



SMART
EPD

Environmental Product
Declaration

Program Operator: Smart EPD®
www.smartepd.com

IN ACCORDANCE WITH ISO 14025 AND ISO 21930:2017



SmartEPD-2025-001-0714-01

Consolideck® BD1 and LS/CS

Date of Issue

Dec 17, 2025

Expiration date

Dec 17, 2030

Last updated

Dec 05, 2025



Refer to the EPD Library at www.smartepd.com for the latest EPD listing information

General Information

PROSOCO

3741 Greenway Cir, Lawrence KS, 66046

(800) 255-4255

customer@prosoco.com prosoco.com



| | |
|-----------------------------|----------------------------|
| Product Name: | Consolideck® BD1 and LS/CS |
| Declared Unit: | 1 kg |
| Declaration Number: | SmartEPD-2025-001-0714-01 |
| Date of Issue: | December 17, 2025 |
| Expiration: | December 17, 2030 |
| Last updated: | December 05, 2025 |
| EPD Scope: | Cradle to gate A1 - A3 |
| Market(s) of Applicability: | North America |

General Organization Information

PROSOCO is a national manufacturer of products for stabilizing masonry walls; cleaning, protecting and maintaining concrete; making building envelopes air- and water-tight; and cleaning, protecting and restoring new and existing masonry buildings. We strive to provide innovative products and services that improve the appearance and performance of our built environment. Since our founding in 1939, we've fostered a reputation across the nation and internationally as a company that goes above and beyond for our customers in every way possible.

As a manufacturer, we opt to pursue some of the world's most ambitious green standards and certifications because our goal is to make it easier for designers, specifiers, owners, builders, and developers to build while leaving a minimal impact on the environment.

prosoco.com | 800 255 4255

You. Us. The project.

Further information can be found at: <https://prosoco.com/>

Limitations, Liability, and Ownership



The EPD owner has sole ownership, liability, and responsibility for the EPD.

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 or construction works 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 in results upstream or downstream of the life cycle stages declared.

The environmental impact results of products in this document are based on a declared unit and therefore do not provide sufficient information to establish comparisons. The results shall not be used for comparisons without knowledge of how the physical properties of the product impact the precise function at the construction level. The environmental impact results shall be converted to a functional unit basis before any comparison is attempted.





A manufacturer shall not make claims based on an industry-average EPD which leads the market to believe the industry-average is representative of manufacturer-specific or product-specific results.

Reference Standards

| | |
|--------------------------------|--|
| Standard(s): | ISO 14025 and ISO 21930:2017 |
| Core PCR: | Smart EPD® Part A Product Category Rules for Building and Construction Products and Services, 1000, v1.2 Date of issue: March 14, 2025 Valid until: March 14, 2030 |
| 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:  Brooke Alsterlind |  TrueNorth Collective |  info@truenorthcollective.net

EPD Program Operator:  Smart EPD |  info@smartepd.com |  www.smartepd.com |  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:

 Rifat Karim |  Independent Consultant |  rifat.chimique@gmail.com

External

Independent external verification of EPD, according to ISO 14025 and reference PCR(s):

 Rifat Karim |  Independent Consultant |  rifat.chimique@gmail.com

External

Product Information

| | |
|-------------------------------------|--|
| Declared Unit: | 1 kg |
| Mass: | 1 kg |
| Product Specificity: | <div>✓ Product Average</div> <div>✗ Product Specific</div> |
| Variation in GWP Result (Products): | -23% to 0% |

Product Description

Consolideck® BD1 is a high-performance blend of silicates designed to deliver superior results on a wide range of concrete surfaces, including those containing type 1L or other ASTM C595 cements. Ideal for use on steel-troweled or burnished concrete floors, this economical, penetrating treatment reacts with the concrete to quickly create a harder, denser surface. Consolideck® BD1 is appropriate for freshly troweled green concrete, or existing floors of any age and renders concrete floors dustproof.

Consolideck® LS/CS is a penetrating silicate treatment reacts with the concrete to produce insoluble calcium silicate hydrate within the concrete pores. LS/CS is appropriate for freshly troweled green concrete, or existing floors of any age and renders concrete floors dustproof.

