



Environmental Product Declaration

Program Operator: Smart EPD®
www.smartepd.com

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



SmartEPD-2026-104-1116-01

R-Guard® Joint and Seam Filler

Date of Issue

Oct 13, 2026

Expiration Date

Oct 13, 2031

Last Updated

Oct 13, 2026



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

General Information

PROSOCO

3741 Greenway Cir, Lawrence, KS 66046, USA

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customer@prosoco.com

prosoco.com



Product Name:	R-Guard® Joint and Seam Filler
Declared Unit:	1 kg and its packaging
Declaration Number:	SmartEPD-2026-104-1116-01
Date of Issue:	October 13, 2026
Expiration:	October 13, 2031
Last updated:	October 13, 2026
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. PROSOCO strive to provide innovative products and services that improve the appearance and performance of our built environment.

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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 14025:2006 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:  Freddy Segundo Navarro Pineda  fredonava@gmail.com Independent external verification of EPD, according to ISO 14025 and reference PCR(s):  Freddy Segundo Navarro Pineda  fredonava@gmail.com

External

External

Product Information

Declared Unit:	1 kg and its packaging
Mass:	1 kg
Product Specificity:	 Product Average  Product Specific

Product Description

R-Guard Joint & Seam Filler is designed to fill openings and create transitions where flexible reinforcement is required to bridge larger gaps and provide continuous support of fluid-applied flashing membranes, waterproofing or air barrier components.

Further information can be found at: <https://prosoco.com/product/joint-seam-filler/>

Product Specifications

Product SKU(s): 70410
Product Classification Codes: Masterformat - 072726
EC3 - ThermalMoistureProtection -> WeatherBarriers

Product Composition Diagram



Material Composition

Material/Component Category	Origin	% Mass
Aminosilane	None	0.1 - 1
Antioxidant	None	0.1 - 1
Inorganic_salt	None	30 - 60
Dibutyltin	None	0.1 - 1
STPE Polymer	None	10 - 30
Propylene glycol	None	10 - 30
Iron Oxide	None	0.1-1
UV absorber	None	0.1 - 1
Vinyltrimethoxysilane	None	0.1 - 1
Plasticizer	None	10 - 30
Polyester	None	0.1 - 1
Silica	None	0.1 - 1
Titanium Oxide	None	0.1- 1

Packaging Material	Origin	kg Mass
Pallet	None	0.16614
HDPE	None	0.0108

Biogenic Carbon Content	kg C per kg
Biogenic carbon content in product	0
Biogenic carbon content in accompanying packaging	0.0783

Hazardous Materials
Dibutyltin (22673-19-3) – OSHA HCS
Titanium Dioxide (13463-67-7) – OSHA HCS
Aminosilane (1760-24-3) - OSHA HCS

Biogenic Carbon Content

One kilogram of biogenic carbon corresponds to 44/12 kilograms of biogenic carbon dioxide equivalent.

EPD Data Specificity

- Primary Data Year:2025
- Manufacturing Specificity:

✗ Industry Average

✗ Manufacturer Average

✓ Facility Specific

Averaging:
Averaging was not conducted for this EPD.

