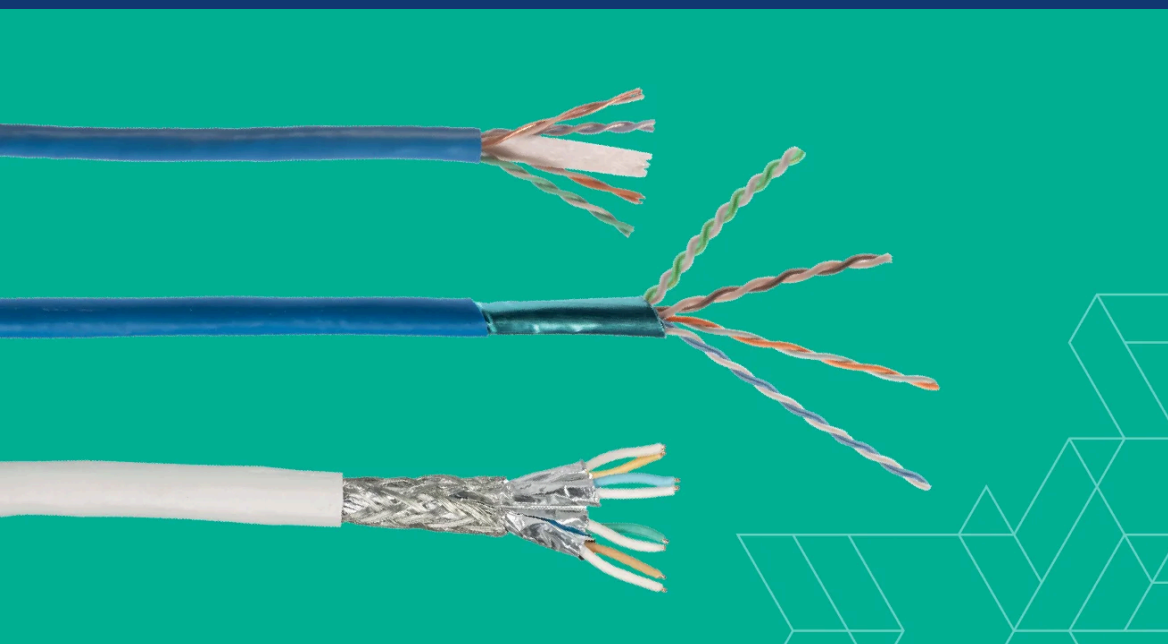


# ENVIRONMENTAL PRODUCT DECLARATION

IN ACCORDANCE WITH ISO 14025:2006 AND EN 15804:2012+A2:2019/AC:2021

SmartEPD-2026-128-0837-01

## Category 6 Plenum



**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

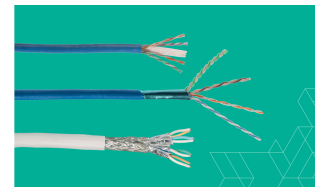
### Panduit Corporation

📍 18900 Panduit Drive, Tinley Park, IL 60487

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



|                             |                                                                                                 |
|-----------------------------|-------------------------------------------------------------------------------------------------|
| Product Name:               | Category 6 Plenum                                                                               |
| Functional Unit:            | 1 m - to transmit data and signals over a distance of 1 meter during 10 years at a 25% use rate |
| Declaration Number:         | SmartEPD-2026-128-0837-01                                                                       |
| 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 15804:2012+A2:2019/AC:2021                                                                                           |
| Core PCR:                      | PEP PCR Electrical, Electronic and HVAC-R Products v.4                                                                                     |
|                                | Date of issue: September 06, 2021                                                                                                          |
| Sub-category PCR:              | PEP ecopassport® PROGRAM PSR Specific Rules for Wires, Cables and Accessories (PSR-0001-ed4-EN-2022 11 16) v.4                             |
|                                | Date of issue: November 16, 2022                                                                                                           |
|                                | Valid until: November 01, 2027                                                                                                             |
| 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                                                                                           |
|                       |  olivia@sustainablesolutionscorporation.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 m - to transmit data and signals over a distance of 1 meter during 10 years at a 25% use rate      |
| Mass:                   | 0.0615 kg                                                                                            |
| Reference Service Life: | 10 Years                                                                                             |
| Product Specificity:    |  Product Average  |
|                         |  Product Specific |

Product Description

This Panduit Category 6 Plenum Copper Cables EPD includes the following products:

PUP6C04\*\* - Category 6, U/UTP, Plenum  
PUP6004\*\* - Category 6, U/UTP, Plenum  
PFP6C04\*\* - Category 6, F/UTP, Plenum  
PUP6C2204\*\* - Category 6, U/UTP, Plenum

Product Specifications

Product SKU(s):

Product Classification Codes:

This EPD presents the impacts of PFP6C04\*\* as the baseline product, but this EPD is representative of the products listed in the Product Description section.

