



## Environmental Product Declaration

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

Program Operator: Smart EPD®

[www.smartepd.com](http://www.smartepd.com)



SmartEPD-2025-099-0677-01

## Gaco Roof GR1600 100% Silicone Roof Coating

Date of Issue

Dec 10, 2025

Expiration date

Dec 10, 2030

Last updated

Aug 25, 2026



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

## General Information

### Gaco

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🌐 [www.gaco.com](https://www.gaco.com)



|                             |                                                      |
|-----------------------------|------------------------------------------------------|
| Product Name:               | Gaco Roof GR1600 100% Silicone Roof Coating          |
| Functional Unit:            | 1 m2                                                 |
| Declaration Number:         | SmartEPD-2025-099-0677-01                            |
| Date of Issue:              | December 10, 2025                                    |
| Expiration:                 | December 10, 2030                                    |
| Last updated:               | August 25, 2026                                      |
| EPD Scope:                  | Cradle to grave<br>A1 - A3, A4, A5, B1 - B7, C1 - C4 |
| Market(s) of Applicability: | North America                                        |

## General Organization Information

For more information about the organization, please visit <https://gaco.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. 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 14025:2006 and ISO 21930:2017                                                                                                                          |
| Core PCR:                      | NSF Product Category Rules for Roof Coatings: NAICS 324122 & 325510 v.2, extension 3<br>Date of issue: November 01, 2024<br>Valid until: November 01, 2029 |
| 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:

 Sherrie MacWilliams

 Gaco

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### EPD Program Operator:

 Smart EPD

 info@smarteprd.com

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 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:

 Lucas Pedro Berman |  Senda - Consultoria Ambiental & Energetica

 info@sendaconsultorias.com

External

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

 Lucas Pedro Berman |  Senda - Consultoria Ambiental & Energetica

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External

## Product Information

### Functional Unit:

1 m<sup>2</sup>

### Mass:

0.476 kg

### Reference Service Life:

20 Years

### Product Specificity:

 Product Average

 Product Specific

## Product Description

GacoRoof GR1600 White is a single component elastomeric air-dry silicone roof coating that can be applied year-round on properly prepared substrates. GacoRoof is available in several colors to enhance the aesthetics of any roof. Ideal for use on flat and sloped roofs including, but not limited to, large and small buildings, homes, garages and patio covers, sheds and barns, mobile homes, RVs and more. GacoRoof is designed as a protective coating to seal and repair existing roofs, protect against leaks, and the damaging effects of severe weather. GacoRoof permanently withstands ponding water and exposure to ultraviolet radiation (UV).

GacoRoof meets the requirements of ASTM D 6694. GacoRoof GR1600 meets Energy Star and Cool Roof Rating Council reflectance performance requirements. GR1600 meets solar reflectance and thermal emittance requirements for the 2012 International Energy Conservation Code (IECC); the ASHRAE 90.1 Energy Standard for Building Except Low-Rise Residential Buildings; and the California Building Energy Efficiency Standard CEC-400-2008-001-CMF, as adopted as Part 6 of Title 24. This product is listed by Underwriters Laboratory Available in SCAQMD compliant versions.

Application involves cleaning and preparing the roof surface, then applying the coating using rollers, brushes, or sprayers in one or more layers. Once cured, the coating forms a flexible, weather-resistant membrane that adheres tightly to the substrate.

Product Specifications

Product Classification Codes:  
  
Product Thickness:

UNCPC - 5453  
  
EC3 - ThermalMoistureProtection -> DampproofingAndWaterproofing  
  
11 mm

Material Composition

| Material/Component Category | Origin  | % Mass |
|-----------------------------|---------|--------|
| Additives                   | Various | 0-2    |
| Fillers                     | Various | 25-50  |
| Pigments                    | USA     | 2-10   |
| Resins                      | Various | 25-50  |
| Solvent                     | USA     | 10-25  |

| Packaging Material | Origin | kg Mass  |
|--------------------|--------|----------|
| Cardboard          | None   | 6.72e-06 |
| Steel              | None   | 3.32e-05 |
| Plastic film       | None   | 2.89e-06 |
| HDPE               | None   | 2.81e-04 |

| Biogenic Carbon Content                           | kg C per m2 |
|---------------------------------------------------|-------------|
| Biogenic carbon content in product                | 0           |
| Biogenic carbon content in accompanying packaging | 0.00000312  |

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

EPD Data Specificity

Primary Data Year:  
Manufacturing Specificity:

2024  
✗ Industry Average  
✗ Manufacturer Average  
✓ Facility Specific

## 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 |

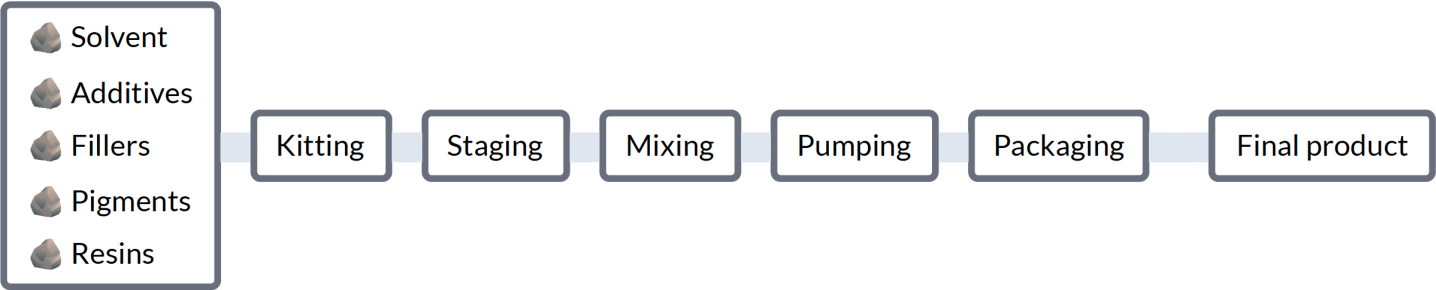
Note:

ND = Module not declared

## Plants

 Waukesha Wisconsin 1245 Chapman Dr, Waukesha, WI 53186, USA

Product Flow Diagram



Software And Database

- LCA Software:

Emidat v. 1.0
- 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

Data representativeness has been assessed following the guidelines provided in the standard. The overall data representativeness is rated as good with an overall score of 4.00/5

Data Sources

| Material/Process<br>Category | Module | Material/Process<br>Name | Inventory<br>Dataset Name | Dataset<br>Geographic<br>Region | Reporting<br>Period/Year<br>Dataset<br>Represents | Reference | Amount (if<br>relevant) | Unit |
|------------------------------|--------|--------------------------|---------------------------|---------------------------------|---------------------------------------------------|-----------|-------------------------|------|
| ND                           | ND     | ND                       | ND                        | ND                              | ND                                                | ND        | ND                      | ND   |

Life Cycle Module Description

Stage of Material Production and Construction

Module A1: Extraction and processing of raw materials (e.g., polymers, fillers, solvents) used in the roof coating formulation. Module A2: Transportation of all raw materials and intermediates to the production facility. Module A3: Production of the roof coating, including mixing, packaging, and waste treatment. Module A4: Distribution of the finished roof coating from the factory to the construction site. Module A5: On-site application of the coating, including packaging waste disposal.

Use Stage

Module B1: Release of emissions during the drying of roof coatings, depending on the coating type. Module B2: Inspections or touch-ups. Set to zero for passive systems like coatings. Module B3: Localized reapplication of coating to restore function, using negligible quantities of the original or compatible product. Set to zero. Module B4: Complete reapplication of the coating at the end of its service life, similar to A5. Module B5: Refurbishment, usually not

applicable for roof coatings and reported as zero. Module B6: Operational Energy Use: Set to zero, as roof coatings do not consume energy during use. Module B7: Operational Water Use: Also set to zero, since the coating does not require water in use.

Disposal Stage

Module C1: Removal of the coating at end-of-life or during roof replacement, often manually. Module C2: Transport of removed coating waste to a landfill or treatment facility. Module C3: Incineration of waste with energy recovery. Module C4: Final disposal of waste in sanitary landfill.

LCA Discussion

Allocation Procedure

Allocation of co-products was avoided, to the extent it was possible, based on the guidance given in ISO 14044:2006, 4.3., in EN 15804+A2:2019 and section 4.5.1 of Construction Products PCR 2019:14 version 1.3.4. Energy and water use was allocated to the product based on mass. Waste allocation followed the polluter pays principle as indicated in section 4.5.2 of the PCR. Total production output from the production process was provided.

Cut-off Procedure

No cut-off criteria are defined for this study. The system boundary was defined based on relevance to the goal of the study. For the processes within the system boundary, all available energy and material flow data have been included in the model. In cases where no matching life cycle inventories are available to represent a flow, proxy data have been applied based on conservative assumptions regarding environmental impacts.