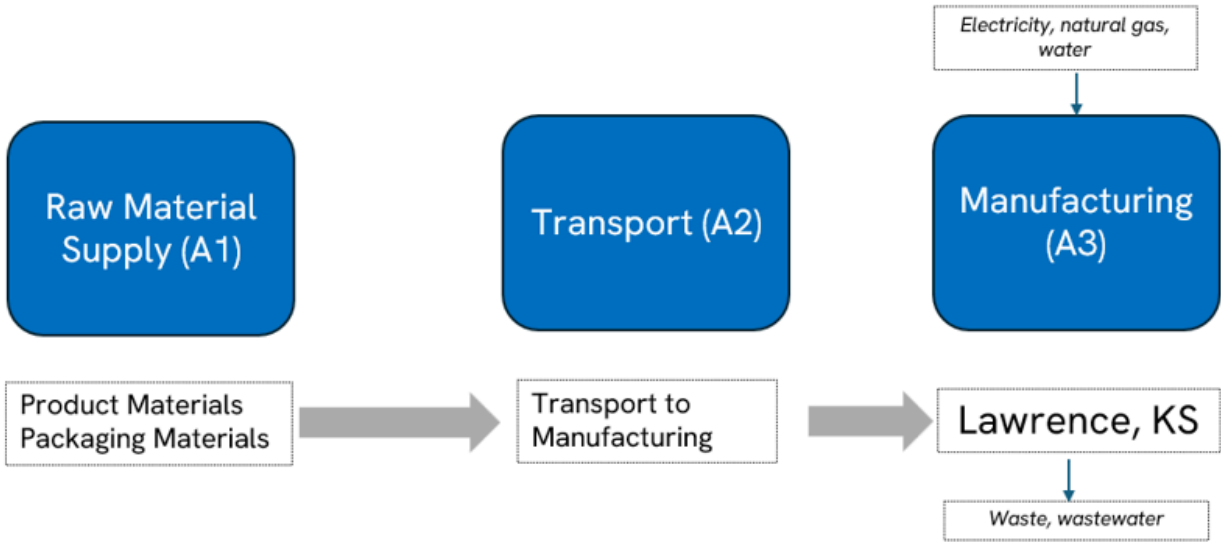
System Boundary

Production	A1	Raw material supply	✓
	A2	Transport	✓
	A3	Manufacturing	✓
Construction	A4	Transport to site	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
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Note:
ND = Module not declared

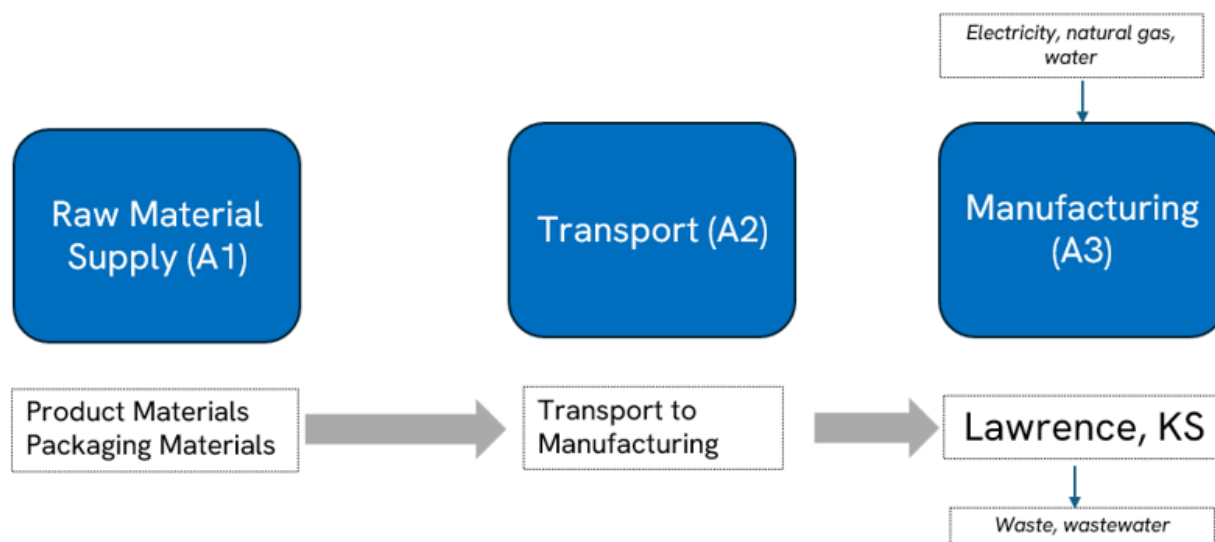
Product Composition Diagram



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. 10.2
LCI Foreground Database(s):	 Ecoinvent v. 3.11
LCI Background Database(s):	 Ecoinvent v. 3.11

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 3.11, 2024) is used as the main database for background data. This version was 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.

Temporal representativeness: Primary manufacturing data were collected over a 12-month period to account for seasonal variations. Background data were modeled using ecoinvent v3.11. The temporal representativeness of the selected datasets was evaluated against the study reference period.

Geographical representativeness: Primary manufacturing data represent PROSOCO's facility in Lawrence, Kansas, USA. Background datasets were selected considering their geographical applicability to the processes modeled.

Technological representativeness: Primary data reflect the manufacturing processes used at the PROSOCO facility. Background datasets were selected based on their technological correspondence with the modeled materials, energy inputs, and processes.

Accuracy: Primary inventory data were obtained from manufacturer-provided information and reviewed through mass and energy balances and inventory consistency checks.

Precision: Primary manufacturing data were collected over a 12-month period to reduce the influence of short-term operational variations. The precision of background data was considered as part of the dataset quality assessment.

Completeness: The inventory covers the relevant material and energy inputs, emissions, and waste flows within the declared A1–A3 system boundary. Data gaps were addressed using representative secondary datasets or proxies where necessary.

