

# Environmental Product Declaration



In accordance with ISO 14025:2006 and EN 15804:2012+A2:2019/AC:2021 for:

## Flexible pipes

EPD of multiple products, based on a representative product iFlow 16mm. Includes the flexible pipes iFlow 16-50mm, iFlow Pro 16-50mm, iFlow Pro DT 16-50mm & iFlow Pro UV 16-50mm from

**ipipe sverige AB**

# ipipe

Programme:

Programme operator:

EPD registration number:

Publication date:

Valid until:

The International EPD® System, [www.environdec.com](http://www.environdec.com)

EPD International AB

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*An EPD should provide current information and may be updated if conditions change. The stated validity is therefore subject to the continued registration and publication at [www.environdec.com](http://www.environdec.com)*


*Disclaimer: Product recently on the market – Results of this EPD shall be used with care as the LCI data is not yet based on 1 year of production which may result in increased uncertainty.*



## General information

### Programme information

|                   |   |
|-------------------|---|
| <b>Programme:</b> | The International EPD® System                                       |
| <b>Address:</b>   | EPD International AB<br>Box 210 60<br>SE-100 31 Stockholm<br>Sweden |
| <b>Website:</b>   | <a href="http://www.environdec.com">www.environdec.com</a>          |
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|   |
|---|
| <b>Accountabilities for PCR, LCA and independent, third-party verification</b>  |
| <b>Product Category Rules (PCR)</b>   |
| CEN standard EN 15804 serves as the Core Product Category Rules (PCR)   |
| Product Category Rules (PCR): <i>Construction products 2019:14, version 1.3.4</i>   |
| PCR review was conducted by:<br><i>The Technical Committee of the International EPD System.</i><br><i>See <a href="http://www.environdec.com">www.environdec.com</a> for a list of members.</i><br><i>Review chair: Claudia A. Peña, University of Concepción, Chile.</i><br><i>The review panel may be contacted via the Secretariat <a href="http://www.environdec.com/contact">www.environdec.com/contact</a></i>  |
| <b>Life Cycle Assessment (LCA)</b>  |
| LCA accountability: Oline Haggren, Miljögiraff AB   |
| <b>Third-party verification</b>   |
| Independent third-party verification of the declaration and data, according to ISO 14025:2006, via:<br><br><input checked="" type="checkbox"/> EPD verification by individual verifier<br><br>Third-party verifier: Viktor Hakkarainen, <i>CHM Analytics AB</i> , <br><br>Approved by: The International EPD® System<br><br>Procedure for follow-up of data during EPD validity involves third party verifier:<br><br><input type="checkbox"/> Yes <input checked="" type="checkbox"/> No |

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

EPDs within the same product category but registered in different EPD programmes, or not compliant with EN 15804, may not be comparable. For two EPDs to be comparable, they must be based on the same PCR (including the same version number) or be based on fully-aligned PCRs or versions of PCRs; cover products with identical functions, technical performances and use (e.g. identical declared/functional units); have equivalent system boundaries and descriptions of data; apply equivalent data quality requirements, methods of data collection, and allocation methods; apply identical cut-off rules and impact assessment methods (including the same version of characterisation factors); have equivalent content declarations; and be valid at the time of comparison. For further information about comparability, see EN 15804 and ISO 14025.

## Company information

Owner of the EPD: ipipe sverige AB

Contact: Alexander Stenfeldt, [Alexander.Stenfeldt@ipipe.se](mailto:Alexander.Stenfeldt@ipipe.se)

Description of the organisation: ipipe sverige AB is a new company that produces electrical conduits. Their products have recently come out on the market and their vision is to produce sustainable products for electrical installations. With cutting-edge technology and a strong focus on innovation in both manufacturing and product design, ipipe provides installation solutions designed for the future. Their products are produced with recycled polypropylene, and they want to challenge the current market and business to think more sustainable.

Product-related or management system-related certifications: Ipipe has a code of conduct but no product-related or management system-related certifications.

Name and location of production site(s): All included products are produced in Anderstorp, Sweden.

## Product information

Product name: Flexible pipe iFlow 16mm (representative product)

Product identification of included pipes: iFlow 16-50mm, iFlow Pro 16-50mm, iFlow Pro DT 16-50mm & iFlow Pro UV 16-50mm. The dimensions Ipipe manufacture are 16mm, 20mm, 25mm, 32mm, 40mm and 50 mm. Their flexible pipes are categorized into four different types, iFlow, iFlow Pro, iFlow Pro DT and iFlow Pro UV. iFlow is designed with two layers. iFlow Pro is designed with three layers and a nano-friction finish, aimed at achieving optimal functionality. iFlow Pro DT has the same function as iFlow Pro but with a pulling wire added, and iFlow Pro UV is UV-Resistance. The flexible pipes are scalable per kg, meaning that the results are independent of dimensions such as pipe diameter.