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

|                                 |                                                 |
|---------------------------------|-------------------------------------------------|
| Vehicle Type:                   | transport, freight, lorry >32 metric ton, EURO6 |
| Transport Distance:             | 1064 km                                         |
| Capacity Utilization:           | 53.30 %                                         |
| Weight of products transported: | 0.48 kg                                         |
| Energy demand:                  | 1.58 MJ/t*km                                    |

Installation in to the building/construction site (A5)

A5 Module

|                               |              |
|-------------------------------|--------------|
| Treatment of Cardboard waste: | Incineration |
|-------------------------------|--------------|

|                                  |              |
|----------------------------------|--------------|
| Treatment of Steel waste:        | Incineration |
| Treatment of Plastic film waste: | Recycling    |
| Treatment of HDPE waste:         | Incineration |
| Installation loss:               | 5.00 %       |

## Use (B1)

### B1 Module

|                                      |               |
|--------------------------------------|---------------|
| NM VOC emissions per drying process: | 0.24 kg/liter |
| Number of drying processes:          | 1.00          |

## Replacement (B4)

### B4 Module

|                         |               |
|-------------------------|---------------|
| Reference Service Life: | 20 Years      |
| Replacement Cycle:      | 1 (ESL/RSL)-1 |
| Product lifetime:       | 25.00 years   |

## End of Life (C1 - C4)

### C1 - C4 Modules

### Collection Process

|                                  |                                              |
|----------------------------------|----------------------------------------------|
| Distance to incineration:        | 11.00 km                                     |
| Light commercial: Activity:      | transport, freight, light commercial vehicle |
| Light commercial: Distance:      | 11.00 km                                     |
| Light commercial: Energy demand: | 29.82 MJ/t*km                                |

### Recovery

|                                  |                                              |
|----------------------------------|----------------------------------------------|
| Incineration:                    | 0.48 kg                                      |
| Distance to incineration:        | 11.00 km                                     |
| Light commercial: Activity:      | transport, freight, light commercial vehicle |
| Light commercial: Distance:      | 11.00 km                                     |
| Light commercial: Energy demand: | 29.82 MJ/t*km                                |

### Disposal

|                                         |                                              |
|-----------------------------------------|----------------------------------------------|
| Product or Material for Final Disposal: | 0.48 kg                                      |
| Distance to incineration:               | 11.00 km                                     |
| Light commercial: Activity:             | transport, freight, light commercial vehicle |
| Light commercial: Distance:             | 11.00 km                                     |
| Light commercial: Energy demand:        | 29.82 MJ/t*km                                |
| Distance to incineration:               | 11.00 km                                     |
| Light commercial: Activity:             | transport, freight, light commercial vehicle |
| Light commercial: Distance:             | 11.00 km                                     |
| Light commercial: Energy demand:        | 29.82 MJ/t*km                                |

## Results

### Environmental Impact Assessment Results

IPCC AR5 GWP 100, TRACI 2.1

per 1 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       | kg CO2 eq    | IPCC AR5<br>GWP 100 | 1.25e+0 | 5.19e-2  | 1.14e-1 | 0       | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 1.09e-2  | 9.49e-1 | 0  |
| ODP             | kg CFC 11 eq | TRACI 2.1           | 3.32e-7 | 8.93e-10 | 1.00e+0 | 0       | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 1.74e-10 | 4.52e-9 | 0  |
| AP              | kg SO2 eq    | TRACI 2.1           | 5.31e-3 | 1.16e-4  | 2.96e-4 | 0       | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 4.59e-5  | 4.94e-4 | 0  |
| EP              | kg N eq      | TRACI 2.1           | 1.36e-2 | 5.40e-5  | 7.55e-4 | 0       | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 1.85e-5  | 1.47e-3 | 0  |
| SFP             | kg O3 eq     | TRACI 2.1           | 7.44e-2 | 2.48e-3  | 4.36e-3 | 3.48e-1 | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 1.14e-3  | 1.01e-2 | 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 = 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 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 1 m2 of product.

| Indicator | Unit                    | A1 - A3 | A4      | A5       | B1 | B2 | B3 | B4 | B5 | B6 | B7 | C1 | C2      | C3       | C4 |
|-----------|-------------------------|---------|---------|----------|----|----|----|----|----|----|----|----|---------|----------|----|
| PERE      | MJ, net calorific value | 1.39e+0 | 1.00e+0 | 7.28e-2  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 3.94e-3 | 5.49e-2  | 0  |
| PERM      | MJ, net calorific value | 8.57e-5 | 0       | -8.15e-5 | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0       | 0        | 0  |
| PERT      | MJ, net calorific value | 1.39e+0 | 1.04e-2 | 7.27e-2  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 3.94e-3 | 5.49e-2  | 0  |
| PENRE     | MJ, net calorific value | 1.68e+1 | 7.92e-1 | 9.52e-1  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 1.52e-1 | 1.45e+0  | 0  |
| PENRM     | MJ, net calorific value | 3.79e+0 | 0       | 1.77e-1  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0       | -3.74e+0 | 0  |
| PENRT     | MJ, net calorific value | 2.06e+1 | 7.92e-1 | 1.13e+0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 1.52e-1 | -2.30e+0 | 0  |
| SM        | kg                      | 0       | 0       | 0        | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0       | 0        | 0  |
| RSF       | MJ, net calorific value | 0       | 0       | 0        | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0       | 0        | 0  |
| NRSF      | MJ, net calorific value | 0       | 0       | 0        | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0       | 0        | 0  |
| RE        | MJ                      | 0       | 0       | 0        | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0       | 0        | 0  |
| FW        | m3                      | 2.57e-2 | 1.17e-4 | 1.34e-3  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 2.61e-5 | 9.14e-4  | 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, NRPRM 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 m2 of product.

