

NONMETALLIC CORRUGATED PA12 PIS, PIH CONDUIT

PEP ecopassport®  
Product Environmental Profile



Product Environmental Profile - PEP Ecopassport.  
Document in compliance with ISO 14025: 2006 "Environmental labels and declarations. Type III environmental declarations"

|                       |                |                                                             |      |       |      |
|-----------------------|----------------|-------------------------------------------------------------|------|-------|------|
| ORGANIZATION          |                | CONTACT INFORMATION                                         |      |       |      |
| ABB EU                |                | Oscar Sarmiento Penuela, oscar.sarmiento-penuela@ch.abb.com |      |       |      |
| ADDRESS               |                | WEBSITE                                                     |      |       |      |
| ABB PMA AG - Uster CH |                | abb.com                                                     |      |       |      |
| STATUS                | SECURITY LEVEL | REGISTRATION NUMBER                                         | REV. | LANG. | PAGE |
| APPROVED              | Public         | ABBG-00628-V02.01-EN                                        | 1    | en    | 1/14 |



# ABB Purpose & Embedding Sustainability

ABB is committed to continually promoting and embedding sustainability across its operations and value chain, aspiring to become a role model for others to follow.

With its ABB Purpose, ABB is focusing on reducing harmful emissions, preserving natural resources and championing ethical and humane behavior.



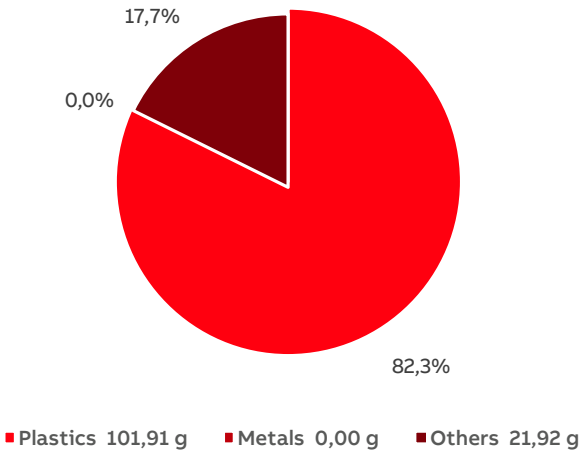
## General Information

|                            |                                                                                                                                                                                                         |
|----------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Reference product          | PIST-23B.50                                                                                                                                                                                             |
| Description of the product | To accommodate and protect the wiring and wiring accessories along 1 metre for a Reference Service Life of the product of 20 years.                                                                     |
| Functional unit            | The installation trunking system with cross-section 422.7 mm <sup>2</sup> includes the profile and accessories that are representative of standard use.                                                 |
| Other products covered     | PMAFLEX - PIS/PIH - Corrugated Conduit Highly flexible, heavy-duty conduits ideal for dynamic applications in robotic and automation industry. Full list of products covered by this EPD is on page 12. |

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# Constituent Materials



Total weight of Reference product with packaging

|        |   |
|--------|---|
| 123,83 | g |
|--------|---|

| Plastics as % of weight |         | Metals as % of weight |         | Others as % of weight |         |
|-------------------------|---------|-----------------------|---------|-----------------------|---------|
| Name and CAS number     | Weight% | Name and CAS number   | Weight% | Name and CAS number   | Weight% |
| PA12                    | 82,3    | -                     | -       | carton                | 8,3     |
|                         |         |                       |         |                       |         |
| PE                      | 0,0     | -                     | x       | wood                  | 9,4     |
|                         |         |                       |         |                       |         |
|                         |         |                       |         |                       |         |

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# Additional Environmental Information

|                                                 |                                                                                                                                                                                                          |
|-------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Manufacturing                                   | The manufacturing stage includes the production of PA6 conduits and its packaging. The production occurs at the ABB factory located in Uster, CH, which serves as manufacturer's last logistic platform. |
| Distribution                                    | The transport distance is considered as a weighted average distance from ABB factory in Uster to global customers. Packaging includes carton made from 60% recycled material and reusable wood pallets.  |
| Installation                                    | During installation, the disposal of packaging, as well as the manufacture, transport, and disposal of 3% scrap of the conduit were considered.                                                          |
| Use                                             | No energy consumption, no maintenance operations needed.                                                                                                                                                 |
| End of life                                     | The default end of life scenario, 100% incineration without energy recovery, was applied, in accordance with PEP guidelines.                                                                             |
| Benefits and loads beyond the system boundaries | Benefits and loads beyond the system boundaries (Module D) have been considered.                                                                                                                         |

