

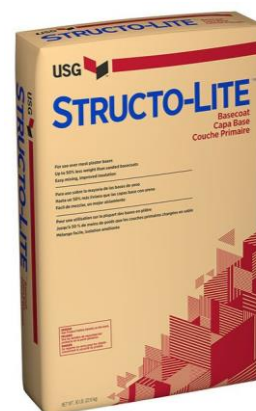
Environmental Product Declaration

Structo-Lite® Basecoat

Baltimore, MD, Gypsum, OH, and Shoals, IN

Where a lightweight, high-thermal-conductivity conventional plaster application is desired

- Mill-mixed perlite-aggregate gypsum plaster; requires only the addition of water at the jobsite.
- Ideal where it is not desirable to mix aggregate with plaster on the job.
- Lightweight plaster; weighs less than half as much as sanded plaster.
- Excellent for areas requiring highly insulated plaster; provides “k” factor of 1.74, three times the insulation value of sanded plaster.



Declared Unit – 1 tonne

(A1-A3) Cradle-to-Gate

Global Warming Potential - Total (kg CO₂ eq.)¹

2.07E+02



Ozone Depletion Potential (kg CFC-11 eq.)¹

3.05E-08

Acidification Potential (kg SO₂ eq.)¹

2.50E-01

Eutrophication Potential (kg N eq.)¹

1.62E-01

Photochemical Ozone Creation Potential (kg O₃ eq.)¹

5.51E+00

Abiotic Resource Depletion Potential Fossil Fuels (MJ, LHV)²

2.91E+03

¹ TRACI 2.2

² CML 2001; Aug. 2016

Structo-Lite® Brand Basecoat Plaster

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This declaration is an Environmental Product Declaration (EPD) in accordance with ISO 14025 and ISO 21930: 2017. 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. USG Corporation has sole ownership, liability, and responsibility for this EPD.

The owner of the declaration shall be liable for the underlying information and evidence; ASTM, or its affiliates, shall not be liable with respect to manufacturer information, life cycle assessment data, and evidence.

| | | |
|---|---|--|
| DECLARATION NUMBER | EPD XXX | |
| EPD TYPE | Product specific, facility specific EPD | |
| PROGRAM OPERATOR | ASTM International – 100 Barr Harbor Drive, West Conshohocken, PA USA www.astm.org | |
| DECLARATION HOLDER | USG Corporation - 550 W. Adams St., Chicago, IL USA | |
| EPD Type | Type III Declaration per ISO 14025:2006 | |
| DECLARED PRODUCT | Structo-Lite® Basecoat | |
| DATE OF ISSUE PERIOD OF VALIDITY | X/X/25 5 Years | |
| MARKETS OF APPLICABILITY | North America | |
| CORE STANDARD | ISO 21930: 2017 | |
| CORE PCR | Smart EPD® Part A Product Category Rules for Building and Construction Products and Services, Standard 1000. Version 1.01. March 2025. www.smartepd.com. | |
| SUB-CATEGORY PCR | Smart EPD® Part B PCR for Portland, Blended, Masonry, Mortar and Plastic (Stucco) Cement v4.0, 2025. | |
| SUB-CATEGORY PCR REVIEW | Independent Panel Review, contact info@smartepd.com | |
| ACLCA PCR OPEN STANDARD CONFORMANCE | Transparency | |
| ACLCA PCR OPEN STANDARD VERSION | Version 1.0 May 25, 2022 | |
| This declaration was independently verified in accordance with ISO 14025 and ISO 21930:2017 <input type="checkbox"/> INTERNAL <input checked="" type="checkbox"/> EXTERNAL | | Tim Brooke, ASTM International |
| This life cycle assessment was independently verified in accordance with ISO 14044 and the reference PCR by: | | Thomas P. Gloria, Industrial Ecology Consultants |

Structo-Lite® Basecoat

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1. Product System Documentation

1.1 Product Description and Product Identification

Structo-Lite® Basecoat is a mill-mixed perlite-aggregate gypsum plaster. It requires only the addition of water at the jobsite.

Structo-Lite® Basecoat is USG's lightest-weight and most highly insulated plaster.

Structo-Lite® Basecoat provides a plastic working material that will conform to various designs and help achieve durability in walls and ceilings. It can be applied by hand or machine methods, on gypsum or metal lath, clay tile, concrete or cinder blocks and other approved plaster bases.