Product description: Electrical conduits are used for electrical installations in buildings to house electrical cables and wiring.

UN CPC code: 36320 - Tubes, pipes and hoses, and fittings therefor, of plastics

Other codes for product classification: Global trade item numbers for all included products are presented in the section "Additional Information" in this EPD.

Geographical scope: Sweden

Multiple products: All products included in this EPD are flexible pipes and share the same geographical scope and production site. For each pipe the material composition was collected from Ipipe. The flexible pipe iFlow 16mm was chosen as representative product as it is the most used of all flexible pipes on the market, and Ipipe are predicting that it will be their most produced item. The material composition of the included pipes is presented in the section "Additional Information" in this EPD. There is the deviation of the GWP-GHG value relative to iFlow 16mm presented, as well as the variation of the environmental impact indicator results for modules A-C between any of the products that exceeds 10%.

**Disclaimer:** Product recently on the market – Results of this EPD shall be used with care as the LCI data is not yet based on 1 year of production which may result in increased uncertainty.

## LCA information

Declared unit: 1 kg of pipe.

Time representativeness: The collected data is representative of the year 2025 and was obtained directly from the supplier. Since the study covers products that were recently introduced to the market, the assessment was based on a two-month average of available production data from 2025. This was used to estimate an annual average for the same year. The EPD will therefore require an update once Ipipe has complete production data covering a full year.

Database(s) and LCA software used: Ecoinvent 3.10 and SimaPro Craft 10.1.

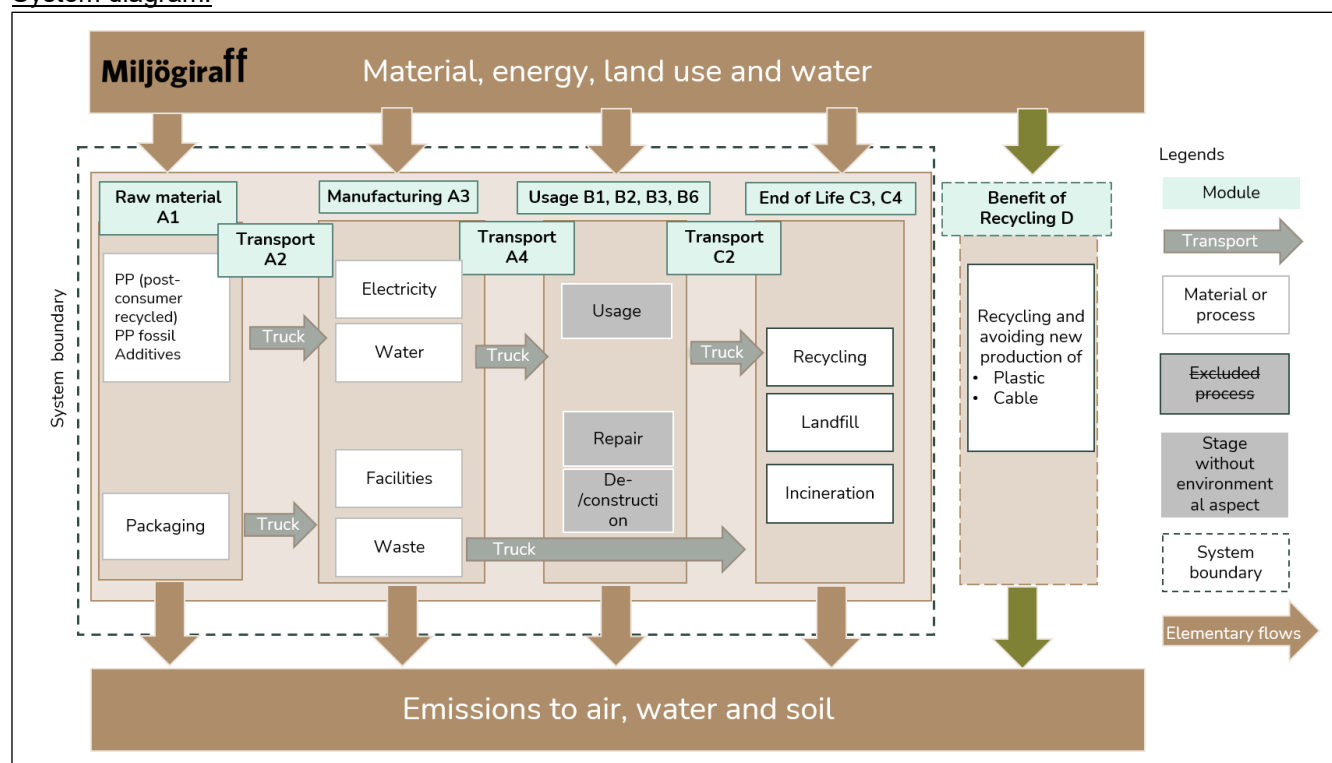
Description of system boundaries: Type b, Cradle to gate with options, module C1-C4, module D and optional modules A4-A5 & B1-B7.