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## Environmental Impacts

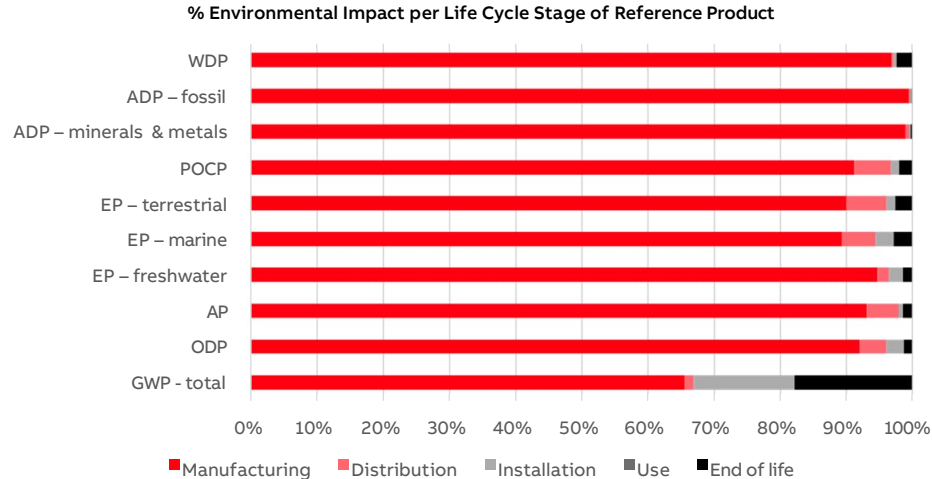
|                                  |                                                                                                                  |
|----------------------------------|------------------------------------------------------------------------------------------------------------------|
| Reference lifetime               | 20 years                                                                                                         |
| Product category                 | Cable management solutions - cable trunking systems and conduit systems.                                         |
| Installation elements            | No installation materials are required in the life cycle of the product.                                         |
| Use scenario                     | No material and energy consumption occur during the use stage. No maintenance phase is planned for the conduits. |
| Geographical representativeness  | Europe                                                                                                           |
| Technological representativeness | Technological representativeness refers to the specific production process for primary data.                     |
| Software and database used       | SimaPro 9.6.0.1 and ecoinvent 3.10                                                                               |

### Energy model used

|               |                                                            |
|---------------|------------------------------------------------------------|
| Manufacturing | Electricity, medium voltage [CH]  market for   Cut-off, S  |
| Installation  | No energy consumption occur during the installation stage. |
| Use           | No energy consumption occur during the use stage.          |
| End of life   | No energy consumption during the end of life stage.        |

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## Common base of mandatory indicators