Fire Protection - Gypsum plasters specially made for fire-protection applications and used with specified plaster bases, provide excellent fire protection.

Sound Isolation - In certain systems, gypsum plasters offer sound transmission loss characteristics suitable for most requirements. Sanded basecoat plaster provides optimum results.

Control of Set - Structo-Lite® Basecoat is formulated for use in varying climatic conditions and job conditions. The quicker a gypsum plaster sets, the stronger the basecoat.

1.2 Designated Application

It can be applied on gypsum or metal lath, clay tile, concrete or cinder blocks and other approved plaster bases.

1.3 Product Technical Data

Table 1: Performance Data

| Technical Data | Approximate Values Standard (Metric) |
|---------------------------|--|
| Coverage | Covers approximately 89-140 sq. yds. per ton. |
| Compliance with standards | Complies with ASTM Designation C28; STRUCTO-LITE Basecoat meets Federal Specification SS-P-00402B, Type I. |
| Storage | Store material in a cool, dry place. Avoid direct sunlight. Maintain temperature above 40 °F (4 °C). |
| Shelf Life | Up to 6 months under protected storage conditions. Rotate stock. |
| Packaging | Available in 50 lb. (22.7 kg) bags. |

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1.4 Placing on the Market/Application Rules

USG Structo-Lite® Basecoat is sold to distributors and applied by hand or machine methods, on gypsum or metal lath, clay tile, concrete or cinder blocks and other approved plaster bases.

1.5 Product Composition

Table 2: Product Composition

| Material | Structo-Lite® Brand Basecoat Plaster |
|-----------------------------|--------------------------------------|
| Calcium Sulfate Hemihydrate | < 85% |
| Perlite | < 10% |
| Additives | < 10% |

1.6 Product Manufacturing

The manufacture of USG Structo-Lite® Basecoat consists of the blending of the dry ingredients followed by packaging into multi-walled paper bags. The finished product is then stacked on wooden pallets and wrapped with a plastic cover bag.

1.7 Environment and Health During Manufacturing

USG and CGC have led the building sector's efforts in developing and supplying sustainable construction materials. Today, sustainability is integrated into the design and manufacture of every wall, ceiling, and flooring product. As both a producer and a buyer of raw materials, we have a responsibility to extensively review and select each material we use. Each decision we make is based on careful consideration of environmental and safety effects over time. Raw materials used in our products are carefully selected and go through a screening procedure. Incoming raw materials are tested for contaminants by an internal lab and third-party labs for consideration of use and worker, environmental, and end-user exposure. This due diligence helps to ensure our products are safe to handle in our manufacturing plants and on job sites while having minimal impact on occupant health and indoor and outdoor environments.

1.8 Packaging

USG Structo-Lite® Basecoat is packaged in 50 lb. multiwall paper bags. The finished product is then stacked on wooden pallets and wrapped with a plastic cover bag. All packaging components have been modeled in this study.

1.9 Conditions of Use

To ensure the longevity of the product, products should not be exposed to moisture, high humidity, or high temperature. Criteria can be found in USG warranty information specific to each product.

1.10 Reference Service Life

The Reference Service Life is considered not to be relevant for this cradle-to-gate study.

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2 LCA Calculation Methodology

2.1 Declared Unit

The declared unit for this LCA study is one metric tonne of product.

Table 3: Declared Unit

| | Value and Units |
|---------------|-----------------|
| Declared Unit | 1,000 kg |
| Declared Unit | 2,205 lbs. |

3 System Boundary

This EPD represents a “cradle-to-gate” LCA analysis for USG Structo-Lite® Basecoat. It covers all the production steps from raw material extraction (i.e., the cradle) to finished product on wooden pallets (i.e., the gate).

Figure 1: Specific processes covered by this EPD by life cycle stage



3.1 Estimates and Assumptions

These plaster products are USG products with well-defined formulations, energy inputs and raw material transport distances. No significant assumptions were required. All material and energy inputs were accounted for as were the raw material transportation mode and distances. Additional data limitations included the use of proxy processes rather than actual supplier generated primary data. This would include such processes as additives, which are representative of US-produced additives but may not necessarily be representative of USG's particular additive supplier. In addition, the data is limited in that the primary data was collected during the year 2024 and changes in operations may increase/decrease impacts in the future. Other data limitations include the use of secondary data sets instead of primary data for upstream and downstream processes, local impacts vs. global impacts, possible impacts vs. actual impacts, inherent uncertainty in the data sets, accuracy, and precision of impacts assessment methodology, etc.

