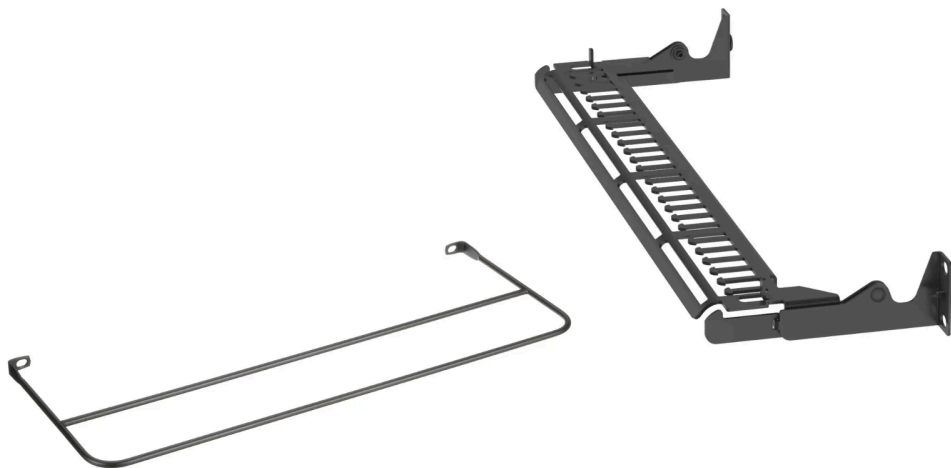


# ENVIRONMENTAL PRODUCT DECLARATION

IN ACCORDANCE WITH ISO 14025:2006 AND EN 50693:2019

SmartEPD-2026-127-0831-01

## Strain Relief Bars



**PANDUIT™**



|                       |                    |                      |
|-----------------------|--------------------|----------------------|
| <b>Date of Issue:</b> | <b>Expiration:</b> | <b>Last updated:</b> |
| Apr 17, 2026          | Apr 17, 2031       | Sep 30, 2026         |

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



## General Information

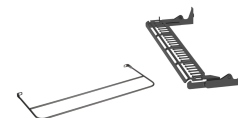
### Panduit Corporation

📍 18900 Panduit Drive, Tinley Park, IL 60487

📞 800-777-3300

✉ TechSupport@panduit.com

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



|                             |                                                         |
|-----------------------------|---------------------------------------------------------|
| Product Name:               | Strain Relief Bars                                      |
| Functional Unit:            | 1 unit                                                  |
| Declaration Number:         | SmartEPD-2026-127-0831-01                               |
| Date of Issue:              | April 17, 2026                                          |
| Expiration:                 | April 17, 2031                                          |
| Last updated:               | September 30, 2026                                      |
| EPD Scope:                  | Cradle to grave<br>A1 - A3, A4, A5, B1 - B7, C1 - C4, D |
| Market(s) of Applicability: | Global                                                  |

## General Organization Information

At Panduit, we understand that what we deliver matters: high-quality infrastructure and connectivity solutions. But it's how we deliver them that defines who we are. We remain deeply aware of our environmental responsibilities, the importance of an inclusive workplace, and the value of transparent, ethical governance. These principles guide every decision we make and shape how we serve our customers, our people, and our partners.

As we've grown, so has our commitment—to not only deliver dependable, scalable network connectivity and powerful infrastructure, but also to embed sustainability into everything we do. By integrating environmental, social, and governance principles into our operations, we're creating smarter solutions that reduce packaging waste, move products more efficiently, and support a more responsible customer journey. Today's successes are the springboard for what comes next - anticipating tomorrow's challenges so we can build a future that is more connected, resilient, and sustainable."

Further information can be found at: <https://www.panduit.com/en/about/about-panduit/environmental-social-and-governance.html>

## Limitations, Liability and Ownership

This declaration is an environmental product declaration (EPD) in accordance with ISO 14025 and EN 15804+A2. 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.

Accuracy of Results: EPDs regularly rely on estimations of impacts, and the level of accuracy in estimation of effect differs for any particular product line and reported impact. Comparability: EPDs are not comparative assertions and are either not comparable or have limited comparability when they cover different life cycle stages, are based on different product category rules or are missing relevant environmental impacts. EPDs from different programs may not be comparable.