Further information can be found at: <https://prosoco.com/product/BD1/>
<https://prosoco.com/product/ls-cs/>

Product Specifications

Product SKU(s):

Consolideck® BD1 and LS/CS

Product Classification Codes: Masterformat - 03 39 00

Material Composition

| Material/Component Category | Origin | % Mass |
|-----------------------------|---------------|--------|
| Water | United States | 78-82% |
| Lithium Polysilicate | United States | 2-20% |
| Potassium Methylsiliconate | United States | 2% |
| Potassium Polysilicate | United States | 0-14% |

| Packaging Material | Origin | kg Mass |
|--------------------|---------------|----------|
| Polypropylene | United States | 2.53E-04 |
| HDPE | United States | 4.36E-02 |
| Recycled HDPE | United States | 3.55E-02 |
| Wood | United States | 3.08E-02 |
| LDPE | United States | 1.40E-03 |
| Cardboard | United States | 3.51E-03 |
| Steel | United States | 1.41E-03 |

| Biogenic Carbon Content | kg C per kg |
|---|-------------|
| Biogenic carbon content in product | None |
| Biogenic carbon content in accompanying packaging | 0.0157 |

| Hazardous Materials |
|--|
| No regulated hazardous or dangerous substances are included in this product. |

EPD Data Specificity

- Primary Data Year:2024
- Manufacturing Specificity:

✗

Industry Average

✗

Manufacturer Average

✓

Facility Specific

Averaging:
Averaging was conducted using production volumes of the products as weights in a weighted average. As the aggregate A1-A3 impact differed by more than 10% for the products included in the average, the most conservative (i.e. worst case) product impact for each declared indicator in scope are declared.

System Boundary

| | | | |
|---|----|-------------------------------------|----|
| Production | A1 | Raw material supply | ✓ |
| | A2 | Transport | ✓ |
| | A3 | Manufacturing | ✓ |
| Construction | A4 | Transport to site | ND |
| | A5 | Assembly / Install | ND |
| Use | B1 | Use | ND |
| | B2 | Maintenance | ND |
| | B3 | Repair | ND |
| | B4 | Replacement | ND |
| | B5 | Refurbishment | ND |
| | B6 | Operational Energy Use | ND |
| | B7 | Operational Water Use | ND |
| End of Life | C1 | Deconstruction | ND |
| | C2 | Transport | ND |
| | C3 | Waste Processing | ND |
| | C4 | Disposal | ND |
| Benefits & Loads Beyond System Boundary | D | Recycling, Reuse Recovery Potential | ND |

Note:

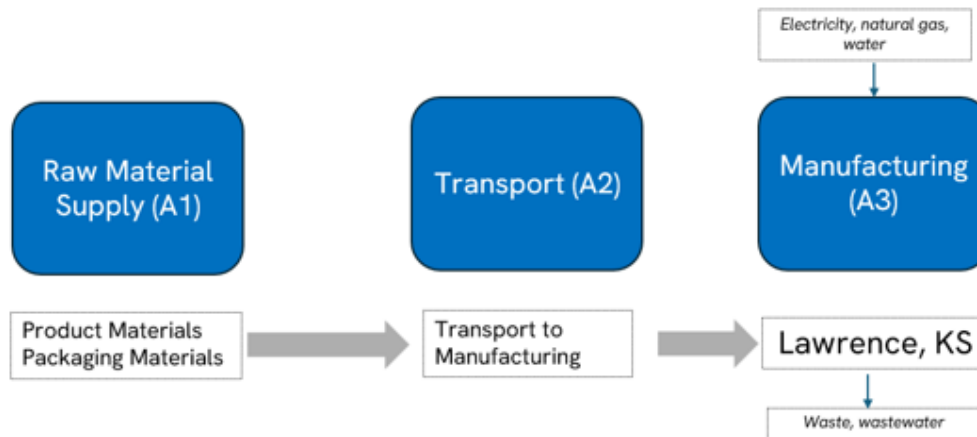
ND = Module not declared

Plants



PROSOCO
3741 Greenway Cir, Lawrence, KS 66046, USA

Product Flow Diagram



The system boundary for this study is cradle-to-gate with modules A1-A3. Module D is optional and is not included in this study.