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	Polyether	Polyether polyols, long chain {RoW} polyether polyols production, long chain Cut-off, U	Rest of World	2024	ecoinvent 3.11	ND	ND
Raw Materials	A1	Polyether	Dimethyldichlorosilane {GLO} dimethyldichlorosilane production Cut-off, U	Global	2024	ecoinvent 3.11	ND	ND
Raw Materials	A1	Plasticizer	Diethyl terephthalate {GLO} diethyl terephthalate production Cut-off, U	Global	2024	ecoinvent 3.11	ND	ND
Transport	A2	Truck	Transport, freight, lorry, >32 metric ton, diesel, EURO 6 {RoW} transport, freight, lorry, >32 metric ton, diesel, EURO 6 Cut-off, U	Rest of World	2024	ecoinvent 3.11	ND	ND
Manufacturing	A3	Electricity - MRO	Electricity, medium voltage {US-MRO} market for electricity, medium voltage Cut-off, U	MRO	2024	ecoinvent 3.11	ND	ND
Manufacturing	A3	Natural Gas	Heat, central or small-scale, natural gas {RoW} heat production,	Rest of World	2024	ecoinvent 3.11	ND	ND

Material/Process Category	Module	Material/Process Name	Inventory Dataset Name	Dataset Geographic Region	Reporting Period/Year Dataset Represents	Reference	Amount (if relevant)	Unit
			natural gas, at boiler fan burner low-NOx non-modulating <100kW Cut-off, U					
Packaging	A3	HDPE	Polyethylene, high density, granulate {RoW} polyethylene production, high density, granulate Cut-off, U	Rest of World	2024	ecoinvent 3.11	ND	ND
Packaging	A3	HDPE	Injection moulding {RoW} injection moulding Cut-off, U	Rest of World	2024	ecoinvent 3.11	ND	ND
Packaging	A3	Pallet	EUR-flat pallet {RoW} EUR-flat pallet production Cut-off, U	Rest of World	2024	ecoinvent 3.11	ND	ND

Life Cycle Module Description

Raw materials (A1) are transported to the PROSOCO manufacturing in facility (A2) by truck over an average distance of 985 kilometers. At the manufacturing facility in Lawrence, KS, ingredients are mixed and then packaged for distribution (A3). Medium voltage electricity is used at the manufacturing site, represented by the ecoinvent 3.11 dataset "Electricity, medium voltage {US-MRO}| market for electricity, medium voltage | Cut-off, U".

LCA Discussion

Allocation Procedure

No multi-output allocation was necessary in the foreground of the study, and the secondary data that is sourced from ecoinvent v3.11 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.

Allocation was performed using total production volume of products (in kilograms) to allocate flows to specific products (mass allocation). The allocation results in the same intensity per kg of product as the utilities are not metered separately, just on a facility basis. Intensities are calculated by dividing the total plant consumption by the total plant production. More information can be seen in Manufacturing (A3). The allocations of relevance for calculation of impacts across various products are:

- Allocation of energy, water, ancillary and operating materials used for individual products in a factory
- Allocation of waste from manufacturing, its transport, and its disposal

Cut-off Procedure

For the processes within the system boundary, 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 and its packaging .

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	A2	A3	A1 - A3
GWP-total	kg CO2 eq	IPCC AR6 GWP 100	2.30e+0	8.01e-2	3.47e-1	2.73e+0
GWP-fossil	kg CO2 eq	IPCC AR6 GWP 100	2.29e+0	8.00e-2	3.46e-1	2.72e+0
GWP-biogenic	kg CO2 eq	IPCC AR6 GWP 100	3.40e-3	1.95e-5	6.79e-4	4.10e-3
GWP-luluc	kg CO2 eq	IPCC AR6 GWP 100	9.91e-3	3.77e-5	4.83e-4	1.04e-2
ODP	kg CFC 11 eq	TRACI 2.2	2.41e-5	1.25e-9	5.21e-9	2.41e-5
AP	kg SO2 eq	TRACI 2.2	9.29e-3	1.87e-4	1.02e-3	1.05e-2
EP-freshwater	kg P eq	TRACI 2.2	5.23e-4	5.82e-6	1.07e-4	6.36e-4
EP-marine	kg N eq	TRACI 2.2	1.07e-3	2.84e-5	1.37e-4	1.23e-3
POCP	kg O3 eq	TRACI 2.2	1.32e-1	3.25e-3	1.47e-2	1.50e-1
ADP-fossil	MJ	CML 2016 v4.8	3.88e+1	1.17e+0	5.04e+0	4.50e+1

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.

Environmental impact results include the contributions from infrastructure and capital goods implicitly accounted for in the background datasets.

For the ADP-fossil indicator: The results of this environmental impact indicator shall be used with care as the uncertainties on these results are high or as there is limited experience with the indicator.

Resource Use Indicator

per 1 kg of product and its packaging .