3.2 Cut-off Criteria

All inputs and outputs to a (unit) process were included in the calculation for which data is available. In case of insufficient input data or data gaps for a unit process, the cut-off criteria were 1% of renewable and non-renewable primary energy usage and 1% of the total mass of that unit process. The total neglected input flows did not exceed 1% of energy usage and mass.

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3.3 Background Data

All background data was sourced from critically reviewed LCA for Experts databases.

3.4 Data Requirements and Data Sources

The LCA model was created using LCA for Experts software (version 10.9.1.10) from Sphera. Specific comments related to data quality requirements cited in ISO 14025 Section 4.2.3.6.2 include the following.

Temporal: In the case of production, the LCI data was collected from the manufacturing plants for the 2024 production year.

Geographical: Where possible, all processes were chosen as being representative of US manufacturing processes.

Technical: The data selected for this study is specific to the technology used in the preparation of the various raw materials.

Precision: The raw material usage amounts were derived from plant quality data on finished products, energy usage plant data and product formulas.

Completeness: Virtually all the significant raw material flows (> 99%) used in production have been modeled. The exception consists of retarders which are biopolymers derived from animal byproducts.

Representative: Where possible all the data sets were selected to be representative of US-based production, are less than 10 years in age and are representative of the technology being employed.

Consistency: All the manufacturing processes were modeled in a consistent manner throughout this study in accordance with the goal and scope definitions.

Reproducibility: The information contained in this study, including raw material, energy and transportation distance inputs, have been fully documented in the LCA report.

Sources of Data: The sources for the processes used in this study have been fully provided in the LCA report and are representative of the material and energy sources used in actual production.

Uncertainty: The relative uncertainty associated with this study has been minimized. No significant assumptions have been made.

3.5 Allocation

At each production facility, energy was allocated to each department based on usage. The LCI product formula data was collected for the 2024 production year. The LCI product mining data was collected for the 2021 production year.

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4. LCA: Scenarios and Additional Technical Information

| Product Stage | | | Construction Process stage | | Use | | | | | | | End of Life Stage | | | |
|---------------------|-----------|---------------|----------------------------|-----------------------------------|-----|-------------|--------|-------------|---------------|------------------------|-----------------------|----------------------------|-----------|------------------|----------|
| Raw Material Supply | Transport | Manufacturing | Transport | Construction-Installation Process | Use | Maintenance | Repair | Replacement | Refurbishment | Operational Energy Use | Operational water Use | De-construction Demolition | Transport | Waste Processing | Disposal |
| A1 | A2 | A3 | A4 | A5 | B1 | B2 | B3 | B4 | B5 | B6 | B7 | C1 | C2 | C3 | C4 |
| X | X | X | MND | MND | MND | MND | MND | MND | MND | MND | MND | MND | MND | MND | MND |

Figure 2: System Boundary

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5. Life Cycle Assessment Results

5.1 LCA Results

Note: Global Warming Potential – Total (GWP – Total) is the sum of the contributions from fossil fuels (GWP – Fossil), biogenic carbon (GWP – Biogenic) and land use change (GWP – Land Use Change)

The results presented below represent a volume-weight average for the 3 production plants.

Table 4: North American LCA Environmental Impacts – 1 Tonne of Structo-Lite® Basecoat