### Environmental impact indicators

| Indicator                                                                                                                                                                                                                                                               | Unit                           | Total     | Manu-<br>facturing | Distri-<br>bution | Installation | Use      | End of<br>life | Bene-<br>fits |
|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------|-----------|--------------------|-------------------|--------------|----------|----------------|---------------|
| <b>GWP-total</b>                                                                                                                                                                                                                                                        | <b>kg CO<sub>2</sub> eq.</b>   | 1,33E+00  | 8,73E-01           | 1,92E-02          | 2,03E-01     | 0,00E+00 | 2,37E-01       | 3,44E-03      |
| <b>GWP-fossil</b>                                                                                                                                                                                                                                                       | <b>kg CO<sub>2</sub> eq.</b>   | 1,34E+00  | 1,08E+00           | 1,92E-02          | 5,12E-03     | 0,00E+00 | 2,37E-01       | -3,44E-03     |
| <b>GWP-biogenic</b>                                                                                                                                                                                                                                                     | <b>kg CO<sub>2</sub> eq.</b>   | -1,22E-02 | -2,10E-01          | 6,28E-06          | 1,98E-01     | 0,00E+00 | 2,00E-05       | 6,89E-03      |
| <b>GWP-luluc</b>                                                                                                                                                                                                                                                        | <b>kg CO<sub>2</sub> eq.</b>   | 5,19E-04  | 5,03E-04           | 7,50E-06          | 7,30E-06     | 0,00E+00 | 1,97E-06       | -1,07E-05     |
| GWP-fossil = Global Warming Potential fossil fuels<br>GWP-biogenic = Global Warming Potential biogenic<br>GWP-luluc = Global Warming Potential land use and land use change                                                                                             |                                |           |                    |                   |              |          |                |               |
| <b>ODP</b>                                                                                                                                                                                                                                                              | <b>kg CFC-11<br/>eq.</b>       | 8,66E-09  | 7,98E-09           | 3,47E-10          | 2,36E-10     | 0,00E+00 | 1,03E-10       | -1,60E-10     |
| ODP = Depletion potential of the stratospheric ozone layer                                                                                                                                                                                                              |                                |           |                    |                   |              |          |                |               |
| <b>AP</b>                                                                                                                                                                                                                                                               | <b>H<sup>+</sup> eq.</b>       | 4,41E-03  | 4,11E-03           | 2,12E-04          | 3,21E-05     | 0,00E+00 | 5,81E-05       | -1,58E-05     |
| AP = Acidification potential, Accumulated Exceedance                                                                                                                                                                                                                    |                                |           |                    |                   |              |          |                |               |
| <b>EP-freshwater</b>                                                                                                                                                                                                                                                    | <b>kg P eq.</b>                | 6,18E-05  | 5,86E-05           | 1,08E-06          | 1,32E-06     | 0,00E+00 | 8,24E-07       | -1,50E-06     |
| <b>EP-marine</b>                                                                                                                                                                                                                                                        | <b>kg N eq.</b>                | 1,16E-03  | 1,04E-03           | 5,94E-05          | 3,13E-05     | 0,00E+00 | 3,22E-05       | -5,91E-06     |
| <b>EP-terrestrial</b>                                                                                                                                                                                                                                                   | <b>mol N eq.</b>               | 1,08E-02  | 9,78E-03           | 6,55E-04          | 1,38E-04     | 0,00E+00 | 2,78E-04       | -4,28E-05     |
| EP-freshwater = Eutrophication potential, fraction of nutrients reaching freshwater end compartment<br>EP-marine = Eutrophication potential, fraction of nutrients reaching marine end compartment<br>EP-terrestrial = Eutrophication potential, Accumulated Exceedance |                                |           |                    |                   |              |          |                |               |
| <b>POCP</b>                                                                                                                                                                                                                                                             | <b>kg NMVOC<br/>eq.</b>        | 3,67E-03  | 3,35E-03           | 2,03E-04          | 4,43E-05     | 0,00E+00 | 7,18E-05       | -1,54E-05     |
| POCP = Formation potential of tropospheric ozone                                                                                                                                                                                                                        |                                |           |                    |                   |              |          |                |               |
| <b>ADP-minerals &amp;<br/>metals</b>                                                                                                                                                                                                                                    | <b>kg Sb eq.</b>               | 7,00E-06  | 6,93E-06           | 4,14E-08          | 1,27E-08     | 0,00E+00 | 1,47E-08       | -1,12E-08     |
| <b>ADP-fossil</b>                                                                                                                                                                                                                                                       | <b>MJ</b>                      | 1,21E+01  | 1,20E+01           | 1,90E-02          | 2,40E-02     | 0,00E+00 | 1,15E-02       | -2,95E-02     |
| ADP-minerals & metals = Abiotic depletion potential for non-fossil resources<br>ADP-fossil = Abiotic depletion for fossil resources potential                                                                                                                           |                                |           |                    |                   |              |          |                |               |
| <b>WDP</b>                                                                                                                                                                                                                                                              | <b>m<sup>3</sup> eq. depr.</b> | 3,26E-01  | 3,15E-01           | 1,08E-03          | 1,38E-03     | 0,00E+00 | 7,64E-03       | -1,07E-03     |
| WDP = Water Deprivation potential                                                                                                                                                                                                                                       |                                |           |                    |                   |              |          |                |               |