Reference Standards

|                                |                                                                                                                                            |
|--------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------|
| Standard(s):                   | ISO 14025:2006 and EN 50693:2019                                                                                                           |
| Core PCR:                      | PEP ecopassport® PROGRAM PCR Product Category Rules for Electrical, Electronic and HVAC-R Products (PCR-ed4-EN-2021 09 06) v.4             |
|                                | Date of issue: September 06, 2021                                                                                                          |
|                                | Valid until: September 06, 2026                                                                                                            |
| Sub-category PCR review panel: |  Contact Smart EPD for more information.                  |
| General Program Instructions:  |  Smart EPD General Program Instructions v.2.0, March 2025 |

Verification Information

|                       |                                                                                                                                                                                                               |
|-----------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| LCA Author/Creator:   |  Olivia Jurewicz                                                                                                             |
|                       |  Sustainable Solutions Corporation                                                                                           |
|                       |  info2024@sustainablesolutions.com                                                                                           |
| 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:                                                                                                                        |
|                       |  Arka Pandit    pandit_arka@outlook.com |
|                       | Independent external verification of EPD, according to ISO 14025 and reference PCR(s):                                                                                                                        |
|                       |  Arka Pandit    pandit_arka@outlook.com |

External

External

Product Information

|                         |                                                                                                      |
|-------------------------|------------------------------------------------------------------------------------------------------|
| Functional Unit:        | 1 unit                                                                                               |
| Mass:                   | 0.182 kg                                                                                             |
| Reference Service Life: | 20 Years                                                                                             |
| Product Specificity:    |  Product Average  |
|                         |  Product Specific |

Product Description

This EPD presents includes the following products:

- Strain Relief Bar: Part Number SRB19D5BL
- Strain Relief Bar: Part Number SRB19D7BL

Strain Relief Bar: Part Number SRB19MDBL  
Pivoting Strain Relief Bar: Part Number SRBPBL

Product Specifications

Product SKU(s):

Product Classification Codes:

This EPD presents the impacts of SRB19D5BL as the baseline product, but this EPD is representative of the products listed in the Product Description section.

UNSPSC - 43223309

EC3 - NetworkInfrastructure -> CabinetsRacksAndEnclosures

Material Composition

| Material/Component Category | Origin | % Mass |
|-----------------------------|--------|--------|
| Steel                       | None   | 98.75  |
| Zinc                        | None   | 1.25   |

| Packaging Material | Origin | kg Mass  |
|--------------------|--------|----------|
| Adhesive Tape      | None   | 0.00077  |
| Cardboard          | None   | 0.0081   |
| Nylon Strapping    | None   | 0.000752 |
| Paper              | None   | 0.000331 |
| Styrofoam          | None   | 0.000727 |
| Wood               | None   | 0.0151   |

| Biogenic Carbon Content                           | kg C per unit |
|---------------------------------------------------|---------------|
| Biogenic carbon content in product                | None          |
| Biogenic carbon content in accompanying packaging | 0.00321       |

| 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

Averaging:  
Allocation for the products within this EPD was conducted based on weighted production by mass.

System Boundary

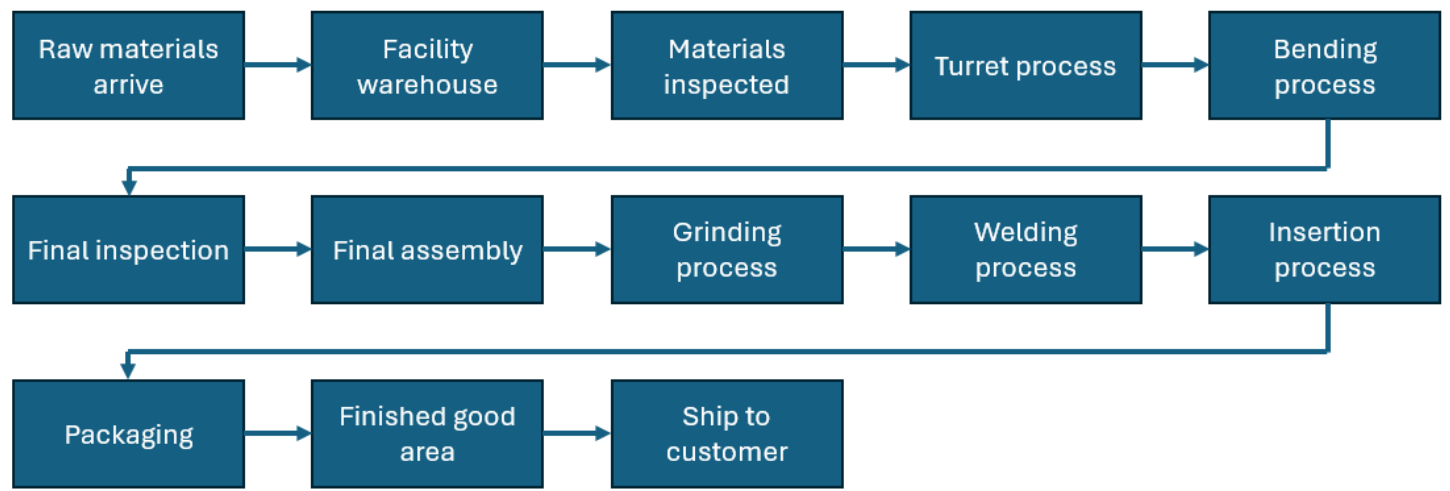
|                                         |    |                                     |   |
|-----------------------------------------|----|-------------------------------------|---|
| Production                              | A1 | Raw material supply                 | ✓ |
|                                         | 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 | ✓ |