The following modules are not included in the study:

- A4 Transport from gate to site
- A5 Assembly/Install
- B1 Use
- B2 Maintenance
- B3 Repair
- B4 Replacement
- B5 Refurbishment
- B6 Operational Energy
- B7 Operational Water
- C1 Deconstruction
- C2 Transport
- C3 Waste Processing
- C4 Disposal

Each module includes provision of all relevant materials, products, and energy, and all processes in the technosphere which are necessary to cover the declared unit. Potential impacts and aspects related to wastage (i.e. transport and waste processing of lost waste products and materials) are considered in the module in which the wastage occurs.

Capital goods and infrastructure flows are assumed to not significantly affect LCA results or conclusions and thus are excluded from the analysis. However, background data from ecoinvent does include the infrastructure components.

Software and Database

| | |
|-----------------------------|-------------------|
| LCA Software: | SimaPro v. 9.6 |
| LCI Foreground Database(s): | Ecoinvent v. 3.10 |
| LCI Background Database(s): | Ecoinvent v. 3.10 |

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

In order to comply with ISO 14044 (ISO, 2006), ISO 14040 (ISO 14040, 2006) and ISO 21930 (ISO 21930, 2017) requirements, this study reports the results and conclusions of the LCA completely and accurately without bias to the intended audience. The results, data, methods, assumptions, and limitations are presented in a transparent manner and in sufficient details to allow the reader to comprehend the complexities and trade-offs inherent in the LCA. This report allows the results and interpretation to be used in a manner consistent with the goals of the study.

Life cycle inventory data used in this study are evaluated based on three categories: precision and completeness, consistency and reproducibility, and representativeness.

Precision and completeness: Foreground data are sourced from primary information provided by the client and has been reviewed internally to ensure precision and completeness. In order to balance out seasonal variations, operations data over a 12-month period is used to represent production activities. In addition, key model input such as mass balance, energy balance and emission inventory are reviewed by TrueNorth Collective team.

Ecoinvent v3.11 cut-off by classification (Ecoinvent 3.10, 2024) is used as the main database for background data. This version is published in 2024. Ecoinvent is widely used in research and industry to support life cycle assessment practices. Each version of this database goes through thorough review process and documentation of precision and completeness is available by the provider.

Consistency and reproducibility: To ensure consistency, primary data were collected at the same level of granularity. All input and output information, modelling assumptions and dataset choices are provided in this report for the purpose of reproducibility.

Representativeness: Refer to the sections above for details about representativeness.

Data Sources

| Material/Process Category | Module | Material/Process Name | Inventory Dataset Name | Dataset Geographic Region | Reporting Period/Year Dataset Represents | Reference | Amount (if relevant) | Unit |
|---------------------------|--------|-----------------------------|---|----------------------------------|--|-----------|----------------------|------|
| Raw materials | A1 | Silicic acid potassium salt | market for potassium carbonate | Global | 2025 | Ei 3.11 | ND | ND |
| Raw materials | A1 | Potassium methylsiliconate | market for dimethyldichlorosilane | Global | 2025 | Ei 3.11 | ND | ND |
| Transport | A2 | Truck | market for transport, freight, lorry, 16-32 metric ton, diesel, EURO 3 | Rest of World | 2025 | Ei 3.11 | ND | ND |
| Manufacturing | A3 | Electricity | market for electricity, medium voltage | Midwest Reliability Organization | 2025 | Ei 3.11 | ND | ND |
| Manufacturing | A3 | Natural Gas | heat production, natural gas, at industrial furnace low-NOx >100kW | Rest of World | 2025 | Ei 3.11 | ND | ND |
| Packaging | A3 | HDPE | polyethylene, high density, granulate, recycled to generic market for polyethylene, high density, granulate | United States | 2025 | Ei 3.11 | ND | ND |
| Waste Processing | A3 | Plastic Disposal | treatment of waste plastic, mixture, municipal incineration | Rest of World | 2025 | Ei 3.11 | ND | ND |

Life Cycle Module Descriptions

Raw materials (A1) are transported to the PROSOCO manufacturing in facility (A2) by truck. At the manufacturing facility in Lawrence, KS, ingredients are mixed and then packaged for distribution (A3).