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Common base of mandatory indicators

Inventory flows indicator – Resource use indicators

| Indicator                                                                                                          | Unit | Total    | Manu-<br>facturing | Distri-<br>bution | Installation | Use      | End of<br>life | Bene-<br>fits |
|--------------------------------------------------------------------------------------------------------------------|------|----------|--------------------|-------------------|--------------|----------|----------------|---------------|
| PERE                                                                                                               | MJ   | 3,56E+00 | 3,56E+00           | 3,57E-03          | 1,79E-03     | 0,00E+00 | 2,04E-03       | -1,18E-01     |
| PERM                                                                                                               | MJ   | 1,75E-01 | 1,75E-01           | 0,00E+00          | 1,31E-07     | 0,00E+00 | 0,00E+00       | 0,00E+00      |
| PERT                                                                                                               | MJ   | 3,74E+00 | 3,73E+00           | 3,57E-03          | 1,79E-03     | 0,00E+00 | 2,04E-03       | -1,18E-01     |
| PENRE                                                                                                              | MJ   | 9,01E+00 | 8,96E+00           | 1,90E-02          | 2,37E-02     | 0,00E+00 | 1,15E-02       | -2,87E-02     |
| PENRM                                                                                                              | MJ   | 3,06E+00 | 3,06E+00           | 0,00E+00          | 2,73E-04     | 0,00E+00 | 0,00E+00       | 0,00E+00      |
| PENRT                                                                                                              | MJ   | 1,21E+01 | 1,20E+01           | 1,90E-02          | 2,40E-02     | 0,00E+00 | 1,15E-02       | -2,87E-02     |
| 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 resources                                                        |      |          |                    |                   |              |          |                |               |

Inventory flows indicator – Indicators describing the use of secondary materials, water, and energy resources

| Indicator                                   | Unit | Total    | Manu-<br>facturing | Distri-<br>bution | Installation | Use      | End of<br>life | Bene-<br>fits |
|---------------------------------------------|------|----------|--------------------|-------------------|--------------|----------|----------------|---------------|
| SM                                          | kg   | 3,16E-02 | 3,16E-02           | 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      |
| NRSF                                        | MJ   | 0,00E+00 | 0,00E+00           | 0,00E+00          | 0,00E+00     | 0,00E+00 | 0,00E+00       | 0,00E+00      |
| FW                                          | m³   | 8,42E-03 | 8,07E-03           | 3,39E-05          | 4,70E-05     | 0,00E+00 | 2,68E-04       | -4,18E-05     |
| SM = Use of secondary material              |      |          |                    |                   |              |          |                |               |
| RSF = Use of renewable secondary fuels      |      |          |                    |                   |              |          |                |               |
| NRSF = Use of non-renewable secondary fuels |      |          |                    |                   |              |          |                |               |
| FW = Use of net fresh water                 |      |          |                    |                   |              |          |                |               |

Inventory flows indicator – Waste category indicators

| Indicator                     | Unit | Total    | Manu-<br>facturing | Distri-<br>bution | Installation | Use      | End of<br>life | Bene-<br>fits |
|-------------------------------|------|----------|--------------------|-------------------|--------------|----------|----------------|---------------|
| Hazardous waste disposed      | kg   | 9,45E-06 | 6,85E-06           | 1,61E-06          | 3,33E-07     | 0,00E+00 | 6,60E-07       | -1,75E-07     |
| Non- hazardous waste disposed | kg   | 6,15E-02 | 3,71E-02           | 1,67E-02          | 4,07E-03     | 0,00E+00 | 3,66E-03       | -5,09E-04     |
| Radioactive waste disposed    | kg   | 3,91E-06 | 3,71E-06           | 6,57E-08          | 1,12E-07     | 0,00E+00 | 2,47E-08       | -1,92E-07     |

|          |                |                      |      |       |      |
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Common base of mandatory indicators