NAPCS - 26121609

EC3 - NetworkInfrastructure -> DataCabling

Table 1. Material Composition

| Material/Component Category | Origin | % Mass |
|-----------------------------|--------|--------|
| Aluminum                    | None   | 6.000  |
| Copper                      | None   | 35.400 |
| FEP                         | None   | 21.400 |
| Nylon Ripcord               | None   | 0.600  |
| PET                         | None   | 0.707  |
| PVC                         | None   | 35.650 |
| Tin                         | None   | 0.242  |

| Packaging Material | Origin | kg Mass      |
|--------------------|--------|--------------|
| Cardboard          | None   | 0.004054875  |
| Wood               | None   | 0.007412268  |
| Paper              | None   | 0.000032808  |
| Plastic            | None   | 0.000060756  |
| Plastic Reel       | None   | 0.0028215223 |

| Biogenic Carbon Content                           | kg C per m |
|---------------------------------------------------|------------|
| Biogenic carbon content in product                | 0          |
| Biogenic carbon content in accompanying packaging | 0.001568   |

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

Table 2. 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               | ✔ |

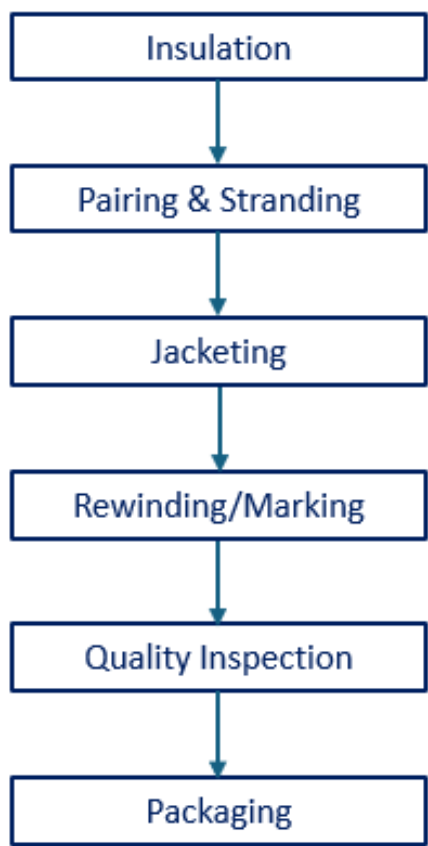
|                                         |   |                                     |   |
|-----------------------------------------|---|-------------------------------------|---|
| Benefits & Loads Beyond System Boundary | D | Recycling, Reuse Recovery Potential | ✓ |
|-----------------------------------------|---|-------------------------------------|---|

Note:  
ND = Module not declared

Plants

 North America North America

Product Flow Diagram



Software And Database

- LCA Software:

LCI Foreground Database(s):

LCI Background Database(s):
-  Sphera LCA for Experts (formerly GaBi) v. 10.9

 Sphera Managed LCA Content (formerly GaBi Professional Database) v.

 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 and its Tier 1 cable suppliers. Secondary data from the LCA Managed Content, DKI/ECI, 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. All manufacturing sites that produce the cables that are included in this EPD product grouping are included in this scope.

Copper wire goes through two drawing processes with an immediate subsequent annealing process. The wire continues down the line to an extruder where the insulation material is applied to the wire. Cooling and drying of the insulated wire then occurs. Insulated wires are then twinned together around each other. Twinned wire pairs, along with other cable components such as separator tape and/or shielding material, are then bunched together. Subsequently, the bunched wire has a jacket extruded around the bunched cable. After the jacket is applied, the cable is cooled and packaged. Various packaging options exist, but most products are shipped in spools and/or boxes.

## LCA Discussion

### Allocation Procedure

The LCI data was collected from the Panduit suppliers for the 2024 calendar year. Allocation was determined on a per meter 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:

5 %

Product Lost per Declared/Functional Unit:

0.00307 kg

Waste Materials at the Construction Site Before Waste Processing:

1.44E-02 kg

Mass of Packaging Waste Specified by Type:

4.05E-03 cardboard, 7.41E-03 wood, 3.28E-05 paper, 6.08E-05 plastic wrap, 2.82E-03 plastic kg

Biogenic Carbon Contained in Packaging (kg C):

0.00157 kg

Assumptions for scenario development:

To install these products into a building, some scrap will be generated. Per the PSR, installation scrap rate is assumed to be 5%. Packaging waste is also generated. All waste is empirically assumed to be disposed of in a landfill and to be transported 100 km by truck.