Note:  
ND = Module not declared

Plants

 North America North America

Product Flow Diagram



The manufacturing of strain relief bars starts with the metal bases of the majority of the products. Those bases are then inspected to ensure they have the proper amount of bend required by the final product. The bases are then painted and bent to their final product dimensions. The components are then put through their final assembly and packaged. There are additional inspections at each level of the manufacturing process.

Each plant produces a variety of products with differing impacts, so allocation was conducted based on overall production mass.

Software And Database

- LCA Software: ☐ Sphera LCA for Experts (formerly GaBi) v. 10.9
- LCI Foreground Database(s): ☐ Sphera Managed LCA Content (formerly GaBi Professional Database) v. ☐ Plastics Europe v. ☐ US LCI v. ☐ worldsteel v.
- LCI Background Database(s): ☐ Sphera Managed LCA Content (formerly GaBi Professional Database) v.

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

Primary data were collected for every process in the product system under the control of Panduit's facilities. Secondary data from the LCA Managed Content, USLCI, WorldSteel, and PlasticsEurope databases were utilized when necessary. These data were evaluated and have temporal, geographic, and technical coverage appropriate to the scope of the product category.

The data sources used are complete and representative of global systems in terms of the geographic and technological coverage and are a recent vintage (i.e. less than ten years old). The data used for primary data are based on direct information sources of the manufacturers and suppliers. Secondary data sets were used for raw materials extraction and processing, end of life, transportation, and energy production flows. Wherever secondary data is used, the study adopts critically reviewed data for consistency, precision, and reproducibility to limit uncertainty.

## Life Cycle Module Description

The primary manufacturing processes occur in multiple locations across North America and Asia. All manufacturing sites that produce the part numbers that are included in this EPD product grouping are included in this scope.

The scope of this EPD is cradle-to-grave and includes the life cycle stages of Raw Material Extraction and Processing, Raw Material Shipping, Manufacturing, Product Shipping, Packaging, Use, and Final Disposal.

## LCA Discussion

### Allocation Procedure

The LCI data was collected from the Panduit facilities for the 2024 calendar year. Allocation was determined on a per product basis for primary data. For secondary data, cut-off methodology was used.

### Cut-off Procedure

Processes whose total contribution to the final result, with respect to their mass and in relation to all considered impact categories, is less than 1% can be neglected.

The sum of the neglected processes may not exceed 5% by mass of the considered impact categories. For that a documented assumption is admissible. For Hazardous Substances the following requirements apply:

- The Life Cycle Inventory (LCI) of hazardous substances will be included, if the inventory is available.
- If the LCI for a hazardous substance is not available, the substance will appear as an input in the LCI of the product, if its mass represents more than 0.1% of the product composition.
- If the LCI of a hazardous substance is approximated by modeling another substance, documentation will be provided.

This EPD is in compliance with the cut-off criteria. No processes were neglected or excluded. Capital items for the production processes (machine, buildings, etc.) were not taken into consideration.

## Renewable Electricity

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

## Scenarios

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

A4 Module

|                 |            |
|-----------------|------------|
| Fuel Type:      | Diesel     |
| Liters of Fuel: | 38 l/100km |

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

A5 Module

|                                                 |                                                                                                                                                                                                                                                                                   |
|-------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Installation Scrap Rate Assumed:                | 0 %                                                                                                                                                                                                                                                                               |
| Waste Materials at the Construction Site Before | 2.58E-02 kg                                                                                                                                                                                                                                                                       |
| Waste Processing:                               |                                                                                                                                                                                                                                                                                   |
| Mass of Packaging Waste Specified by Type:      | 7.70E-04 adhesive tape, 8.10E-03 cardboard, 7.52E-04 nylon strapping, 3.31E-04 paper, 7.27E-04 styrofoam, 1.51E-02 wood kg                                                                                                                                                        |
| Biogenic Carbon Contained in Packaging (kg C):  | 0.00321 kg                                                                                                                                                                                                                                                                        |
| Assumptions for scenario development:           | For the installation of these products, only standard tools are needed. Per the PCR, there was no scrap rate assumed for the installation of Patch Panels and Accessories into a building. Packaging waste is generated; this waste is assumed to be 100% disposed in a landfill. |

### Use (B1)

B1 Module

#### Use Conditions:

The use phase assumptions for this EPD follow the PSR Section 3.12.1. and there are no use (B1) phase assumptions for the products in this EPD.