**Allocation:** Allocation of specific data was applied to the A3 module. Production waste was allocated equally across all Ipipe products using a mass-based allocation approach. Since Ipipe's products are newly introduced to the market, representative revenue data per kilogram is not yet available. Furthermore, the current sales distribution does not reflect the anticipated long-term product mix, making economic allocation unsuitable at this stage. Mass allocation is therefore applied as a temporary solution. The allocation method will be reassessed once one year of production data is available. Production processes are comparable across product variants, with similar material content.

The allocation of recycled material follows the cut-off approach, based on the polluter-pays principle (PPP). According to this approach, the environmental burdens of previous life cycles are not allocated to the recycled material. Post-consumer polypropylene (PP) enters the system burden-free, with only impacts from collection, transport, sorting, and reprocessing included within the system boundary. The system boundary is set at the end-of-waste state, i.e., when the material has been recovered and is ready for use in a new product system. At this point, the recycled PP is treated as a secondary raw material.

**Cut-off:** The cut-off criteria established by the PCR is 1% of all material and energy flows to a single unit process and 5% of total inflows (mass and energy) per module. No cut-offs exceeding this limit have been made. In this study, the infrastructure and capital goods are included in the LCA analysis since it is not possible within reasonable effort to subtract the data on infrastructure/capital goods.

**System diagram:**



#### Raw material and manufacturing A1-A3:

The product is manufactured in Anderstorp, Sweden, and the production involves material preparation, extrusion, corrugation, cooling, marking, coiling and packaging, followed by warehouse storage.

Raw material is delivered by truck in large quantities and stored directly in silos. An automated and energy-efficient material handling system supplies the extrusion line as needed. The raw material is melted and extruded through a die and then shaped through a corrugation process using vacuum-

assisted rotary dies. After forming the pipes are cooled using chilled process water. Each pipe is marked with an inkjet printer then coiled to the required length wrapped in stretch film labelled and placed on pallets for storage in the warehouse.

The electricity in manufacturing comes from certified electricity that includes wind power (39%), hydro power (42%) and solar power (19%). The electricity accounts for less than 30% of the GWP-GHG results of module A1-A3 and the climate footprint of the electricity mix is 0,0323 kg CO<sub>2</sub>-eq per kWh. All manufacturing processes, such as electricity use, consumables etc. have been allocated per kg of produced pipes at the supplier to enable inclusion of multiple products.

#### Transport to customer and product packaging A4-A5:

The finished products are loaded onto a truck and transported to various customers located in Sweden. As the product is new to the market, there are no available statistics on market distribution. Therefore, it is conservatively assumed that the pipes are transported by truck over a distance of 408 km to Jordbro, Sweden, which is the most distant customer location.

The pipes are installed in buildings, and only manual labour is required for the installation process. However, during installation, a portion of the product is typically lost due to cutting the pipes to fit specific applications, resulting in material waste. As Ipipe does not have specific data on waste generated in installation, an estimated loss of 5% is assumed, based on data reported in a comparable EPD for a similar product.

The disposal method for the plastic packaging and the pallet is based on data from the ecoinvent dataset "*Municipal solid waste (waste scenario) {SE} | Treatment of waste | Cut-off, U*". According to this dataset, 53,2% of plastic packaging is recycled, and the rest goes to incineration. The pallet is assumed to be 100% incinerated after its use.

#### Product End-of-Life (C1-C4, D):

After use, the product is transported to waste processing. Deconstruction in buildings is typically done manually and therefore any environmental impact related to deconstruction or demolition are excluded. It is assumed that the product is transported 100 km to the nearest waste treatment facility. The transport is modelled with the ecoinvent 3.10 dataset "*Municipal waste collection service by 21 metric ton lorry {CH} | municipal waste collection service by 21 metric ton lorry | Cut-off, U*".

Waste treatment of the product is based on the default values in Table G.4 of EN 50693, the Product Category Rules (PCR) for life cycle assessments of electronic and electrical products and systems. These values are used since the product are an electrical conduit, which is considered a component of an electrical system. According to the default values, 20% of the product is recycled, 40% is incinerated and 40% is landfilled.

Module D includes the potential benefits or burdens from material recycling and energy recovery. This includes benefits from recycling and from the energy recovered during incineration, as well as potential burdens from landfilling.