### Use (B1)

B1 Module

Maintenance:

The use phase of this study leverages the system boundary as described in Section 3.2 of the PSR, which details that Module B1 is not applicable and so the module is equal to zero.

### Maintenance (B2)

B2 Module

Further assumptions for scenario development:

The use phase of this study leverages the system boundary as described in Section 3.2 of the PSR, which details that Module B2 is not applicable and so the module is equal to zero.

## Repair (B3)

### B3 Module

**Further assumptions for scenario development:**

The use phase of this study leverages the system boundary as described in Section 3.2 of the PSR, which details that Module B3 is not applicable and so the module is equal to zero.

## Replacement (B4)

### B4 Module

**Further assumptions for scenario development:**

The use phase of this study leverages the system boundary as described in Section 3.2 of the PSR, which details that Module B4 is not applicable and so the module is equal to zero.

## Refurbishment (B5)

### B5 Module

**Further assumptions for scenario development:**

The use phase of this study leverages the system boundary as described in Section 3.2 of the PSR, which details that Module B5 is not applicable and so the module is equal to zero.

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

### B6 & B7 Modules

**Characteristic Performance:**

The study assumes the service life is 10 years with a 25% use rate, so that the used time is 2.5 years, in line with the PSR LAN: tertiary applications scenario. Energy consumed during use correlates to power losses due to resistivity of the products. Electricity consumption was calculated based on the power consumption values provided in Table 1 of the PSR.

**Further assumptions for scenario development:**

The use phase of this study leverages the system boundary as described in Section 3.2 of the PSR, which details that Module B7 is not applicable and so the module is equal to zero.

## End of Life (C1 - C4)

### C1 - C4 Modules

**Assumptions for scenario development:**

The end-of-life scenario was modeled based on the assumptions provided in Appendix D within the PCR. Therefore, the study assumes 50% of all plastic materials (except polypropylene which is 40%) are sent to incineration, and all remaining plastic materials are sent to landfill. 30% of any aluminum materials are sent to landfill, and the remaining aluminum is recycled. Furthermore, 40% of any copper materials are sent to landfill, and the remaining copper materials are recycled. Finally, 1,000km is the distance assumed that all waste travel via truck before reaching its final disposal destination.

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

### D Module

**Further assumptions for scenario development:**

For this study, energy recovery from plastic materials is calculated using the percentages of any plastic (and any polypropylene) materials that were sent to incineration. Additionally, any recycled materials are modeled as a net benefit with recycling potential. The percentages for incineration and recycling are based on the values in Appendix D of the PCR.

## Results

**Table 3. Environmental Impact Assessment Results**

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

per 1 m of product - to transmit data and signals over a distance of 1 meter during 10 years at a 25% use rate.