### Maintenance (B2)

B2 Module

|                                               |                                                                               |
|-----------------------------------------------|-------------------------------------------------------------------------------|
| Further assumptions for scenario development: | There are no maintenance (B2) phase assumptions for the products in this EPD. |
|-----------------------------------------------|-------------------------------------------------------------------------------|

### Repair (B3)

B3 Module

|                                               |                                                                                                                                                    |
|-----------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------|
| Further assumptions for scenario development: | The use phase assumptions for this EPD follow the PSR Section 3.12.1. and there are no repair (B3) phase assumptions for the products in this EPD. |
|-----------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------|

### Replacement (B4)

B4 Module

|                                               |                                                                                                                                                         |
|-----------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------|
| Further assumptions for scenario development: | The use phase assumptions for this EPD follow the PSR Section 3.12.1. and there are no replacement (B4) phase assumptions for the products in this EPD. |
|-----------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------|

Refurbishment (B5)

B5 Module

**Further assumptions for scenario development:** The use phase assumptions for this EPD follow the PSR Section 3.12.1. and there are no refurbishment (B5) phase assumptions for the products in this EPD.

Operational Energy Use (B6) & Operational Water Use (B7)

B6 & B7 Modules

**Further assumptions for scenario development:**  
The use phase assumptions for this EPD assume that there are no energy (B6) use and no operational water (B7) phase scenarios for the products in this EPD.

End of Life (C1 - C4)

C1 - C4 Modules

Recovery

**Recycling:** 1.45E-01 kg

Disposal

**Product or Material for Final Disposal:** 3.68E-02 kg

**Removals of Biogenic Carbon:** 0 kg CO2

**Assumptions for scenario development:**  
The end-of-life scenario was modeled based on the PCR, therefore the study assumes varying amounts of recycling and landfill depending on the material. Aluminum is assumed to be recycled at 70% and landfilled at 30%, while other non-ferrous metals are assumed to be recycled at 60% and landfilled at 40%. Steel is assumed to be recycled at 80% and landfilled at 20%. PVC is assumed to be incinerated with no landfill recovery at 50% and landfilled at 50%. Finally, any other materials are assumed to be landfilled at 100%. 100km is the distance assumed that the waste travels via truck before reaching the end-of-life.

Reuse, Recovery and / or Recycling Potentials & Relevant Scenario Information (D)

D Module

## Results

### Environmental Impact Assessment Results

TRACI 2.2, CML 2016 v4.8, EF3.1

per 1 unit 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       | D         |
|---------------------------|--------------|---------------|----------|----------|----------|----|----|----|----|----|----|----|----|----------|----|----------|-----------|
| GWP-total (excl biogenic) | kg CO2 eq    | TRACI 2.2     | 6.79e-1  | 7.99e-2  | 3.93e-2  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 1.40e-2  | 0  | 8.12e-4  | -5.76e-2  |
| ODP                       | kg CFC 11 eq | TRACI 2.2     | 7.94e-10 | 2.37e-12 | 3.98e-11 | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 1.92e-15 | 0  | 2.52e-15 | -6.71e-14 |
| AP                        | kg SO2 eq    | TRACI 2.2     | 1.33e-3  | 5.48e-4  | 1.17e-3  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 9.99e-5  | 0  | 2.13e-6  | -5.55e-5  |
| EP-freshwater             | kg P eq      | TRACI 2.2     | 7.01e-7  | 9.28e-10 | 3.57e-8  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 7.90e-10 | 0  | 3.72e-10 | -9.03e-9  |
| EP-marine                 | kg N eq      | TRACI 2.2     | 5.48e-4  | 1.44e-3  | 1.48e-4  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 1.11e-4  | 0  | 4.26e-6  | -1.14e-4  |
| PM                        | kg PM2.5 eq  | TRACI 2.2     | 2.75e-4  | 3.06e-5  | 1.57e-5  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 3.31e-6  | 0  | 3.30e-7  | -1.45e-5  |
| ODP                       | kg CFC-11 eq | CML 2016 v4.8 | 7.28e-10 | 2.37e-12 | 3.65e-11 | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 1.92e-15 | 0  | 2.52e-15 | -6.71e-14 |
| AP                        | kg SO2 eq    | CML 2016 v4.8 | 1.32e-3  | 1.15e-3  | 1.31e-4  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 8.32e-5  | 0  | 4.02e-6  | -1.08e-4  |
| EP                        | kg PO4 eq    | CML 2016 v4.8 | 1.33e-4  | 2.25e-4  | 1.93e-5  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 1.92e-5  | 0  | 1.00e-6  | -1.03e-5  |
| POCP                      | kg C2H4 eq   | CML 2016 v4.8 | 2.35e-4  | 4.65e-5  | 1.24e-5  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | -3.40e-5 | 0  | 3.16e-7  | -1.60e-5  |
| ADP-fossil                | MJ           | CML 2016 v4.8 | 8.18e+0  | 1.02e+0  | 4.78e-1  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 1.91e-1  | 0  | 1.21e-2  | -4.57e-1  |
| ADP-minerals&metals       | kg Sb eq     | CML 2016 v4.8 | 2.99e-6  | 6.17e-10 | 1.50e-7  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 5.03e-10 | 0  | 3.03e-10 | 1.79e-9   |
| GWP- total                | kg CO2 eq    | EF3.1         | 6.42e-1  | 8.04e-2  | 3.75e-2  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 1.42e-2  | 0  | 8.25e-4  | -5.77e-2  |
| GWP- fossil               | kg CO2 eq    | EF3.1         | 6.88e-1  | 8.04e-2  | 3.97e-2  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 1.42e-2  | 0  | 8.26e-4  | -5.77e-2  |
| GWP-biogenic              | kg CO2 eq    | EF3.1         | -4.55e-2 | 4.37e-6  | -2.28e-3 | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 3.73e-6  | 0  | -1.09e-6 | 1.32e-5   |
| GWP-luluc                 | kg CO2 eq    | EF3.1         | 1.75e-4  | 8.61e-7  | 1.19e-5  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 7.33e-7  | 0  | 7.05e-7  | -2.78e-5  |
| ODP                       | kg CFC11 eq  | EF3.1         | 5.58e-10 | 1.63e-12 | 2.80e-11 | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 1.56e-15 | 0  | 2.13e-15 | -2.92e-14 |