Modules declared, geographical scope, share of specific data (in GWP-GHG results) and data variation (in GWP-GHG results):

|                      | Product stage       |           |               | Construction process stage |                           | Use stage |             |        |             |               |                        |                       | End of life stage          |           |                  |          | Resource recovery stage            |
|----------------------|---------------------|-----------|---------------|----------------------------|---------------------------|-----------|-------------|--------|-------------|---------------|------------------------|-----------------------|----------------------------|-----------|------------------|----------|------------------------------------|
|                      | Raw material supply | Transport | Manufacturing | Transport                  | Construction installation | Use       | Maintenance | Repair | Replacement | Refurbishment | Operational energy use | Operational water use | De-construction demolition | Transport | Waste processing | Disposal | Reuse-Recovery-Recycling-potential |
| Module               | A1                  | A2        | A3            | A4                         | A5                        | B1        | B2          | B3     | B4          | B5            | B6                     | B7                    | C1                         | C2        | C3               | C4       | D                                  |
| Modules declared     | X                   | X         | X             | X                          | X                         | X         | X           | X      | X           | X             | X                      | X                     | X                          | X         | X                | X        | X                                  |
| Geography            | EUR                 | EUR       | SE            | SE                         | SE                        | SE        | SE          | SE     | SE          | SE            | SE                     | SE                    | SE                         | SE        | SE               | SE       | SE                                 |
| Specific data used   | 8,5%                |           |               | -                          | -                         | -         | -           | -      | -           | -             | -                      | -                     | -                          | -         | -                | -        | -                                  |
| Variation – products | +2,3%/-1,5%         |           |               | -                          | -                         | -         | -           | -      | -           | -             | -                      | -                     | -                          | -         | -                | -        | -                                  |
| Variation – sites    | 0%                  |           |               |                            |                           | -         | -           | -      | -           | -             | -                      | -                     | -                          | -         | -                | -        | -                                  |

## Content information

| Product components           | Weight, kg | Weight range in additional products (kg/kg) | Post-consumer material, weight-% | Biogenic material, weight-% and kg C/kg |
|------------------------------|------------|---|----------------------------------|---|
| Recycled polypropylene       | 0,67       | 0,66– 0,67                                  | 100%                             | 0%, 0                                   |
| Polypropylene                | 0,30       | 0,24 – 0,25                                 | 0%                               | 0%, 0                                   |
| Polypropylene with additives | 0,04       | 0,07 – 0,08                                 | 0%                               | 0%, 0                                   |
| Pulling wire                 | 0,00       | 0,00 - 0,02                                 | 0%                               | 0%, 0                                   |
| TOTAL                        | 1,00       | -   | 67%                              | 0%, 0                                   |
| Packaging materials          | Weight, kg |   | Weight-% (versus the product)    | Weight biogenic carbon, kg C/kg         |
| Pallet                       | 0,02       | -   | 0%                               | 100%, 0,09                              |
| TOTAL                        | 0,02       | -   | 0%                               | 100%, 0,09                              |

No Substances of Very High Concern (SVHC) has been reported.

## Results of the environmental performance indicators

EN 15804 reference package based on EF 3.1 has been used for calculating the environmental impact.

The estimated impact results are only relative statements, which do not indicate the endpoints of the impact categories, exceeding threshold values, safety margins and/or risks. It should be noted that the EPD results of modules A1-A3 without considering the results of module C is discouraged.

The result for the indicator "WDP" shows a negative value in C4 due to the dataset used for the landfilling of the product, "Waste polypropylene {RoW}| treatment of waste polypropylene, sanitary landfill | Cut-off, U", which produces a negative value for "Leachate". Therefore, the result for this indicator should be interpreted with caution.