| Impact Category | Units | A1 | A2 | A3 | A1-A3 | Range |
|---|---------------|-----------|----------|-----------|-----------|----------|
| Global Warming Potential – Total ¹ | kg CO2 eq. | 1.83E+02 | 4.56E+00 | 1.88E+01 | 2.07E+02 | 2.89E+01 |
| Global Warming Potential – Fossil ¹ | kg CO2 eq. | 1.84E+02 | 4.55E+00 | 3.17E+01 | 2.20E+02 | 2.80E+01 |
| Global Warming Potential – Biogenic ¹ | kg CO2 eq. | -3.65E-01 | 1.55E-02 | -1.29E+01 | -1.32E+01 | 8.76E-01 |
| Global Warming Potential – Land Use Change ¹ | kg CO2 eq. | 4.36E-02 | 2.43E-03 | 3.86E-02 | 8.46E-02 | 6.46E-03 |
| Ozone Depletion Potential (ODP) ¹ | kg CFC-11 eq. | 1.26E-10 | 1.30E-12 | 3.03E-08 | 3.05E-08 | 3.90E-11 |
| Acidification Potential (AP) ¹ | kg SO2 eq. | 1.75E-01 | 2.03E-02 | 5.49E-02 | 2.50E-01 | 7.51E-01 |
| Eutrophication Potential (EP) ¹ | kg N eq. | 1.16E-01 | 1.88E-02 | 2.81E-02 | 1.62E-01 | 4.25E-01 |
| Photochemical Ozone Creation Potential (POCP) ¹ | kg O3 eq. | 3.83E+00 | 6.79E-01 | 9.98E-01 | 5.51E+00 | 1.49E+01 |
| Abiotic Depletion Potential (ADP) fossil fuels ² | MJ | 2.46E+03 | 5.87E+01 | 3.97E+02 | 2.91E+03 | 4.91E+02 |

The LCIA characterization factors used in this study were taken from the following sources.

1 TRACI 2.2

2 CML 2001; Aug. 2016

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Table 5: Resource and Waste Flows for 1 Tonne of Structo-Lite® Basecoat

| Use of Primary Resources | Units | A1 | A2 | A3 | A1-A3 |
|--|------------|-----------|----------|-----------|-----------|
| Renewable primary resources used as an energy carrier (RPRE) | MJ, NCV | 1.34E+02 | 2.46E+00 | 2.73E+02 | 4.09E+02 |
| Renewable primary resources with energy content used as material (RPRM) | MJ, NCV | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 |
| Non-renewable primary resources used as an energy carrier (NRPRE) | MJ, NCV | 2.78E+03 | 5.93E+01 | 5.50E+02 | 3.39E+03 |
| Non-renewable primary resources with energy content used as material (NRPRM) | MJ, NCV | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 |
| Secondary material, fuel, and recovered energy | Units | A1 | A2 | A3 | A1-A3 |
| Secondary material (SM) | kg | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 |
| Renewable secondary fuel (RSF) | MJ, NCV | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 |
| Non-renewable secondary fuel (NRSF) | MJ, NCV | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 |
| Renewable energy (RE) | MJ, NCV | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 |
| Consumption of fresh water | m3 | 3.73E-01 | 2.66E-03 | 1.32E-01 | 5.08E-01 |
| Emissions inventory parameters for transparency | Units | A1 | A2 | A3 | A1-A3 |
| Biogenic carbon content of product | kg CO2-eq. | -3.65E-01 | 0.00E+00 | 0.00E+00 | -3.65E-01 |
| Calcination uptake from carbonation | kg CO2-eq. | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 |
| Biogenic carbon of bio-based packaging | kg CO2-eq. | 0.00E+00 | 0.00E+00 | -1.29E+01 | -1.29E+01 |
| Combustion of waste from renewable sources used in production | kg CO2-eq. | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 |
| Combustion of waste from non-renewable sources used in production | kg CO2-eq. | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 |
| Indicators describing waste | Units | A1 | A2 | A3 | A1-A3 |
| Hazardous waste disposed | kg | 5.93E-07 | 9.82E-09 | 9.07E-05 | 9.13E-05 |
| Non-hazardous waste disposed | kg | 7.07E-01 | 6.06E-03 | 3.71E-01 | 1.08E+00 |
| High-level radioactive waste | kg | 1.14E-01 | 2.03E-04 | 5.44E-02 | 1.68E-01 |
| Intermediate and low-level waste | kg | N/A | N/A | N/A | N/A |
| Assignments of output flows at the end-of-life | Units | A1 | A2 | A3 | A1-A3 |
| Components for re-use (CRU) | kg | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 |
| Materials for recycling (MR) | kg | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 |
| Materials for energy recovery (MER) | kg | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 |
| Recovered energy exported (EE) | MJ, NCV | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 |