| Impact Category     | Unit                    | Method | A1 - A3  | A4       | A5       | B1 | B2 | B3 | B4 | B5 | B6 | B7 | C1 | C2       | C3 | C4       | D         |
|---------------------|-------------------------|--------|----------|----------|----------|----|----|----|----|----|----|----|----|----------|----|----------|-----------|
| AP                  | mol H+ eq               | EF3.1  | 1.58e-3  | 1.59e-3  | 1.69e-4  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 1.20e-4  | 0  | 4.93e-6  | -1.32e-4  |
| PM                  | disease incidence       | EF3.1  | 5.11e-8  | 5.65e-9  | 2.93e-9  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 8.68e-10 | 0  | 5.63e-11 | -1.95e-9  |
| IRP                 | kBq U235 eq             | EF3.1  | 3.81e-2  | 6.08e-6  | 1.92e-3  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 5.18e-6  | 0  | 1.27e-5  | 7.62e-4   |
| POCP                | kg NMVOC eq             | EF3.1  | 1.16e-3  | 1.75e-3  | 1.55e-4  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 1.09e-4  | 0  | 3.75e-6  | -1.07e-4  |
| EP-fw               | kg P eq                 | EF3.1  | 1.47e-6  | 2.00e-8  | 7.59e-8  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 1.73e-9  | 0  | 8.24e-10 | -2.00e-8  |
| EP-marine           | kg N eq                 | EF3.1  | 3.35e-4  | 6.67e-4  | 5.44e-5  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 5.70e-5  | 0  | 1.65e-6  | -3.18e-5  |
| EP-terrestrial      | mol N eq                | EF3.1  | 3.45e-3  | 7.30e-3  | 5.84e-4  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 6.25e-4  | 0  | 1.34e-5  | -3.42e-4  |
| SQI                 | dimensionless           | EF3.1  | 9.43e-1  | 4.34e-4  | 4.91e-2  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 3.69e-4  | 0  | 9.89e-4  | 3.58e-2   |
| WDP                 | m3 world eq deprived    | EF3.1  | 1.66e-1  | 6.57e-5  | 8.38e-3  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 5.59e-5  | 0  | 3.83e-5  | -3.94e-4  |
| ADP-fossil          | MJ, net calorific value | EF3.1  | 9.41e+0  | 1.03e+0  | 5.40e-1  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 1.91e-1  | 0  | 1.24e-2  | -4.37e-1  |
| ADP-minerals&metals | kg Sb eq                | EF3.1  | 2.64e-6  | 2.43e-10 | 1.32e-7  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 2.07e-10 | 0  | 9.60e-11 | -5.66e-10 |
| ETP-fwio            | CTUe                    | EF3.1  | 1.10e+0  | 1.43e+0  | 1.44e-1  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 2.27e-1  | 0  | 9.19e-3  | -6.72e-2  |
| HTP-co              | CTUh                    | EF3.1  | 1.95e-10 | 2.10e-11 | 1.11e-11 | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 3.42e-12 | 0  | 2.83e-13 | -9.20e-11 |
| HTP-nc              | CTUh                    | EF3.1  | 2.04e-9  | 1.22e-9  | 1.69e-10 | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 5.15e-11 | 0  | 3.55e-12 | 7.06e-11  |