Indicator	Unit	A1	A2	A3	A1 - A3
RPRE	MJ	2.16e+0	1.59e-2	1.95e+0	4.13e+0
RPRM	MJ	0	0	2.68e+0	2.68e+0
RPRT	MJ	2.16e+0	1.59e-2	4.63e+0	6.81e+0
NRPRE	MJ	2.72e+1	1.19e+0	5.33e+0	3.37e+1
NRPRM	MJ	1.35e+1	0	0	1.35e+1
NRPRT	MJ	4.06e+1	1.19e+0	5.33e+0	4.71e+1
SM	kg	0	0	0	0
RSF	MJ	0	0	0	0
NRSF	MJ	0	0	0	0
FW	m3	1.88e-2	1.83e-4	2.35e-3	2.13e-2
RE	MJ	0	0	2.08e-2	2.08e-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:

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 PENRM = 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 and its packaging .

Indicator	Unit	A1	A2	A3	A1 - A3
HWD	kg	0	0	1.81e-3	1.81e-3
NHWD	kg	0	0	3.72e-2	3.72e-2
HLRW	kg	0	0	0	0
ILLRW	kg	0	0	0	0
CRU	kg	0	0	0	0
MFR	kg	0	0	1.12e-3	1.12e-3
MER	kg	0	0	0	0
EEE	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 and its packaging .

Indicator	Unit	A1	A2	A3	A1 - A3
BCRP	kg CO2	0	0	0	0
BCEP	kg CO2	0	0	0	0
BCRK	kg CO2	0	0	-2.87e-1	-2.87e-1
BCEK	kg CO2	0	0	2.87e-1	2.87e-1
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:

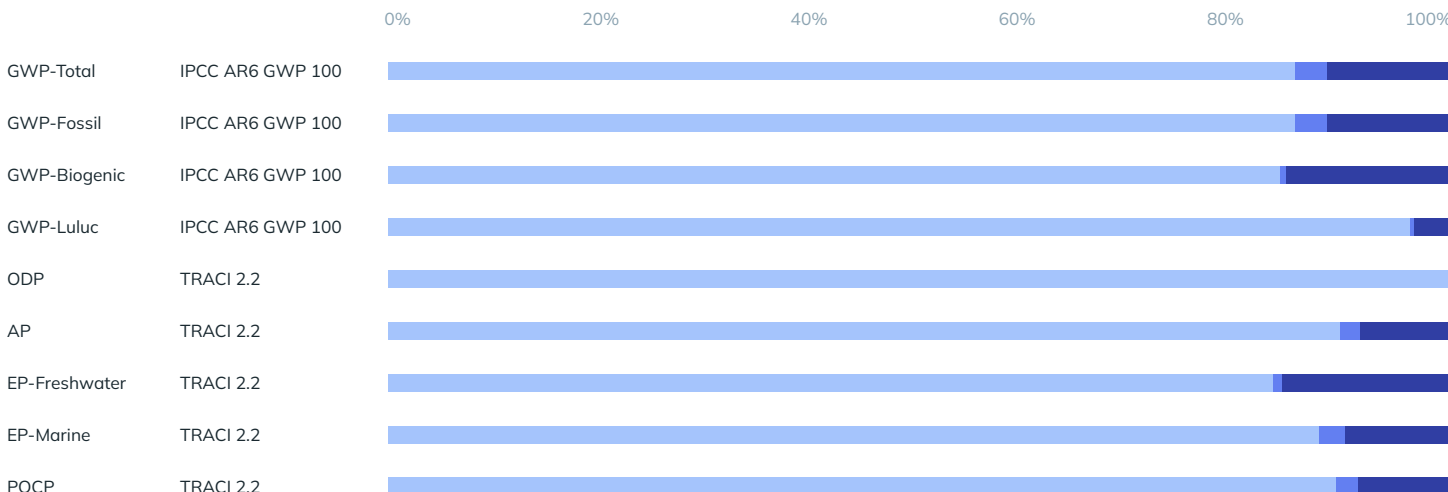
BCRP = Biogenic Carbon Removal from Product, BCEP = Biogenic Carbon Emission from Product, BCRK = Biogenic Carbon Removal from Packaging, BCEK = Biogenic Carbon Emission from Packaging, BCEW = Biogenic Carbon Emission from Combustion of Waste from Renewable Sources Used in Production Processes, CCE = 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.

BCEK values reported in A3 represent the balancing of biogenic CO₂ associated with the biogenic carbon contained in the packaging.

Interpretation

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.

The cradle-to-gate impacts for the R-Guard Joint & Seam product are driven by the A1 raw material stage (82-100%) for key impact categories. A3 manufacturing constitutes the second highest driver of impacts for key impact categories.



Additional Environmental Information

OSHA HCS and WHMIS are standards included in Safety Data Sheets for application safety measures and are not indicative of consumer exposure risks. PROSOCO has reviewed the chemical content of this product to verify conformance with Living Building Challenge 2.1/2.2/3.0/3.1/4.0 Materials Petal Red List and the product does not contain intentionally added chemicals present on the Red List.

Environmental Activities and Certifications

Certification

Living Building Challenge 2.1/2.2/3.0/3.1/4.0 Materials Petal Red List

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