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         | Total     |
|---------------------------|--------------|---------------|----------|----------|----------|----|----|----|----|----|----------|----|----|----------|----------|----------|-----------|-----------|
| GWP-total (excl biogenic) | kg CO2 eq    | TRACI 2.2     | 3.65e-1  | 2.70e-2  | 2.00e-2  | 0  | 0  | 0  | 0  | 0  | 1.09e-2  | 0  | 0  | 4.73e-3  | 4.16e-2  | 1.41e-4  | -3.00e-1  | 1.69e-1   |
| GWP-total (incl biogenic) | kg CO2 eq    | TRACI 2.2     | 3.43e-1  | 2.70e-2  | 1.89e-2  | 0  | 0  | 0  | 0  | 0  | 1.09e-2  | 0  | 0  | 4.73e-3  | 4.16e-2  | 1.39e-4  | -3.00e-1  | 1.46e-1   |
| ODP                       | kg CFC 11 eq | TRACI 2.2     | 5.69e-12 | 8.03e-13 | 3.25e-13 | 0  | 0  | 0  | 0  | 0  | 9.46e-14 | 0  | 0  | 6.48e-16 | 2.40e-15 | 4.47e-16 | -1.02e-11 | -3.28e-12 |
| AP                        | kg SO2 eq    | TRACI 2.2     | 1.21e-3  | 4.88e-4  | 8.78e-5  | 0  | 0  | 0  | 0  | 0  | 1.28e-5  | 0  | 0  | 3.75e-5  | 1.22e-5  | 8.36e-7  | -1.43e-3  | 4.19e-4   |
| EP-freshwater             | kg P eq      | TRACI 2.2     | 5.91e-7  | 3.14e-10 | 2.99e-8  | 0  | 0  | 0  | 0  | 0  | 1.69e-9  | 0  | 0  | 2.67e-10 | 2.02e-10 | 2.42e-8  | -1.04e-7  | 5.44e-7   |
| EP-marine                 | kg N eq      | TRACI 2.2     | 4.54e-4  | 3.95e-4  | 4.44e-5  | 0  | 0  | 0  | 0  | 0  | 5.63e-6  | 0  | 0  | 3.37e-5  | 3.16e-6  | 4.28e-7  | -4.49e-4  | 4.87e-4   |
| POCP                      | kg O3 eq     | TRACI 2.2     | 1.64e-2  | 1.40e-2  | 1.58e-3  | 0  | 0  | 0  | 0  | 0  | 2.01e-4  | 0  | 0  | 8.23e-4  | 8.35e-5  | 1.55e-5  | -1.64e-2  | 1.67e-2   |
| HTP-c                     | CTUh         | TRACI 2.2     | 6.75e-11 | 1.12e-13 | 3.39e-12 | 0  | 0  | 0  | 0  | 0  | 1.14e-12 | 0  | 0  | 2.55e-14 | 1.85e-13 | 4.49e-15 | -7.50e-11 | -2.64e-12 |
| HTP-nc                    | CTUh         | TRACI 2.2     | 3.55e-12 | 5.60e-14 | 1.81e-13 | 0  | 0  | 0  | 0  | 0  | 2.16e-14 | 0  | 0  | 9.14e-15 | 4.34e-15 | 3.21e-16 | -2.29e-12 | 1.53e-12  |
| ETP-fw                    | CTUe         | TRACI 2.2     | 2.15e-3  | 5.02e-5  | 1.12e-4  | 0  | 0  | 0  | 0  | 0  | 6.50e-5  | 0  | 0  | 2.63e-5  | 1.54e-5  | 1.13e-6  | -4.39e-3  | -1.97e-3  |
| PM                        | kg PM2.5 eq  | TRACI 2.2     | 1.46e-4  | 1.03e-5  | 8.00e-6  | 0  | 0  | 0  | 0  | 0  | 8.93e-7  | 0  | 0  | 1.12e-6  | 3.84e-7  | 6.84e-8  | -1.19e-4  | 4.78e-5   |
| ODP                       | kg CFC-11 eq | CML 2016 v4.8 | 5.41e-12 | 8.01e-13 | 3.11e-13 | 0  | 0  | 0  | 0  | 0  | 9.46e-14 | 0  | 0  | 6.48e-16 | 2.40e-15 | 4.47e-16 | -1.02e-11 | -3.58e-12 |
| AP                        | kg SO2 eq    | CML 2016 v4.8 | 1.22e-3  | 3.88e-4  | 8.29e-5  | 0  | 0  | 0  | 0  | 0  | 1.23e-5  | 0  | 0  | 2.81e-5  | 1.02e-5  | 7.83e-7  | -1.48e-3  | 2.62e-4   |
| EP                        | kg PO4 eq    | CML 2016 v4.8 | 1.11e-4  | 7.60e-5  | 9.73e-6  | 0  | 0  | 0  | 0  | 0  | 1.49e-6  | 0  | 0  | 6.48e-6  | 8.95e-7  | 4.72e-7  | -1.01e-4  | 1.05e-4   |
| POCP                      | kg C2H4 eq   | CML 2016 v4.8 | 1.07e-4  | 1.57e-5  | 5.85e-6  | 0  | 0  | 0  | 0  | 0  | 1.14e-6  | 0  | 0  | -1.15e-5 | 3.48e-7  | 6.29e-8  | -1.07e-4  | 1.16e-5   |
| ADP-fossil                | MJ           | CML 2016 v4.8 | 5.49e+0  | 3.46e-1  | 2.97e-1  | 0  | 0  | 0  | 0  | 0  | 1.34e-1  | 0  | 0  | 6.44e-2  | 1.92e-2  | 1.90e-3  | -3.13e+0  | 3.22e+0   |
| ADP-minerals&metals       | kg Sb eq     | CML 2016 v4.8 | 4.08e-5  | 2.08e-10 | 2.04e-6  | 0  | 0  | 0  | 0  | 0  | 1.72e-9  | 0  | 0  | 1.70e-10 | 3.52e-10 | 4.63e-11 | -3.36e-5  | 9.24e-6   |