| Indicator | Unit | A1 - A3 | A4 | A5      | B1 | B2 | B3 | B4 | B5 | B6 | B7 | C1 | C2 | C3      | C4 |
|-----------|------|---------|----|---------|----|----|----|----|----|----|----|----|----|---------|----|
| HWD       | kg   | 7.65e-3 | 0  | 2.42e-2 | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 4.76e-1 | 0  |
| NHWD      | kg   | 1.15e-2 | 0  | 8.96e-4 | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0       | 0  |
| RWD       | kg   | 0       | 0  | 0       | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0       | 0  |
| CRU       | kg   | 0       | 0  | 0       | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0       | 0  |
| MFR       | kg   | 2.15e-3 | 0  | 1.10e-4 | 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  |
| EE        | MJ   | 1.41e-1 | 0  | 4.49e-1 | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 8.75e+0 | 0  |

Note:

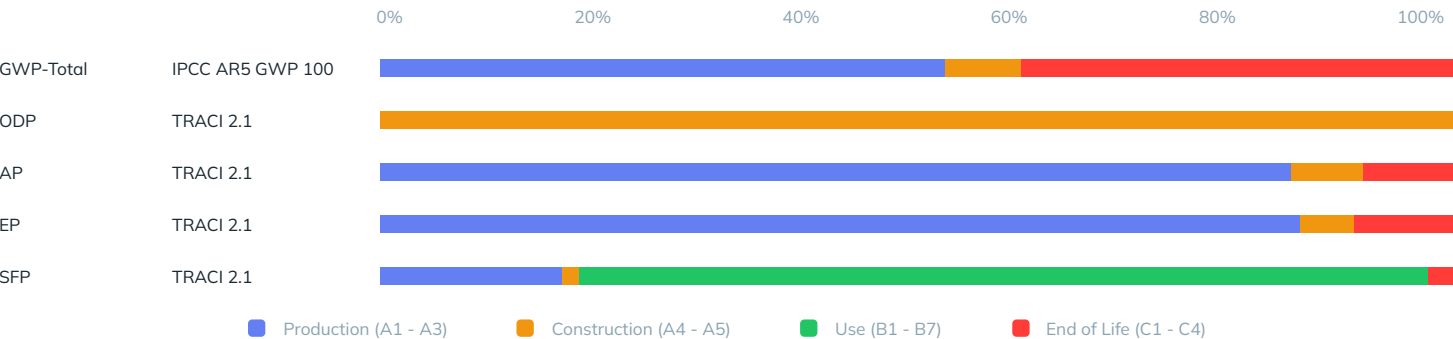
Not all abbreviated indicators listed below may be present in the results above. The inclusion of indicators varies based on PCR requirements.

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.

Interpretation

Based on the results and study assumptions, methods, and data, the cradle-to-gate impacts (A1–A3) for the product represent approximately 50% of the total Global Warming Potential (GWP). The remaining impacts occur in later life-cycle stages.



References

Standards

- EN 14025: Environmental labels and declarations - Type III environmental declarations - Principles and procedures
- EN 14040: Environmental management - Life cycle assessment - Principles and framework
- EN 14044: Environmental management - Life cycle assessment - Requirements and guidelines
- DIN CEN/TR 15941: Sustainability of construction works - Environmental product declarations - Methodology for selection and use of generic data
- EN 15942: Sustainability of construction works - Environmental product declarations - Communication format business-to-business
- ISO 21930: Sustainability in buildings and civil engineering works - Core rules for environmental product declarations of construction products and services
- ecoinvent v3.10: ecoinvent, Zurich, Switzerland, database version 3.10

Further References

- Emidat Platform v1.0.0: emidat.com
- NSF: RCMA Roof Coatings: NAICS 324122 & 325510 Version 2 - extension 3, valid through November 01, 2029.
- Smart EPD® Part A: Product Category Rules for Building and Construction Products and Services, Standard 1000, Version1.2. Issue date: 14.03.2025; valid through 14-03-2030