Structo-Lite® Basecoat

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5.2 LCA Results

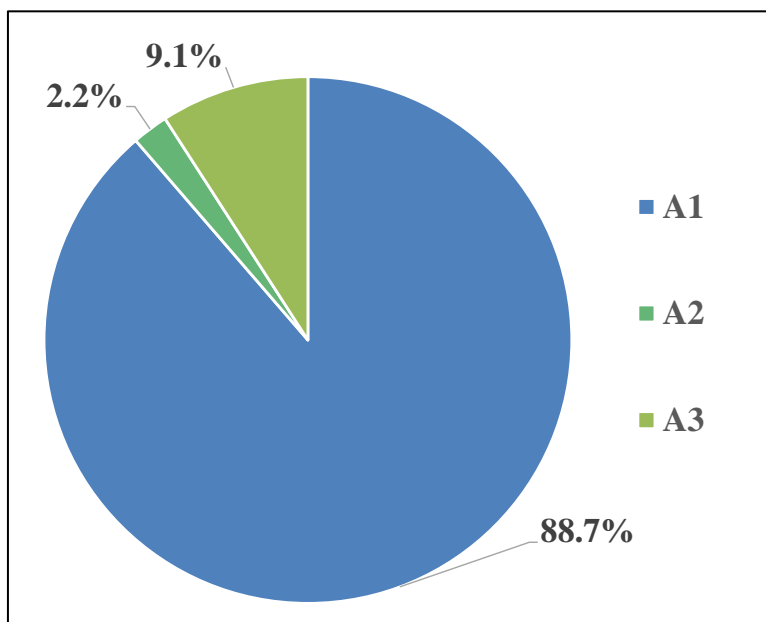
Comparisons cannot be made between product-specific or industry average EPDs at the design stage of a project, before a building or construction works has been specified. Comparisons may be made between product-specific or industry average EPDs at the time of product purchase only when product or construction works 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, are based on different product category rules or are missing relevant environmental impacts. Such comparisons can be inaccurate and could lead to an erroneous selection of materials or products that have higher impact, at least in some impact categories.

5.3 LCA Interpretation

The LCA results for the production of 1 tonne of Structo-Lite® Brand Basecoat Plaster (A1-A3) produced at the Shoals, IN plant were dominated by calcium sulfate hemihydrate usage. Future efforts to reduce the GWP for these products should focus on the formula; specifically the use of high-impact calcium sulfate hemihydrate.

Figure 3: Process Dominance Analysis for GWP for the Production of 1 Tonne of Structo-Lite® Basecoat (A1-A3) – Shoals, IN Plant



Structo-Lite® Basecoat

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6. References

LCA Report

A Cradle-to-Gate Life Cycle Assessment of USG Building Plaster Products, 4/29/25. USG (Confidential)

Product PCR

Smart EPD® Part A Product Category Rules for Building and Construction Products and Services. Standard 1000, version 1.2, March 14, 2025

Smart EPD® Part B PCR for Portland, Blended, Masonry, Mortar and Plastic (Stucco) Cement v4.0, 2025

ASTM Program Instructions, v8.0, 4/29/2020, ASTM International

Sustainability Reporting Standards

EN 15804:2012+A2:2019 - Sustainability of construction works — Environmental Product Declarations — Core rules for the product category of construction product

ISO 14025:2006 - Environmental labels and declarations — Type III environmental declarations — Principles and procedures

ISO 14040:2006/Amended 1:2020 - Environmental management – Life cycle assessment – Principles and framework

ISO 14044:2006/Amended 2:2020 - Environmental management – Life cycle assessment – Requirements and guidelines

ISO 14046:2014 - Environmental management- Water footprint- Principles, requirements and guidelines

ISO 15392:2008 - Sustainability in building construction- General principles

ISO 15686-1:2011 - Buildings and constructed assets- Service life planning- Part 1: General principles

ISO 15686-2:2012 - Buildings and constructed assets- Service life planning Part 2: Service life prediction procedures

ISO 15686-7:2017 - Buildings and constructed assets- Service life planning Part 7: Performance evaluation for feedback of service life data from practice

ISO 15686-8:2008 - Buildings and constructed assets- Service life planning Part 8: Reference service life and service life estimation

ISO 21930:2017 - Sustainability in buildings and civil engineering works — Core rules for environmental product declarations of construction products and services