| Impact Category     | Unit                       | Method | A1 - A3  | A4       | A5       | B1 | B2 | B3 | B4 | B5 | B6       | B7 | C1 | C2       | C3       | C4       | D         | Total     |
|---------------------|----------------------------|--------|----------|----------|----------|----|----|----|----|----|----------|----|----|----------|----------|----------|-----------|-----------|
| GWP- total          | kg CO2 eq                  | EF3.1  | 3.49e-1  | 2.72e-2  | 1.93e-2  | 0  | 0  | 0  | 0  | 0  | 1.11e-2  | 0  | 0  | 4.78e-3  | 4.17e-2  | 1.42e-4  | -3.04e-1  | 1.49e-1   |
| GWP- fossil         | kg CO2 eq                  | EF3.1  | 3.71e-1  | 2.72e-2  | 2.03e-2  | 0  | 0  | 0  | 0  | 0  | 1.11e-2  | 0  | 0  | 4.78e-3  | 4.17e-2  | 1.42e-4  | -3.02e-1  | 1.74e-1   |
| GWP-biogenic        | kg CO2 eq                  | EF3.1  | -2.15e-2 | 1.48e-6  | -1.08e-3 | 0  | 0  | 0  | 0  | 0  | 1.16e-5  | 0  | 0  | 1.26e-6  | 9.95e-7  | -7.48e-7 | -4.26e-4  | -2.30e-2  |
| GWP-luluc           | kg CO2 eq                  | EF3.1  | 2.10e-4  | 2.91e-7  | 1.21e-5  | 0  | 0  | 0  | 0  | 0  | 2.01e-5  | 0  | 0  | 2.47e-7  | 1.55e-6  | 6.40e-7  | -8.15e-4  | -5.70e-4  |
| ODP                 | kg CFC11 eq                | EF3.1  | 3.22e-12 | 5.53e-13 | 1.90e-13 | 0  | 0  | 0  | 0  | 0  | 8.03e-14 | 0  | 0  | 5.26e-16 | 2.04e-15 | 3.79e-16 | -8.04e-12 | -3.99e-12 |
| AP                  | mol H+ eq                  | EF3.1  | 1.45e-3  | 5.36e-4  | 1.02e-4  | 0  | 0  | 0  | 0  | 0  | 1.48e-5  | 0  | 0  | 4.04e-5  | 6.77e-6  | 9.63e-7  | -1.73e-3  | 4.21e-4   |
| PM                  | disease incidence          | EF3.1  | 2.92e-8  | 1.91e-9  | 1.59e-9  | 0  | 0  | 0  | 0  | 0  | 1.38e-10 | 0  | 0  | 2.93e-10 | 7.62e-11 | 1.18e-11 | -2.13e-8  | 1.19e-8   |
| IRP                 | kBq U235 eq                | EF3.1  | 3.72e-2  | 2.05e-6  | 1.86e-3  | 0  | 0  | 0  | 0  | 0  | 1.54e-3  | 0  | 0  | 1.75e-6  | 2.99e-5  | 2.26e-6  | -1.34e-2  | 2.72e-2   |
| POCP                | kg NMVOC eq                | EF3.1  | 8.67e-4  | 5.93e-4  | 7.57e-5  | 0  | 0  | 0  | 0  | 0  | 9.74e-6  | 0  | 0  | 3.67e-5  | 4.00e-6  | 7.52e-7  | -7.89e-4  | 7.98e-4   |
| EP-fw               | kg P eq                    | EF3.1  | 1.27e-6  | 6.75e-9  | 6.45e-8  | 0  | 0  | 0  | 0  | 0  | 3.75e-9  | 0  | 0  | 5.83e-10 | 4.42e-10 | 4.73e-8  | -2.33e-7  | 1.16e-6   |
| EP-marine           | kg N eq                    | EF3.1  | 2.67e-4  | 2.26e-4  | 2.57e-5  | 0  | 0  | 0  | 0  | 0  | 3.39e-6  | 0  | 0  | 1.92e-5  | 1.45e-6  | 2.46e-7  | -2.64e-4  | 2.79e-4   |
| EP-terrestrial      | mol N eq                   | EF3.1  | 2.92e-3  | 2.47e-3  | 2.82e-4  | 0  | 0  | 0  | 0  | 0  | 3.72e-5  | 0  | 0  | 2.11e-4  | 3.09e-5  | 2.70e-6  | -2.88e-3  | 3.07e-3   |
| SQI                 | dimensionless              | EF3.1  | 5.61e-1  | 1.47e-4  | 2.90e-2  | 0  | 0  | 0  | 0  | 0  | 2.07e-2  | 0  | 0  | 1.25e-4  | 1.69e-3  | 4.16e-4  | -9.82e-1  | -3.69e-1  |
| WDP                 | m3 world eq<br>deprived    | EF3.1  | 1.08e-1  | 2.22e-5  | 5.40e-3  | 0  | 0  | 0  | 0  | 0  | 2.31e-3  | 0  | 0  | 1.89e-5  | 3.25e-3  | 1.35e-5  | -6.42e-2  | 5.48e-2   |
| ADP-fossil          | MJ, net calorific<br>value | EF3.1  | 6.60e+0  | 3.49e-1  | 3.53e-1  | 0  | 0  | 0  | 0  | 0  | 1.86e-1  | 0  | 0  | 6.45e-2  | 2.02e-2  | 1.95e-3  | -3.54e+0  | 4.03e+0   |
| ADP-minerals&metals | kg Sb eq                   | EF3.1  | 4.07e-5  | 8.21e-11 | 2.03e-6  | 0  | 0  | 0  | 0  | 0  | 1.35e-9  | 0  | 0  | 6.99e-11 | 1.23e-10 | 1.14e-11 | -3.36e-5  | 9.13e-6   |