LCA Discussion

Allocation Procedure

The allocations of relevance for calculation (appropriation of impacts across various products) are performed as follows:

The use of recycled and secondary raw materials is based on the mass of the material present in a specific length of product.

Manufacturing production is tracked by the total length of products produced, so energy, ancillary, and operating materials are allocated based on product length.

No multi-output allocation was necessary in the foreground of the study, and the secondary data that is sourced from ecoinvent v3.10 cut-off by classification has allocation applied to it.

Manufacturing inputs and outputs were allocated to the in scope product by applying the number of gallons of the product that were produced in the analysis year, before converting values to be normalized by the declared unit.

Cut-off Procedure

For the processes within the system boundary, described in System Boundaries, input and output flows of mass and energy greater than 1% (based on total mass of final product and total energy usage of the product system) or greater than 1% of environmental impacts were included within the scope of the analysis. Flows of less than 1% were included if sufficient data were available to warrant inclusion and/or the flow was thought to have significant environmental impact. Where data gaps were identified, they are filled by conservative assumptions with average, generic, or proxy data and assumptions are documented. No known flows relevant to the product system are deliberately excluded from this LCA.

All upstream and downstream activities are included using a combination of primary and secondary data. While the majority of inventory data are sourced from primary resources, representative proxies are used to close gaps in the absence of primary data.

This study uses the cut-off approach method for recycling. According to this approach, the first life of a material bears the environmental burdens of its production (e.g., raw material extraction and processing) and the second life (e.g., scrap input) bears the burdens of refurbishment (e.g., collection and refining of scrap). The burdens from recycling waste treatment are taken on by the next life of the product and are not included in this study.

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

Results

Environmental Impact Assessment Results

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

per 1 kg 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 | Method | Unit | A1 | A2 | A3 | A1A2A3 |
|-----------------|------------------|--------------|---------|----------|---------|---------|
| GWP-total | IPCC AR6 GWP 100 | kg CO2 eq | 2.77e-1 | 5.96e-2 | 2.64e-1 | 6.01e-1 |
| GWP-biogenic | IPCC AR6 GWP 100 | kg CO2 eq | 8.82e-4 | 1.35e-5 | 9.41e-3 | 1.03e-2 |
| GWP-fossil | IPCC AR6 GWP 100 | kg CO2 eq | 2.75e-1 | 5.96e-2 | 2.55e-1 | 5.90e-1 |
| GWP-luluc | IPCC AR6 GWP 100 | kg CO2 eq | 3.42e-4 | 2.67e-5 | 3.14e-4 | 6.83e-4 |
| ODP | TRACI 2.2 | kg CFC 11 eq | 1.60e-5 | 8.03e-10 | 1.82e-9 | 1.60e-5 |
| AP | TRACI 2.2 | kg SO2 eq | 1.17e-3 | 3.10e-4 | 6.40e-4 | 2.12e-3 |
| EP-marine | TRACI 2.2 | kg N eq | 1.38e-4 | 7.19e-5 | 1.50e-4 | 3.60e-4 |
| EP-freshwater | TRACI 2.2 | kg P eq | 5.85e-5 | 4.32e-6 | 2.41e-4 | 3.04e-4 |
| POCP | TRACI 2.2 | kg O3 eq | 1.62e-2 | 8.52e-3 | 8.68e-3 | 3.34e-2 |
| ADP-fossil | CML 2016 v4.8 | MJ | 3.14e+0 | 8.20e-1 | 2.71e+0 | 6.67e+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:

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 = Particular 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, 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 Indicators

per 1 kg of product .