### Mandatory impact category indicators according to EN 15804

| Results per declared unit |   |           |          |          |          |          |          |          |                        |           |
|---------------------------|---|-----------|----------|----------|----------|----------|----------|----------|------------------------|-----------|
| Indicator                 | Unit  | A1-A3     | A4       | A5       | B1-B7    | C1       | C2       | C3       | C4                     | D         |
| GWP-total                 | kg CO <sub>2</sub> eq   | 1,00E+00  | 9,35E-02 | 3,75E-01 | 0,00E+00 | 0,00E+00 | 1,44E-01 | 1,05E+00 | 4,12E-02               | 3,40E-01  |
| GWP-fossil                | kg CO <sub>2</sub> eq   | 1,28E+00  | 9,34E-02 | 8,20E-02 | 0,00E+00 | 0,00E+00 | 1,44E-01 | 1,04E+00 | 4,11E-02               | 3,76E-01  |
| GWP-biogenic              | kg CO <sub>2</sub> eq   | -2,94E-01 | 6,47E-05 | 2,93E-01 | 0,00E+00 | 0,00E+00 | 4,18E-05 | 6,99E-05 | 3,68E-05               | -2,71E-02 |
| GWP-luluc                 | kg CO <sub>2</sub> eq   | 1,16E-02  | 3,10E-05 | 2,15E-06 | 0,00E+00 | 0,00E+00 | 1,19E-05 | 1,45E-06 | 2,53E-06               | -9,01E-03 |
| ODP                       | kg CFC11 eq   | 4,60E-08  | 1,86E-09 | 4,17E-10 | 0,00E+00 | 0,00E+00 | 2,83E-09 | 1,52E-10 | 1,15E-10               | 2,36E-08  |
| AP                        | mol H <sup>+</sup> eq   | 4,30E-03  | 1,95E-04 | 1,35E-04 | 0,00E+00 | 0,00E+00 | 7,15E-04 | 1,27E-04 | 3,17E-05               | 2,18E-04  |
| EP-freshwater             | kg P eq   | 4,23E-05  | 7,29E-07 | 9,11E-08 | 0,00E+00 | 0,00E+00 | 2,96E-07 | 9,18E-08 | 5,45E-08               | -3,66E-06 |
| EP-marine                 | kg N eq   | 9,60E-04  | 4,55E-05 | 6,23E-05 | 0,00E+00 | 0,00E+00 | 3,20E-04 | 6,13E-05 | 1,50E-05               | -1,10E-04 |
| EP-terrestrial            | mol N eq  | 9,48E-03  | 5,04E-04 | 6,74E-04 | 0,00E+00 | 0,00E+00 | 3,52E-03 | 6,70E-04 | 1,30E-04               | -2,29E-03 |
| POCP                      | kg NMVOC eq   | 6,08E-03  | 3,23E-04 | 2,45E-04 | 0,00E+00 | 0,00E+00 | 1,48E-03 | 1,65E-04 | 5,45E-05               | 2,42E-03  |
| ADP-minerals & metals*    | kg Sb eq  | 1,49E-05  | 3,04E-07 | 1,81E-08 | 0,00E+00 | 0,00E+00 | 8,94E-08 | 1,69E-08 | 9,80E-09               | 3,90E-06  |
| ADP-fossil*               | MJ  | 4,27E+01  | 1,31E+00 | 2,60E-01 | 0,00E+00 | 0,00E+00 | 1,80E+00 | 7,82E-02 | 9,93E-02               | 9,92E+00  |
| WDP*                      | m3 depriv.  | 6,46E-01  | 5,46E-03 | 9,91E-04 | 0,00E+00 | 0,00E+00 | 2,22E-03 | 1,80E-03 | -6,37E-02 <sup>1</sup> | 2,24E-01  |
| Acronyms                  | GWP-fossil = Global Warming Potential fossil fuels; GWP-biogenic = Global Warming Potential biogenic; GWP-luluc = Global Warming Potential land use and land use change; ODP = Depletion potential of the stratospheric ozone layer; AP = Acidification potential, Accumulated Exceedance; EP-freshwater = Eutrophication potential, fraction of nutrients reaching freshwater end compartment; EP-marine = Eutrophication potential, fraction of nutrients reaching marine end compartment; EP-terrestrial = Eutrophication potential, Accumulated Exceedance; POCP = Formation potential of tropospheric ozone; ADP-minerals&metals = Abiotic depletion potential for non-fossil resources; ADP-fossil = Abiotic depletion for fossil resources potential; WDP = Water (user) deprivation potential, deprivation-weighted water consumption |           |          |          |          |          |          |          |                        |           |

\* Disclaimer: The results of this environmental impact indicator shall be used with care as the uncertainties of these results are high or as there is limited experience with the indicator.