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.

**Table 4. Resource Use Indicator**

per 1 m of product - to transmit data and signals over a distance of 1 meter during 10 years at a 25% use rate.

| Indicator | Unit | A1 - A3 | A4      | A5      | B1 | B2 | B3 | B4 | B5 | B6      | B7 | C1 | C2      | C3      | C4      | D        | Total    |
|-----------|------|---------|---------|---------|----|----|----|----|----|---------|----|----|---------|---------|---------|----------|----------|
| PERE      | MJ   | 8.22e-1 | 3.80e-4 | 4.18e-2 | 0  | 0  | 0  | 0  | 0  | 5.61e-2 | 0  | 0  | 3.23e-4 | 1.35e-3 | 3.22e-4 | -1.94e+0 | -1.02e+0 |
| PERT      | MJ   | 8.22e-1 | 3.80e-4 | 4.18e-2 | 0  | 0  | 0  | 0  | 0  | 5.61e-2 | 0  | 0  | 3.23e-4 | 1.35e-3 | 3.22e-4 | -1.94e+0 | -1.02e+0 |
| PENRE     | MJ   | 6.60e+0 | 3.49e-1 | 3.53e-1 | 0  | 0  | 0  | 0  | 0  | 1.86e-1 | 0  | 0  | 6.45e-2 | 2.02e-2 | 1.95e-3 | -3.54e+0 | 4.03e+0  |
| PENRT     | MJ   | 6.60e+0 | 3.49e-1 | 3.53e-1 | 0  | 0  | 0  | 0  | 0  | 1.86e-1 | 0  | 0  | 6.45e-2 | 2.02e-2 | 1.95e-3 | -3.54e+0 | 4.03e+0  |
| RPRE      | MJ   | 8.22e-1 | 3.80e-4 | 4.18e-2 | 0  | 0  | 0  | 0  | 0  | 5.61e-2 | 0  | 0  | 3.23e-4 | 1.35e-3 | 3.22e-4 | -1.94e+0 | -1.02e+0 |
| RPRT      | MJ   | 8.22e-1 | 3.80e-4 | 4.18e-2 | 0  | 0  | 0  | 0  | 0  | 5.61e-2 | 0  | 0  | 3.23e-4 | 1.35e-3 | 3.22e-4 | -1.94e+0 | -1.02e+0 |
| NRPRE     | MJ   | 6.60e+0 | 3.49e-1 | 3.53e-1 | 0  | 0  | 0  | 0  | 0  | 1.86e-1 | 0  | 0  | 6.45e-2 | 2.02e-2 | 1.95e-3 | -3.54e+0 | 4.03e+0  |
| NRPR      | MJ   | 6.60e+0 | 3.49e-1 | 3.53e-1 | 0  | 0  | 0  | 0  | 0  | 1.86e-1 | 0  | 0  | 6.45e-2 | 2.02e-2 | 1.95e-3 | -3.54e+0 | 4.03e+0  |
| FW        | m3   | 2.73e-3 | 5.85e-7 | 1.38e-4 | 0  | 0  | 0  | 0  | 0  | 6.96e-5 | 0  | 0  | 4.97e-7 | 7.62e-5 | 4.23e-7 | -1.83e-3 | 1.19e-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.