| Indicator | Unit | A1 | A2 | A3 | A1A2A3 |
|-----------|-------------------------|---------|---------|---------|---------|
| PERE | MJ, net calorific value | 4.01e-1 | 1.15e-2 | 1.07e+0 | 1.48e+0 |
| PERM | MJ, net calorific value | 0 | 0 | 0 | 0 |
| PERT | MJ, net calorific value | 4.01e-1 | 1.15e-2 | 1.07e+0 | 1.48e+0 |
| PENRE | MJ, net calorific value | 2.71e+0 | 8.83e-1 | 1.53e-1 | 3.75e+0 |
| PENRM | MJ, net calorific value | 5.10e-1 | 0 | 1.52e+0 | 2.03e+0 |
| PENRT | MJ, net calorific value | 3.22e+0 | 8.83e-1 | 1.68e+0 | 5.78e+0 |
| SM | kg | 0 | 0 | 0 | 0 |
| RSF | MJ, net calorific value | 0 | 0 | 0 | 0 |
| NRSF | MJ, net calorific value | 0 | 0 | 0 | 0 |
| RE | MJ | 0 | 0 | 0 | 0 |
| FW | m3 | 2.99e-3 | 1.14e-4 | 7.74e-4 | 3.88e-3 |

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, NRPRRT 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 1 kg of product .

| Indicator | Unit | A1 | A2 | A3 | A1A2A3 |
|-----------|------|----|----|---------|---------|
| HWD | kg | 0 | 0 | 9.17e-4 | 9.17e-4 |
| NHWD | kg | 0 | 0 | 5.52e-3 | 5.52e-3 |
| RWD | kg | 0 | 0 | 0 | 0 |
| CRU | kg | 0 | 0 | 0 | 0 |
| MFR | kg | 0 | 0 | 0 | 0 |
| MER | kg | 0 | 0 | 6.05e-4 | 6.05e-4 |
| EEE | MJ | 0 | 0 | 0 | 0 |
| EET | MJ | 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 1 kg of product .

| Indicator | Unit | A1 | A2 | A3 | A1A2A3 |
|-----------|--------|----|----|----------|----------|
| BCRP | kg CO2 | 0 | 0 | 0 | 0 |
| BCEP | kg CO2 | 0 | 0 | 0 | 0 |
| BCRK | kg CO2 | 0 | 0 | -8.57e-4 | -8.57e-4 |
| BCEK | kg CO2 | 0 | 0 | 0 | 0 |
| BCEW | kg CO2 | 0 | 0 | 0 | 0 |
| CCE | kg CO2 | 0 | 0 | 0 | 0 |
| CCR | kg CO2 | 0 | 0 | 0 | 0 |
| CWNR | kg CO2 | 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.