Inventory flows indicator – Output flow indicators

| Indicator                        | Unit | Total    | Manu-<br>facturing | Distri-<br>bution | Installation | Use      | End of<br>life | Bene-<br>fits |
|----------------------------------|------|----------|--------------------|-------------------|--------------|----------|----------------|---------------|
| Components for re-<br>use        | kg   | 0,00E+00 | 0,00E+00           | 0,00E+00          | 0,00E+00     | 0,00E+00 | 0,00E+00       | 0,00E+00      |
| Materials for recycling          | kg   | 6,23E-02 | 7,21E-03           | 0,00E+00          | 5,51E-02     | 0,00E+00 | 0,00E+00       | 0,00E+00      |
| Materials for energy<br>recovery | kg   | 9,01E-02 | 1,51E-03           | 0,00E+00          | 8,86E-02     | 0,00E+00 | 0,00E+00       | 0,00E+00      |
| Exported energy                  | MJ   | 0,00E+00 | 0,00E+00           | 0,00E+00          | 0,00E+00     | 0,00E+00 | 0,00E+00       | 0,00E+00      |

Inventory flow indicator – other indicators

| Indicator                                                 | Unit    | Total    | Manu-<br>facturing | Distri-<br>bution | Installation | Use      | End of<br>life | Bene-<br>fits |
|-----------------------------------------------------------|---------|----------|--------------------|-------------------|--------------|----------|----------------|---------------|
| Biogenic carbon<br>content of the<br>product              | kg of C | 0,00E+00 | 0,00E+00           | 0,00E+00          | 0,00E+00     | 0,00E+00 | 0,00E+00       | 0,00E+00      |
| Biogenic carbon<br>content of the<br>associated packaging | kg of C | 8,75E-02 | 8,75E-02           | 1,94E-05          | 1,07E-05     | 0,00E+00 | 1,65E-05       | -2,78E-03     |

|          |                |                      |      |      |      |
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Optional indicators

Environmental indicators

| Indicator                                         | Unit                  | Total    | Manu-<br>facturing | Distri-<br>bution | Installation | Use      | End of<br>life | Bene-<br>fits |
|---------------------------------------------------|-----------------------|----------|--------------------|-------------------|--------------|----------|----------------|---------------|
| Total use of primary energy during the life cycle | MJ                    | 2,79E+01 | 2,78E+01           | 4,15E-02          | 4,98E-02     | 0,00E+00 | 2,50E-02       | -1,75E-01     |
| Emissions of fine particles                       | incidence of diseases | 5,22E-08 | 4,99E-08           | 1,51E-09          | 4,81E-10     | 0,00E+00 | 3,86E-10       | -3,24E-10     |
| Ionizing radiation, human health                  | kBq U235 eq.          | 1,05E-02 | 9,95E-03           | 2,66E-04          | 1,82E-04     | 0,00E+00 | 9,77E-05       | -6,67E-04     |
| Ecotoxicity (fresh water)                         | CTUe                  | 2,63E+00 | 1,99E+00           | 6,21E-02          | 9,17E-02     | 0,00E+00 | 4,81E-01       | -4,32E-02     |
| Human toxicity, car-cinogenic effects             | CTUh                  | 1,05E-09 | 8,67E-10           | 1,04E-10          | 3,59E-11     | 0,00E+00 | 4,17E-11       | -2,09E-11     |
| Human toxicity, non-carcinogenic effects          | CTUh                  | 2,87E-09 | 2,66E-09           | 5,71E-11          | 5,24E-11     | 0,00E+00 | 9,99E-11       | -3,37E-11     |
| Impact related to land use/soil quality           |                       | 1,98E+01 | 1,95E+01           | 2,00E-01          | 7,87E-02     | 0,00E+00 | 2,85E-02       | -5,78E-01     |

Other indicators

| Indicator                | Unit | Total | Manu-<br>facturing | Distri-<br>bution | Installation | Use | End of<br>life | Bene-<br>fits |
|--------------------------|------|-------|--------------------|-------------------|--------------|-----|----------------|---------------|
| No Other indicators used |      |       |                    |                   |              |     |                |               |