### Additional mandatory and voluntary impact category indicators

| Results per declared unit |  |          |          |          |          |          |          |          |          |           |
|---------------------------|--|----------|----------|----------|----------|----------|----------|----------|----------|-----------|
| Indicator                 | Unit   | A1-A3    | A4       | A5       | B1-B7    | C1       | C2       | C3       | C4       | D         |
| GWP-GHG**                 | kg CO <sub>2</sub> eq  | 1,29E+00 | 9,35E-02 | 8,20E-02 | 0,00E+00 | 0,00E+00 | 1,44E-01 | 1,05E+00 | 4,12E-02 | 3,54E-01  |
| PM                        | disease inc.   | 4,64E-08 | 6,85E-09 | 2,67E-09 | 0,00E+00 | 0,00E+00 | 1,79E-08 | 5,80E-10 | 7,07E-10 | -1,89E-08 |
| IR***                     | kBq U-235 eq   | 4,60E-01 | 6,06E-04 | 6,51E-05 | 0,00E+00 | 0,00E+00 | 3,09E-04 | 5,78E-05 | 3,77E-05 | -3,80E-01 |
| ETP-FW*                   | CTUe   | 7,09E+00 | 3,58E-01 | 1,83E-01 | 0,00E+00 | 0,00E+00 | 1,33E-01 | 2,25E-01 | 1,33E-01 | -1,31E-01 |
| HTTP-C*                   | CTUh   | 8,15E-09 | 6,63E-10 | 8,74E-11 | 0,00E+00 | 0,00E+00 | 2,09E-10 | 1,15E-10 | 2,59E-11 | -1,73E-09 |
| HTTP-NC*                  | CTUh   | 1,56E-08 | 8,25E-10 | 4,97E-10 | 0,00E+00 | 0,00E+00 | 2,94E-10 | 9,76E-10 | 3,93E-10 | -4,40E-10 |
| Land use, SQP*            | Pt   | 9,11E+00 | 7,94E-01 | 3,34E-02 | 0,00E+00 | 0,00E+00 | 2,01E-01 | 1,87E-02 | 2,32E-01 | -1,83E+01 |
| Acronyms                  | PM: Particulate Matter, IRP: Ionizing Radiation - Human Health, ETP-FW: Ecotoxicity Potential – Freshwater, HTP-C: Human Toxicity Potential – Cancer, HTP-NC: Human Toxicity Potential – Non-Cancer, SQP: Soil Quality Potential Index |          |          |          |          |          |          |          |          |           |

<sup>1</sup> The negative result has been retained because no clear guidelines exist regarding whether or how it should be compensated for.



*Disclaimer: The results of the impact categories land use, human toxicity (cancer), human toxicity, non-cancer and ecotoxicity (freshwater) may be highly uncertain in LCAs that include capital goods/infrastructure in generic datasets, in case infrastructure/capital goods contribute greatly to the total results. This is because the LCI data of infrastructure/capital goods used to quantify these indicators in currently available generic datasets sometimes lack temporal, technological and geographical representativeness. Caution should be exercised when using the results of these indicators for decision-making purposes.*

*\* Disclaimer: The results of this environmental impact indicator shall be used with care as the uncertainties of these results are high or as there is limited experience with the indicator.*

*\*\* Disclaimer: This indicator accounts for all greenhouse gases except biogenic carbon dioxide uptake and emissions and biogenic carbon stored in the product. As such, the indicator is identical to GWP-total except that the CF for biogenic CO<sub>2</sub> is set to zero.*

*\*\*\* Disclaimer: This impact category deals mainly with the eventual impact of low dose ionizing radiation on human health of the nuclear fuel cycle. It does not consider effects due to possible nuclear accidents, occupational exposure nor due to radioactive waste disposal in underground facilities. Potential ionizing radiation from the soil, from radon and from some construction materials is also not measured by this indicator.*

## Resource use indicators

The use of primary energy resources is calculated according to option B in Annex 3 in PCR Construction Products v.1.3.4

| Results per declared unit |  |          |          |           |          |          |          |           |          |           |
|---------------------------|--|----------|----------|-----------|----------|----------|----------|-----------|----------|-----------|
| Indicator                 | Unit   | A1-A3    | A4       | A5        | B1-B7    | C1       | C2       | C3        | C4       | D         |
| PERE                      | MJ   | 1,38E+01 | 2,26E-02 | 2,72E-03  | 0,00E+00 | 0,00E+00 | 1,11E-02 | 2,70E-03  | 1,47E-03 | -1,16E+01 |
| PERM                      | MJ   | 3,80E+00 | 0,00E+00 | -3,80E+00 | 0,00E+00 | 0,00E+00 | 0,00E+00 | 0,00E+00  | 0,00E+00 | 0,00E+00  |
| PERT                      | MJ   | 1,76E+01 | 2,26E-02 | -3,80E+00 | 0,00E+00 | 0,00E+00 | 1,11E-02 | 2,70E-03  | 1,47E-03 | -1,16E+01 |
| PENRE                     | MJ   | 1,40E+01 | 1,40E+00 | 2,78E-01  | 0,00E+00 | 0,00E+00 | 1,91E+00 | 8,54E-02  | 1,06E-01 | 1,15E+01  |
| PENRM                     | MJ   | 3,10E+01 | 0,00E+00 | 0,00E+00  | 0,00E+00 | 0,00E+00 | 0,00E+00 | -1,49E+01 | 0,00E+00 | 0,00E+00  |
| PENRT                     | MJ   | 4,50E+01 | 1,40E+00 | 2,78E-01  | 0,00E+00 | 0,00E+00 | 1,91E+00 | -1,48E+01 | 1,06E-01 | 1,15E+01  |
| SM                        | kg   | 6,70E-01 | 0,00E+00 | 0,00E+00  | 0,00E+00 | 0,00E+00 | 0,00E+00 | 0,00E+00  | 0,00E+00 | 0,00E+00  |
| RSF                       | MJ   | 0,00E+00 | 0,00E+00 | 0,00E+00  | 0,00E+00 | 0,00E+00 | 0,00E+00 | 0,00E+00  | 0,00E+00 | 0,00E+00  |
| NRSF                      | MJ   | 0,00E+00 | 0,00E+00 | 0,00E+00  | 0,00E+00 | 0,00E+00 | 0,00E+00 | 0,00E+00  | 0,00E+00 | 0,00E+00  |
| FW                        | m <sup>3</sup>   | 1,29E-02 | 1,98E-04 | 1,62E-04  | 0,00E+00 | 0,00E+00 | 1,01E-04 | 2,40E-04  | 1,10E-04 | -1,24E-03 |
| Acronyms                  | PERE = Use of renewable primary energy excluding renewable primary energy resources used as raw materials; PERM = Use of renewable primary energy resources used as raw materials; PERT = Total use of renewable primary energy resources; PENRE = Use of non-renewable primary energy excluding non-renewable primary energy resources used as raw materials; PENRM = Use of non-renewable primary energy resources used as raw materials; PENRT = Total use of non-renewable primary energy re-sources; SM = Use of secondary material; RSF = Use of renewable secondary fuels; NRSF = Use of non-renewable secondary fuels; FW = Use of net fresh water |          |          |           |          |          |          |           |          |           |