**Table 5. Waste and Output Flow Indicators**

per 1 m of product - to transmit data and signals over a distance of 1 meter during 10 years at a 25% use rate.

| Indicator | Unit | A1 - A3  | A4       | A5        | B1 | B2 | B3 | B4 | B5 | B6       | B7 | C1 | C2       | C3       | C4       | D        | Total    |
|-----------|------|----------|----------|-----------|----|----|----|----|----|----------|----|----|----------|----------|----------|----------|----------|
| HWD       | kg   | -1.80e-8 | 1.56e-12 | -8.96e-10 | 0  | 0  | 0  | 0  | 0  | 1.31e-10 | 0  | 0  | 1.33e-12 | 3.57e-12 | 4.81e-13 | -2.94e-9 | -2.17e-8 |
| NHWD      | kg   | 2.17e-2  | 2.59e-6  | 1.86e-2   | 0  | 0  | 0  | 0  | 0  | 5.41e-5  | 0  | 0  | 2.20e-6  | 3.66e-3  | 8.64e-3  | -3.58e-2 | 1.69e-2  |
| RWD       | kg   | 3.99e-4  | 2.98e-8  | 2.00e-5   | 0  | 0  | 0  | 0  | 0  | 1.86e-5  | 0  | 0  | 2.53e-8  | 3.45e-7  | 2.09e-8  | -1.47e-4 | 2.91e-4  |

Note:

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

Abbreviations:

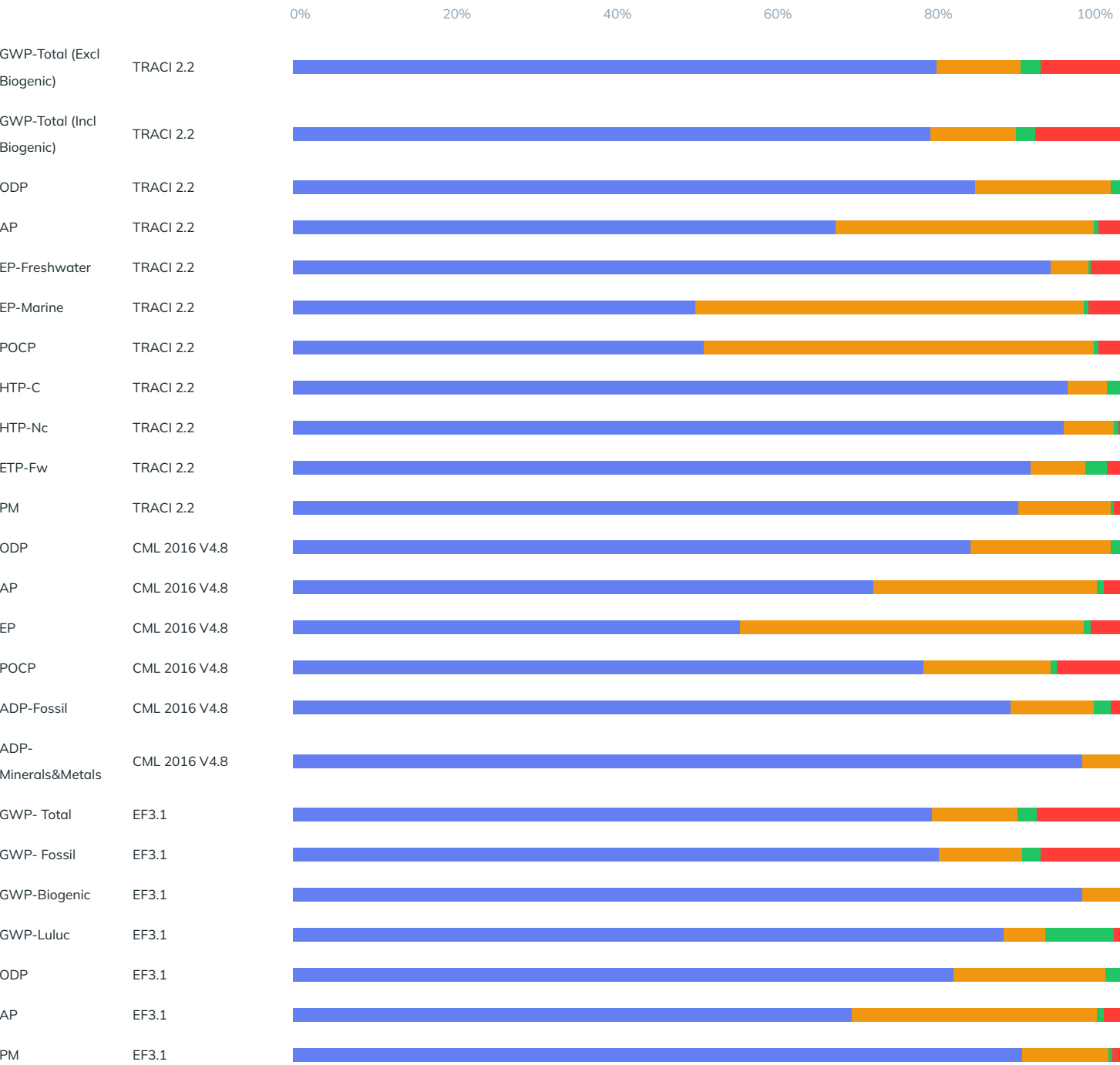
HWD = Hazardous waste disposed, NHWD = Non-hazardous waste disposed, RWD = Radioactive waste disposed, HLRW = High-level radioactive waste, ILLRW = Intermediate- and low-level radioactive waste, CRU = Components for re-use, MFR or MR = Materials for recycling, MER = Materials for energy recovery, MNER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