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, 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 unit of product.

| Indicator | Unit | A1 - A3 | A4      | A5      | B1 | B2 | B3 | B4 | B5 | B6 | B7 | C1 | C2      | C3 | C4      | D        |
|-----------|------|---------|---------|---------|----|----|----|----|----|----|----|----|---------|----|---------|----------|
| PERE      | MJ   | 1.00e+0 | 1.12e-3 | 5.15e-2 | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 9.57e-4 | 0  | 1.78e-3 | 6.93e-2  |
| PERM      | MJ   | 2.42e-1 | 0       | 0       | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0       | 0  | 0       | 0        |
| PERT      | MJ   | 1.00e+0 | 1.12e-3 | 5.15e-2 | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 9.57e-4 | 0  | 1.78e-3 | 6.93e-2  |
| PENRE     | MJ   | 9.41e+0 | 1.03e+0 | 5.40e-1 | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 1.91e-1 | 0  | 1.24e-2 | -4.37e-1 |
| PENRM     | MJ   | 2.46e-1 | 0       | 0       | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0       | 0  | 0       | 0        |
| PENRT     | MJ   | 9.41e+0 | 1.03e+0 | 5.40e-1 | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 1.91e-1 | 0  | 1.24e-2 | -4.37e-1 |
| RPRE      | MJ   | 1.00e+0 | 1.12e-3 | 5.15e-2 | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 9.57e-4 | 0  | 1.78e-3 | 6.93e-2  |
| RPRM      | MJ   | 2.42e-1 | 0       | 0       | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0       | 0  | 0       | 0        |
| RPRT      | MJ   | 1.24e+0 | 1.12e-3 | 5.15e-2 | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 9.57e-4 | 0  | 1.78e-3 | 6.93e-2  |
| NRPRE     | MJ   | 9.41e+0 | 1.03e+0 | 5.40e-1 | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 1.91e-1 | 0  | 1.24e-2 | -4.37e-1 |
| NRPRM     | MJ   | 2.46e-1 | 0       | 0       | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0       | 0  | 0       | 0        |
| NRPRT     | MJ   | 9.65e+0 | 1.03e+0 | 5.40e-1 | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 1.91e-1 | 0  | 1.24e-2 | -4.37e-1 |
| SM        | kg   | 0       | 0       | 0       | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0       | 0  | 0       | 0        |
| RSF       | MJ   | 0       | 0       | 0       | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0       | 0  | 0       | 0        |
| NRSF      | MJ   | 0       | 0       | 0       | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0       | 0  | 0       | 0        |
| FW        | m3   | 1.00e-1 | 1.73e-6 | 5.01e-3 | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 1.47e-6 | 0  | 1.42e-6 | -3.33e-5 |
| RE        | MJ   | 0       | 0       | 0       | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0       | 0  | 0       | 0        |

**Note:**

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

**Abbreviations:**

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

## Waste and Output Flow Indicators

per 1 unit of product.

| Indicator | Unit | A1 - A3  | A4       | A5       | B1 | B2 | B3 | B4 | B5 | B6 | B7 | C1 | C2       | C3 | C4       | D        |
|-----------|------|----------|----------|----------|----|----|----|----|----|----|----|----|----------|----|----------|----------|
| HWD       | kg   | 5.77e-10 | 4.61e-12 | 3.10e-11 | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 3.93e-12 | 0  | 2.98e-12 | 1.64e-10 |
| NHWD      | kg   | 9.01e-3  | 7.66e-6  | 3.54e-2  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 6.52e-6  | 0  | 3.80e-2  | 6.32e-3  |
| RWD       | kg   | 4.11e-4  | 8.81e-8  | 2.07e-5  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 7.50e-8  | 0  | 1.37e-7  | 7.30e-6  |
| CRU       | kg   | 0        | 0        | 0        | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0        | 0  | 0        | 0        |
| MFR       | kg   | 0        | 0        | 0        | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0        | 0  | 0        | 1.45e-1  |
| MER       | kg   | 0        | 0        | 0        | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0        | 0  | 0        | 0        |
| MNER      | kg   | 0        | 0        | 0        | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0        | 0  | 0        | 0        |
| EEE       | MJ   | 0        | 0        | 0        | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0        | 0  | 0        | 0        |
| EET       | MJ   | 0        | 0        | 0        | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0        | 0  | 0        | 0        |