## Waste indicators

| Results per functional or declared unit |      |          |          |          |          |          |          |          |          |          |
|---|------|----------|----------|----------|----------|----------|----------|----------|----------|----------|
| Indicator                               | Unit | A1-A3    | A4       | A5       | B1-B7    | C1       | C2       | C3       | C4       | D        |
| Hazardous waste disposed                | kg   | 0,00E+00 | 0,00E+00 | 0,00E+00 | 0,00E+00 | 0,00E+00 | 0,00E+00 | 0,00E+00 | 0,00E+00 | 0,00E+00 |
| Non-hazardous waste disposed            | kg   | 0,00E+00 | 0,00E+00 | 0,00E+00 | 0,00E+00 | 0,00E+00 | 0,00E+00 | 0,00E+00 | 0,00E+00 | 0,00E+00 |
| Radioactive waste disposed              | kg   | 0,00E+00 | 0,00E+00 | 0,00E+00 | 0,00E+00 | 0,00E+00 | 0,00E+00 | 0,00E+00 | 0,00E+00 | 0,00E+00 |

## Output flow indicators

| Results per functional or declared unit |      |          |          |          |          |          |          |          |          |          |
|---|------|----------|----------|----------|----------|----------|----------|----------|----------|----------|
| Indicator                               | Unit | A1-A3    | A4       | A5       | B1-B7    | C1       | C2       | C3       | C4       | D        |
| Components for re-use                   | kg   | 0,00E+00 | 0,00E+00 | 0,00E+00 | 0,00E+00 | 0,00E+00 | 0,00E+00 | 0,00E+00 | 0,00E+00 | 0,00E+00 |
| Material for recycling                  | kg   | 3,90E-02 | 0,00E+00 | 0,00E+00 | 0,00E+00 | 0,00E+00 | 0,00E+00 | 2,00E-01 | 0,00E+00 | 0,00E+00 |
| Materials for energy recovery           | kg   | 0,00E+00 | 0,00E+00 | 0,00E+00 | 0,00E+00 | 0,00E+00 | 0,00E+00 | 0,00E+00 | 0,00E+00 | 0,00E+00 |
| Exported energy, electricity            | MJ   | 0,00E+00 | 0,00E+00 | 9,12E-01 | 0,00E+00 | 0,00E+00 | 0,00E+00 | 2,98E+00 | 0,00E+00 | 0,00E+00 |
| Exported energy, thermal                | MJ   | 0,00E+00 | 0,00E+00 | 2,13E+00 | 0,00E+00 | 0,00E+00 | 0,00E+00 | 6,94E+00 | 0,00E+00 | 0,00E+00 |

## Additional information

### Multiple products

The different material composition of the included flexible pipes in this EPD are show below. The flexible pipes are scalable per kg independent on the pipe diameter and therefore, only 4 variants are shown in the table below.