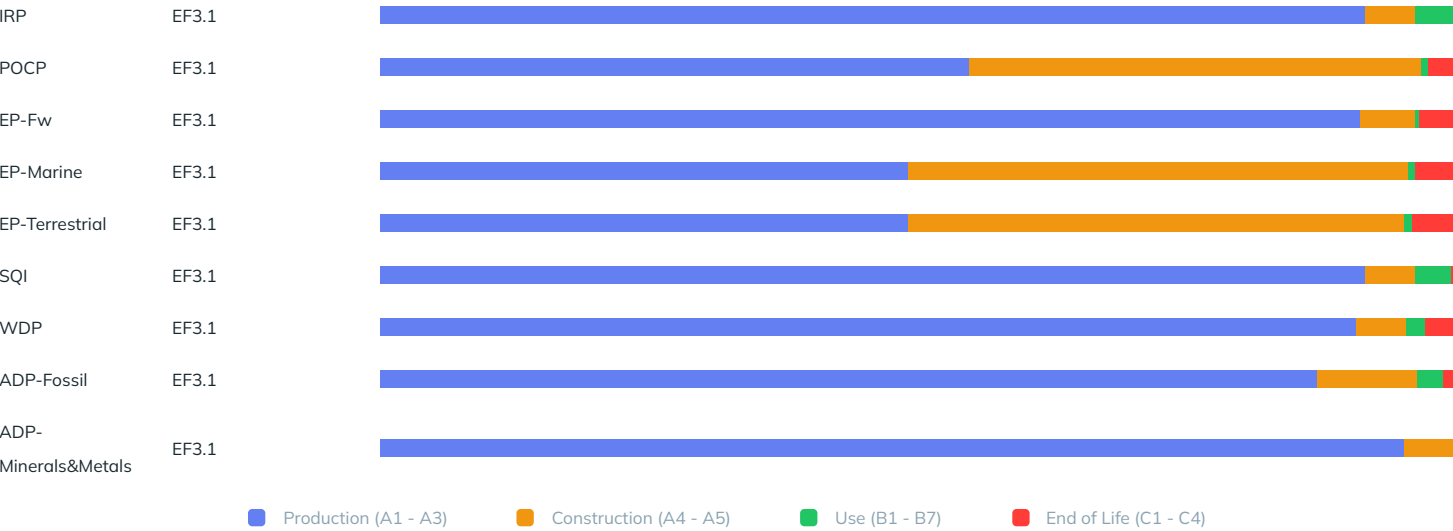
Table 6. Scaling Factors

| Part Number | A1-A3 GWP | A1-A3 ODP | A1-A3 AP | A1-A3<br>Freshwater EP | A1-A3 Marine<br>EP | A1-A3 Smog | A4   | A5   | B6   | C2-D |
|-------------|-----------|-----------|----------|------------------------|--------------------|------------|------|------|------|------|
| PUP6C04**   | 0.44      | 0.73      | 0.64     | 0.53                   | 0.58               | 0.49       | 0.75 | 0.75 | 1.00 | 0.75 |
| PUP6004**   | 0.45      | 0.81      | 0.20     | 0.58                   | 0.62               | 0.16       | 0.73 | 0.73 | 1.00 | 0.73 |
| PFP6C04**   | 1.00      | 1.00      | 1.00     | 1.00                   | 1.00               | 1.00       | 1.00 | 1.00 | 1.00 | 1.00 |
| PUP6C2204** | 0.68      | 1.25      | 0.21     | 0.86                   | 0.92               | 0.19       | 0.77 | 0.77 | 1.00 | 0.77 |

Interpretation

When evaluating the TRACI 2.2 impact categories specifically, the production (A1-A3) stage has the greatest contribution to environmental impacts across all impact categories, emphasizing that material efficiency and energy use reduction strategies are where primary improvement strategies can be applied. It is noteworthy that Module D, shown as negative impacts, demonstrates the potential benefits of recovery at the product's end of life, which can come from recycling the metals contained within this product.





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 Wires, Cables and Accessories, v4.0, 2022 (PSR Part B)

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

IPCC. 2018. Climate Change 2013. The Physical Science Basis. Cambridge University Press. (<http://www.ipcc.ch/report/ar5/wg1/>).