcadatabase.sphera.com/>
- US LCI Database. <https://www.nrel.gov/lci/>
- Ecoinvent v3.12 Database. <http://ecoinvent.org/>
- CertainTeed Ceilings and Walls Website. <https://www.certainteed.com/ceilings-and-walls/mineral-fiber/>