| Products included in the group | Recycled polypropylene (kg/kg) | Polypropylene (kg/kg) | Polypropylene with additives (kg/kg) | Pulling wire (polyester) (kg/kg) |
|--------------------------------|--------------------------------|-----------------------|--------------------------------------|----------------------------------|
| iFlow (Ø 16 – 50 mm)           | 0,6696                         | 0,295                 | 0,0354                               | 0                                |
| iFlow Pro (Ø 16 – 50 mm)       | 0,6696                         | 0,249                 | 0,0814                               | 0                                |
| iFlow Pro DT (Ø 16 – 50 mm)    | 0,6550                         | 0,2436                | 0,0743                               | 0,0217                           |
| iFlow Pro UV (Ø 16 – 50 mm)    | 0,6696                         | 0,2524                | 0,078                                | 0                                |

The deviation of the GWP-GHG value for A1-A3 relative the representative product for the different products included in this EPD can be seen in the table below.

|   | GWP-GHG for A1-A3 (kg CO2 eq) | Difference relative to iFlow (Ø 16 – 50 mm) (%) |
|---|-------------------------------|---|
| iFlow (Ø 16 – 50 mm) (representative product) | 1,3                           | 0%  |
| iFlow Pro (Ø 16 – 50 mm)                      | 1,28                          | -1,54%  |
| iFlow Pro DT (Ø 16 – 50 mm)                   | 1,32                          | +1,54%  |
| iFlow Pro UV (Ø 16 – 50 mm)                   | 1,28                          | -1,54%  |

The variation of the environmental impact indicators which differ more than 10% between any of the included products are declared below. The very high variation for the indicator “Ozone depletion” is because the additional products included in this products group contains a UV additive which is not in the representative product.

| Indicator             | Variation between products (%) |
|-----------------------|--------------------------------|
| Ozone depletion       | 677%                           |
| Resource use, fossils | 55%                            |

### Global trade item number

The different global trade item numbers are presented in the table below for all the included products.

| GTIN           | Product                                   |
|----------------|---|
| 07350171150022 | Flexible pipes 16mm iFlow rPP R100        |
| 07350171150046 | Flexible pipes 20mm iFlow rPP R100        |
| 07350171150060 | Flexible pipes 25mm iFlow rPP R50         |
| 07350171150077 | Flexible pipes 32mm iFlow rPP R25         |
| 07350171150091 | Flexible pipes 40mm iFlow rPP R25         |
| 07350171150121 | Flexible pipes 50mm iFlow rPP R25         |
| 07350171150015 | Flexible pipes 16mm iFlow Pro rPP R50     |
| 07350171150039 | Flexible pipes 20mm iFlow Pro rPP R50     |
| 07350171150053 | Flexible pipes 25mm iFlow Pro rPP R100    |
| 07350171150305 | Flexible pipes 16mm iFlow Pro rPP R100    |
| 07350171150718 | Flexible pipes 20mm iFlow Pro rPP R100    |
| 07350171150947 | Flexible pipes 25mm iFlow Pro rPP R50     |
| 07350171151029 | Flexible pipes 32mm iFlow Pro rPP R25     |
| 07350171151050 | Flexible pipes 40mm iFlow Pro rPP R25     |
| 07350171150312 | Flexible pipes 50mm iFlow Pro rPP R25     |
| 07350171150725 | Flexible pipes 16mm iFlow Pro DT rPP R100 |
| 07350171150954 | Flexible pipes 20mm iFlow Pro DT rPP R100 |
| 07350171151067 | Flexible pipes 25mm iFlow Pro DT rPP R50  |
| 07350171150107 | Flexible pipes 32mm iFlow Pro DT rPP R25  |
| 07350171150138 | Flexible pipes 40mm iFlow Pro DT rPP R25  |
| 07350171150268 | Flexible pipes 50mm iFlow Pro DT rPP R25  |
| 07350171150671 | Flexible pipes 16mm iFlow Pro UV rPP R100 |
| 07350171150862 | Flexible pipes 20mm iFlow Pro UV rPP R100 |
| 07350171151005 | Flexible pipes 25mm iFlow Pro UV rPP R50  |
| 07350171150084 | Flexible pipes 32mm iFlow Pro UV rPP R25  |
| 07350171150114 | Flexible pipes 40mm iFlow UV rPP R25      |
| 07350171150145 | Flexible pipes 50mm iFlow UV rPP R25      |

## References

*General Programme Instructions of the International EPD® System. Version 4.0.*

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*PCR 2019:14. Construction products. Version 1.3.4*

*EN 15804:2012+A2:2019/AC 2021*

*ISO 14025:2006, Environmental labels and declarations – Type III environmental declarations – Principles and procedures*

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*ISO 14044:2006, Environmental management — Life cycle assessment — Requirements and guidelines (pp. 1–54)*

*Life Cycle Assessment of electrical conduits (smooth pipes & flexible pipes) by Ipipe, Miljögiraff, 2025*