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## Extrapolation Factors

For other products than the Reference product covered by this PEP, the environmental impacts for each phase of the lifecycle are obtained by multiplying the values of the Reference product by the extrapolation factors provided in the tables below, with the following formulas:

| Environmental indicator                  | Extrapolation factor (a) | Extrapolation variable (x) |
|------------------------------------------|--------------------------|----------------------------|
| GWP-total                                | 6,83                     | total mass                 |
| GWP-fossil                               | 11,31                    | product mass               |
| GWP-biogenic                             | 64,38                    | packaging                  |
| GWP-luluc                                | 15,84                    | total mass                 |
| ODP                                      | 13,28                    | total mass                 |
| AP                                       | 7,48                     | total mass                 |
| EP-freshwater                            | 7,85                     | total mass                 |
| EP-marine                                | 6,84                     | total mass                 |
| EP-terrestrial                           | 7,79                     | total mass                 |
| POCP                                     | 7,85                     | total mass                 |
| ADP-minerals & metals                    | 7,19                     | total mass                 |
| ADP-fossil                               | 7,53                     | total mass                 |
| WDP                                      | 9,24                     | total mass                 |
| PERE                                     | 50,37                    | packaging                  |
| PERM                                     | 55,83                    | packaging                  |
| PERT                                     | 50,63                    | packaging                  |
| PENRE                                    | 7,85                     | total mass                 |
| PENRM                                    | 6,43                     | total mass                 |
| PENRT                                    | 7,53                     | total mass                 |
| SM                                       | 15,19                    | total mass                 |
| RSF                                      | 0,00                     | -                          |
| NRSF                                     | 0,00                     | -                          |
| FW                                       | 6,34                     | total mass                 |
| HWD                                      | 7,31                     | total mass                 |
| NHWD                                     | 7,31                     | total mass                 |
| RWD                                      | 12,13                    | total mass                 |
| CRU                                      | 0,00                     | -                          |
| MFR                                      | 10,10                    | product mass               |
| MFE                                      | 10,10                    | product mass               |
| EE                                       | 0,00                     | -                          |
| Emissions of Fine particles              | 12,52                    | product mass               |
| Ionizing radiation, human health         | 11,19                    | total mass                 |
| Ecotoxicity, freshwater                  | 6,73                     | total mass                 |
| Human toxicity, carcinogenic effects     | 10,65                    | total mass                 |
| Human toxicity, non-carcinogenic effects | 7,38                     | total mass                 |
| Impact related to Land use /soil quality | 52,32                    | packaging                  |
| Biogenic C                               | 52,85                    | packaging                  |

### Manufacturing Stage

$$y = a * r_0 * x$$

Where:

- y is the selected impact category;
- a is the extrapolation factor from the table
- $r_0$  is the environmental indicator of the reference product
- x is the extrapolation variable, and is defined as either m (product mass), p (packaging mass), or t (total mass = m+p).

### All other stages

The extrapolation equations are the same across all impact categories, and  $r_0$  is the environmental indicator of the reference product.

| Stage        | Extrapolation equation      |
|--------------|-----------------------------|
| Distribution | $y = 8,30 * r_0 * (m + p)$  |
| Installation | $y = 24,11 * r_0 * (m + p)$ |
| End of Life  | $y = 10,10 * r_0 * m$       |
| Benefits     | $y = 59,80 * r_0 * p$       |

In cases where the value of an indicator for the reference product is 0, the extrapolation factor has also been set to 0.

|          |                |                      |      |       |       |
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## Extrapolation Factors

At the production stage, it was not possible to find a linear regression for the product with the largest diameter (PIHG-125B.20), so the indicators for this item are given below:

| Impact category                          | PIHG-125B.20 |
|------------------------------------------|--------------|
| GWP-total                                | 2,68         |
| GWP-fossil                               | 11,04        |
| GWP-biogenic                             | 45,85        |
| GWP-luluc                                | 37,07        |
| ODP                                      | 30,27        |
| AP                                       | 11,94        |
| EP-freshwater                            | 26,27        |
| EP-marine                                | 14,06        |
| EP-terrestrial                           | 13,29        |
| POCP                                     | 13,24        |
| ADP-minerals & metals                    | 10,49        |
| ADP-fossil                               | 10,46        |
| WDP                                      | 11,97        |
| PERE                                     | 44,02        |
| PERM                                     | 47,20        |
| PERT                                     | 44,17        |
| PENRE                                    | 11,09        |
| PENRM                                    | 8,58         |
| PENRT                                    | 10,45        |
| SM                                       | 34,19        |
| RSF                                      | 0,00         |
| NRSF                                     | 0,00         |
| FW                                       | 13,06        |
| HWD                                      | 31,11        |
| NHWD                                     | 29,26        |
| RWD                                      | 33,30        |
| CRU                                      | 0,00         |
| MFR                                      | 36,10        |
| MFE                                      | 8,59         |
| EE                                       | 0,00         |
| Emissions of Fine particles              | 13,77        |
| Ionizing radiation, human health         | 36,25        |
| Ecotoxicity, freshwater                  | 27,43        |
| Human toxicity, carcinogenic effects     | 41,15        |
| Human toxicity, non-carcinogenic effects | 44,73        |
| Impact related to Land use /soil quality | 44,93        |
| Biogenic C                               | 44,86        |

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## Extrapolation Factors

The complete list of products covered by this EPD and the relevant variables for extrapolation are shown in the table below:

| Product name | Conduit weight (kg/m) | Packaging weight (kg/m) |
|--------------|-----------------------|-------------------------|
| PIHG-56B.30  | 0,330                 | 0,1854                  |
| PIHG-56S.30  | 0,330                 | 0,1849                  |
| PIHG-70B.10  | 0,460                 | 0,1981                  |
| PIHG-70B.30  | 0,460                 | 0,2920                  |
| PIHG-70S.10  | 0,460                 | 0,1985                  |
| PIHG-70S.30  | 0,460                 | 0,3234                  |
| PIHG-95B.10  | 0,660                 | 0,3178                  |
| PIHG-95B.30  | 0,660                 | 0,5559                  |
| PIHG-95S.10  | 0,660                 | 0,3146                  |
| PIHG-125B.20 | 0,850                 | 0,8259                  |
| PISG-23B.30  | 0,099                 | 0,0328                  |
| PISG-36B.30  | 0,160                 | 0,0593                  |
| PISG-23B.50  | 0,099                 | 0,0192                  |
| PISG-48B.30  | 0,228                 | 0,0864                  |
| PISG-29B.50  | 0,133                 | 0,0359                  |
| PISG-36S.30  | 0,160                 | 0,0643                  |
| PISG-29S.50  | 0,133                 | 0,0366                  |
| PISG-48S.30  | 0,228                 | 0,0851                  |
| PISG-36B.10  | 0,160                 | 0,0790                  |
| PISG-48B.10  | 0,228                 | 0,0941                  |

|              |       |        |
|--------------|-------|--------|
| PISG-29B.30  | 0,133 | 0,0462 |
| PISG-23S.50  | 0,099 | 0,0190 |
| PISG-36B.300 | 0,160 | 0,0780 |
| PISG-17B.50  | 0,063 | 0,0235 |
| PIST-48B.30  | 0,228 | 0,0804 |
| PIST-36B.30  | 0,160 | 0,0570 |
| PIST-29B.50  | 0,133 | 0,0330 |
| PIST-17B.50  | 0,057 | 0,0155 |
| PIST-23B.50* | 0,099 | 0,0218 |
| PIST-12B.50  | 0,038 | 0,0095 |
| PIST-10B.50  | 0,028 | 0,0062 |
| PIST-07B.50  | 0,022 | 0,0042 |
| PIST-07S.50  | 0,022 | 0,0059 |
| PIST-17B.30  | 0,057 | 0,0215 |
| PIST-17S.50  | 0,057 | 0,0178 |
| PIST-12S.50  | 0,038 | 0,0110 |
| PIST-23S.50  | 0,099 | 0,0219 |
| PIST-23B.200 | 0,099 | 0,0367 |
| PIST-29S.50  | 0,133 | 0,0404 |
| PIST-36S.30  | 0,160 | 0,0644 |
| PIST-10S.50  | 0,028 | 0,0062 |
| PIST-10B.50  | 0,028 | 0,0062 |