**Note:**

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

**Abbreviations:**

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

## Carbon Emissions and Removals

per 1 unit of product.

| Indicator | Unit   | A1 - A3 | A4      | A5 | B1 | B2 | B3 | B4 | B5 | B6 | B7 | C1 | C2 | C3 | C4 | D |
|-----------|--------|---------|---------|----|----|----|----|----|----|----|----|----|----|----|----|---|
| BCRP      | kg CO2 | 0       | 0       | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0 |
| BCEP      | kg CO2 | 0       | 0       | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0 |
| BCRK      | kg CO2 | 1.18e-2 | 0       | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0 |
| BCEK      | kg CO2 | 0       | 1.18e-2 | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0 |
| BCEW      | kg CO2 | 0       | 0       | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0 |
| CCE       | kg CO2 | 0       | 0       | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0 |
| CCR       | kg CO2 | 0       | 0       | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0 |
| CWNR      | kg CO2 | 0       | 0       | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0 |

Note:

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

Abbreviations:

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.

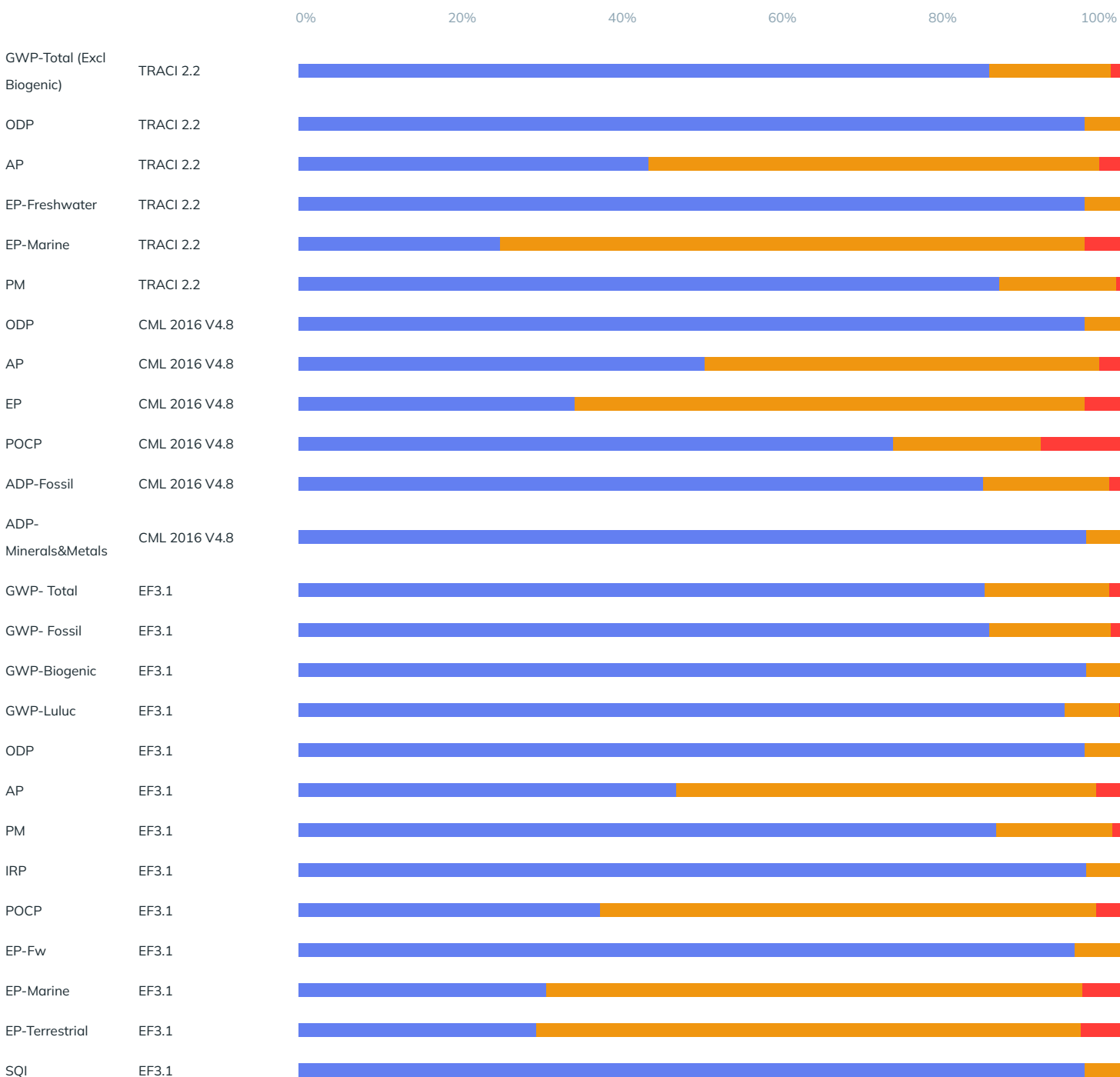
## Scaling Factors

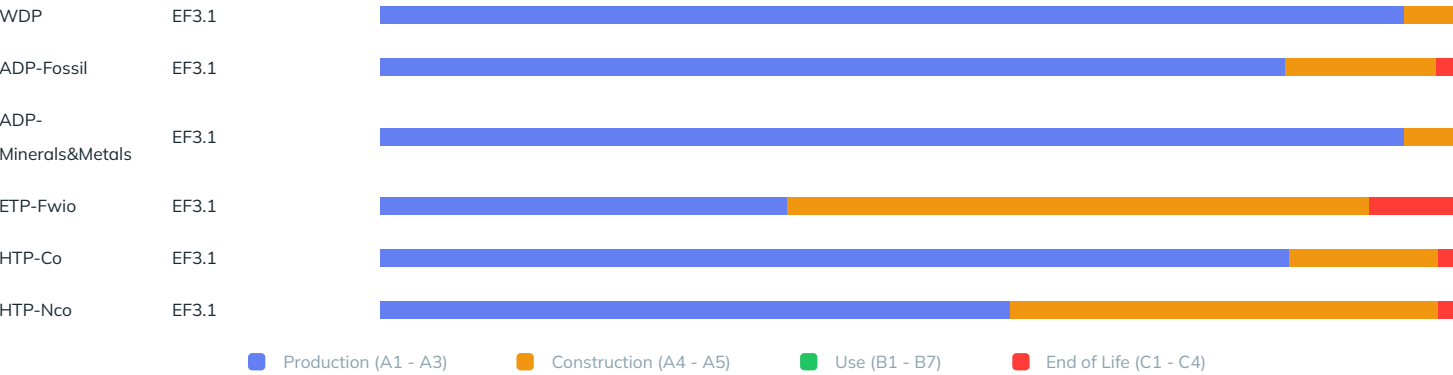
| Part Number | A1-A3 GWP | A1-A3 ODP | A1-A3 AP | A1-A3<br>Freshwater EP | A1-A3 Marine EP | A1-A3 Smog | A4   | A5   | C2-D |
|-------------|-----------|-----------|----------|------------------------|-----------------|------------|------|------|------|
| SRB19D5BL   | 1.00      | 1.00      | 1.00     | 1.00                   | 1.00            | 1.00       | 1.00 | 1.00 | 1.00 |
| SRB19D7BL   | 1.85      | 1.00      | 1.82     | 1.86                   | 1.81            | 1.85       | 1.86 | 1.86 | 1.86 |
| SRB19MDBL   | 2.25      | 1.00      | 2.21     | 2.26                   | 2.19            | 2.26       | 2.26 | 2.26 | 2.26 |
| SRBPBL      | 2.67      | 3.60      | 4.60     | 28.04                  | 2.86            | -7.65      | 2.25 | 2.25 | 2.25 |