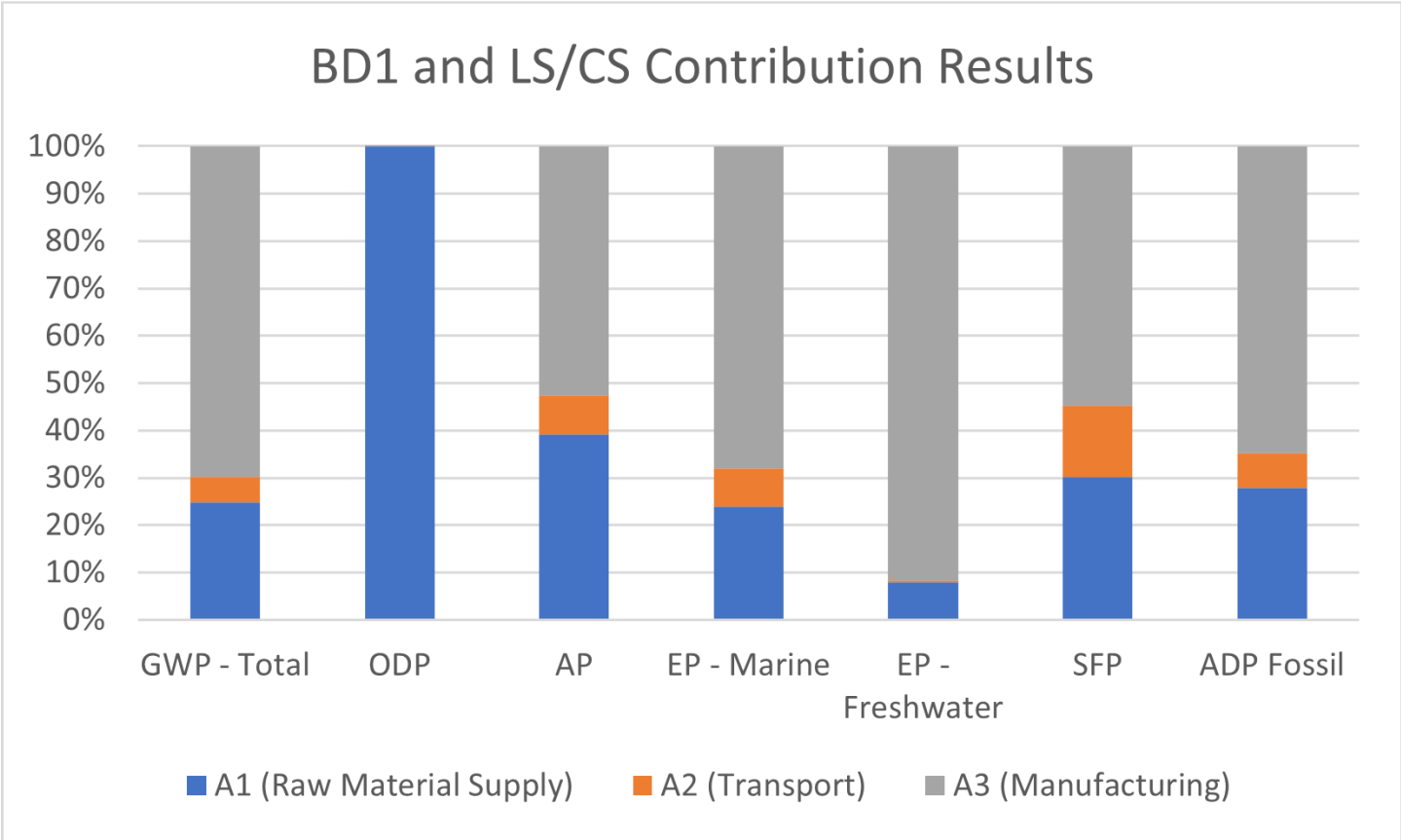
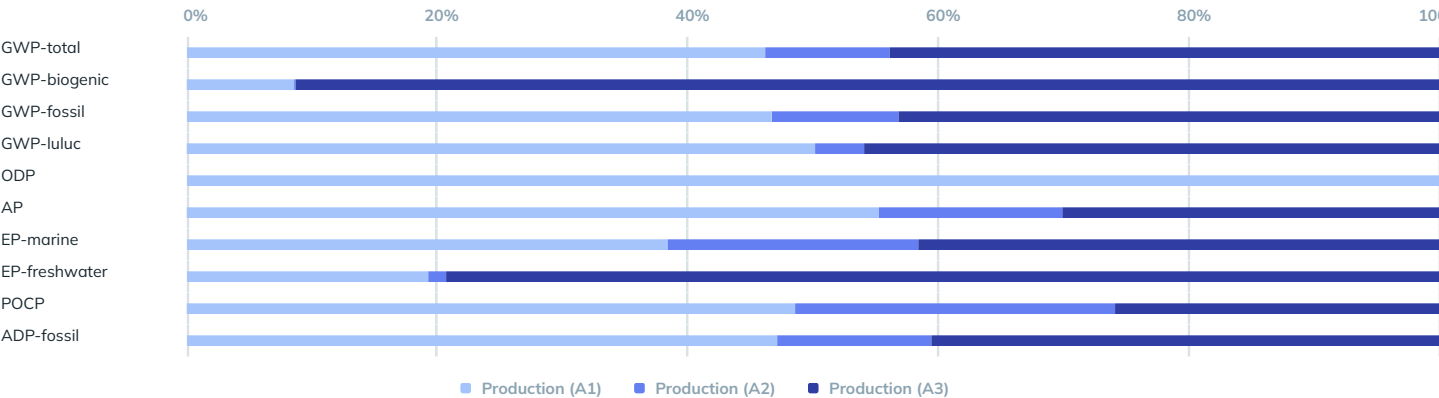
Abbreviations:

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 analysis of PROSOCO hardener and densifier products provides useful insights regarding cradle-to-gate environmental impacts. The LCA results also identify where substantial impacts are occurring to allow further process and materials improvements to be implemented by the reporting company. The cradle-to-gate impacts for the BD1/LSCS product average are largely driven by A3 manufacturing in every category but ODP, which is almost entirely driven by A1 raw materials (99%). Manufacturing contributes between 53-92% of other categories. A1 raw materials is the second highest contributor in all other categories besides ODP.

Much of the data utilized for this Environmental Product Declaration is based on information supplied by the manufacturer. TrueNorth Collective is not responsible for the accuracy, completeness, or reliability of the data provided by the manufacturer or any information or conclusions derived therefrom.



Additional Environmental Information

The manufacturing of this product results in the creation of hazardous waste, which is disposed of and handled according to the following US EPA Codes: D001, D035, F003, F005, D007, and D002. Waste categorized as D001, D035, F003, and F005 are used in fuel recovery. Waste categorized as D007 are stored. Waste category D002 is incinerated.

References

- ACLCA. (2019). *ACLCA Guidance to Calculating Non-LCIA Inventory Metrics in Accordance with ISO 21930:2017*. ACLCA.
- Bare, J., Gloria, T., & Norris, G. (2006). Development of the Method and U.S. Normalization Database for Life Cycle Impact Assessment and Sustainability Metrics. *Environmental Science & Technology*.
- Bare, J., Norris, G., Pennington, D., & McKone, T. (2003). TRACI: The Tool for the Reduction and Assessment of Chemical and Other Environmental Impacts. *Journal of Industrial Ecology*.
- Boulay A.M., B. J. (2018). The WULCA consensus characterization model for 108 water scarcity footprints: Assessing impacts of water consumption based on available water remaining (AWARE). . *The International Journal of Life Cycle Assessment*.
- Center of Environmental Science, L. U. (2016). *CML-IA Characterisation Factors*.
- Ecoinvent 3.10. (2024).
- EPA. (2024). *Waste Reduction Model*.
- Frischknecht, R., Jungbluth, N., Althaus, H., Doka, G., Dones, R., Hischier, R., . . . Nemecek, T. (2007). *Implementation of Life Cycle Impact Assessment Methods: Data v2.0*. Dbendorf, Switzerland: ecoinvent report No. 3, Swiss centre for Life Cycle Inventories.
- IPCC, I. P. (2013). *IPCC Fifth Assessment report. The Physical Science Basis*. Retrieved from <http://www.ipcc.ch/report/ar5/wg1/>.
- ISO 14025. (2006). *ISO 14025:2006: Environmental labels and declarations Type III environmental declarations Principles and procedures*. International Organization for Standardization.
- ISO 14040. (2006). *ISO 14040:2006/Amd 1:2020 -- Environmental management -- Life cycle assessment -- Principles and framework*. International Organization for Standardization.
- ISO 14071:2024. (n.d.). *ISO 14071:2024 Environmental management - Life cycle assessment - Critical review processes and reviewer competencies*. International organization for Standards (ISO).
- ISO. (2006). *ISO 14040:2006 Environmental management - Life cycle assessment - Principles and framework*. International Organization for Standardization (ISO).
- ISO. (2006). *ISO 14044:2006 Environmental management - Life cycle assessment - Requirements and guidelines*. International organization for Standardization (ISO).
- ISO 21930. (2017). Sustainability in buildings and civil engineering works Core rules for environmental product declarations of construction products and services.
- SmartEPD. (2022, November). General Program Instructions, v1.0.
- SmartEPD. (2025). *Part A Product Category Rules for Building and Construction Products and Services, Standard 1000, version 1.02*.
- Weidema B P, B. C. (2013). *Overview and methodology. Data quality guideline for the ecoinvent database version 3*. St. Gallen: The ecoinvent Centre.