\*reference product

|          |                |                      |      |       |       |
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# Environmental Impact Indicator Glossary

## Impact indicators

| Indicator                                            | Description                                                                                                                                                                                                                                                                               | Distri-<br>bution                    |
|------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------|
| Global warming potential (GWP) - total               | Indicator of potential global warming caused by emissions to air contributing to the greenhouse effect. The total global warming potential (GWP-total) is the sum of three sub-categories of climate change.<br>GWP-total = GWP-fossil + GWP-biogenic + GWP- land use and land use change | kg CO <sub>2</sub> eq.               |
| Ozone depletion (ODP)                                | Emissions to air that contribute to the destruction of the stratospheric ozone layer                                                                                                                                                                                                      | kg CFC-11 eq.                        |
| Acidification of soil and water (A)                  | Acidification of soils and water caused by the release of certain gases to the atmosphere, such as nitrogen oxides and sulphur oxides                                                                                                                                                     | H <sup>+</sup> eq.                   |
| Eutrophication (E)                                   | Indicator of the contribution to eutrophication of water by the enrichment of the aquatic ecosystem with nutritional elements, e.g. industrial or domestic effluents, agriculture, etc. This indicator is divided to three: freshwater, marine and terrestrial.                           | kg P eq.,<br>kg N eq.,<br>mole N eq. |
| Photochemical ozone creation (POCP)                  | Indicator of emissions of gases that affect the creation of photochemical ozone in the lower atmosphere (smog) because of the rays of the sun.                                                                                                                                            | kg NMVOC eq.                         |
| Depletion of abiotic resources – elements (ADPe)     | Indicator of the depletion of natural non-fossil resources                                                                                                                                                                                                                                | kg Sb eq.                            |
| Depletion of abiotic resources – fossil fuels (ADPf) | The use of non-renewable fossil resources in an unsustainable way (e.g. from material to waste)                                                                                                                                                                                           | MJ (lower heating value)             |
| Water Deprivation potential (WDP)                    | Deprivation-weighted water consumption. Assesses the potential of water deprivation, to either humans or ecosystems, building on the assumption that the less water remaining available per area, the more likely another user will be deprived.                                          | m <sup>3</sup> eq. depr.             |

## Resource use indicators

| Indicator                   | Description                                                                                                                     | Distri-<br>bution |
|-----------------------------|---------------------------------------------------------------------------------------------------------------------------------|-------------------|
| Total use of primary energy | Total use of non-renewable primary energy resources (primary energy and primary energy resources used as raw materials) + Total | MJ (lower         |
|                             | use of renewable primary energy re-sources (primary energy and primary energy resources used as raw materials)                  | heating value)    |

|          |                |                      |      |       |       |
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|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------|-------------------------------------------------------------------------------------|------------------------------|
| Registration number:                                                                                                                                                          | ABBG-00628-V02.01-EN | Drafting Rules:                                                                     | "PCR-ed4-EN-2021 09 06"      |
|                                                                                                                                                                               |                      | Supplemented by:                                                                    | PSR-0003-ed2.1-EN-2023 12 08 |
| Verifier accreditation number:                                                                                                                                                | VH44                 | Information and reference documents:                                                | www.pep-ecopassport.org      |
| Date of issue:                                                                                                                                                                | 10-2024              | Validity period:                                                                    | 5 years                      |
| Independent verification of the declaration and data, in compliance with ISO 14025: 2006                                                                                      |                      |                                                                                     |                              |
| Internal: <input type="radio"/> External: <input checked="" type="radio"/>                                                                                                    |                      |                                                                                     |                              |
| The PCR review was conducted by a panel of experts chaired by Julie ORGELET (DDemain)                                                                                         |                      |  |                              |
| PEP are compliant with XP C08-100-1 :2016 or EN 50693:2019 or NE E38-500 :2022<br>The components of the present PEP may not be compared with elements from any other program. |                      |                                                                                     |                              |
| Document in compliance with ISO 14025: 2006 "Environmental labels and declarations. Type III environmental declarations"                                                      |                      |                                                                                     |                              |

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