Individual product recipes, transportation of upstream materials, production inputs and outflows, product mass, end-of-life disposition, etc. all contribute to variations in product part impacts across the entire life cycle. For this EPD, an impact assessment was completed for the SRB19D5BL reference product and the impacts were reported as representation of the strain relief bars group. The rest of the products in this EPD are represented through scaling factors and can be independently calculated.

## Interpretation

When evaluating the TRACI 2.2 impact categories specifically for the represented product, the production (A1-A3) stage is the primary driver of impacts of global warming potential, ozone depletion, and freshwater eutrophication primarily due to steel and zinc components in the product's composition. The product distribution phase is the driver of acidification, marine eutrophication, and photochemical oxidation formation due to fuel combustion air emissions during transportation.





Additional Environmental Information

Fire: This product has no negative extraordinary environmental effects resulting from exposure to fire.

Water: This product has no negative extraordinary environmental effects resulting from exposure to water.

Mechanical Destruction: This product has no negative extraordinary environmental effects resulting from exposure to mechanical destruction.

References

Product Category Rule (PCR) PEP ecopassport Program: Product Category Rules for Electrical, Electronic and HVAC-R Products, v4.0, 2021 (PCR Part A)

PEP ecopassport Program: Product Specific Rules for Electrical Switchgear and Control Gear Solutions, v3.1, 2023 (PSR Part B)

Sphera LCA for Experts v10.9.1.17 O 14025:2011-10, Environmental labels and declarations — Type III environmental declarations — Principles and procedures.

ISO 14040:2009-11, Environmental management — Life cycle assessment — Principles and framework.

ISO 14044:2006-10, Environmental management — Life cycle assessment — Requirements and guidelines.

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