

# GlobalEPD

A VERIFIED ENVIRONMENTAL DECLARATION



Environmental  
Product  
Declaration

EN ISO 14025:2010

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

# AENOR

## PEX-a, PEX-b and PERT PIPING SYSTEM WITH EVOH ANTI-OXYGEN BARRIER for UNDERFLOOR HEATING

Date of first issue: 2025-02-28

Expiry date: 2030-02-27

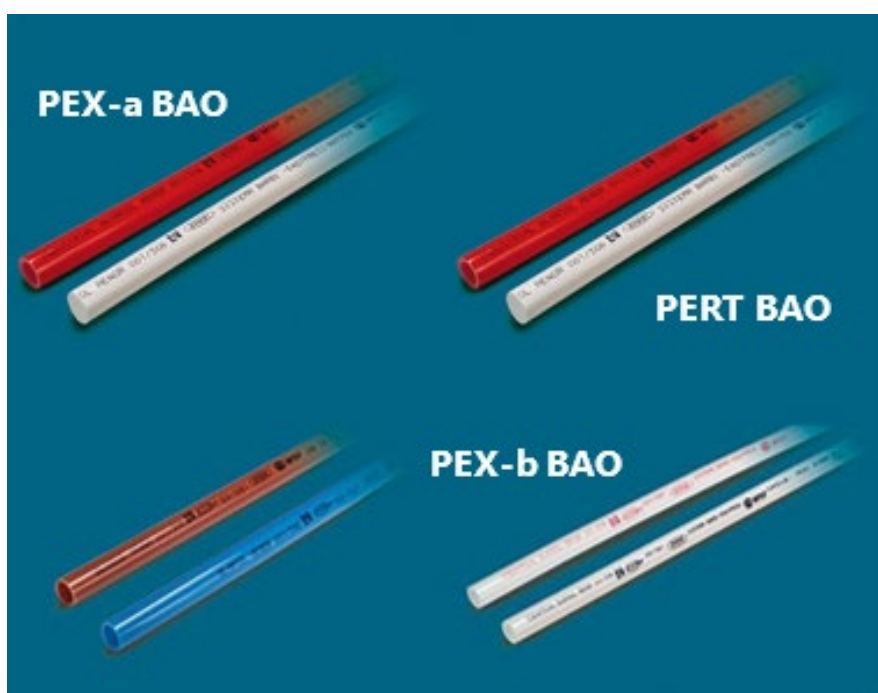
The declared validity is subject to registration and publication on [www.aenor.com](http://www.aenor.com)

Registration code: GlobalEPD EN15804-116

The results of this EPD are an average of the analysed products



INDUSTRIAL BLANSOL, S.A.



The holder of this Declaration is responsible for its content, as well as for keeping the supporting documentation during the period of validity that justifies the included data and statements



#### Holder of the Declaration

INDUSTRIAL BLANSOL S.A.  
Polígono Industrial Ambrosero, parcela 19  
39791 Bárcena de Cicero  
CANTABRIA (Spain)

Tel. (+34) 94 220 52 00  
Mail [contact@barbi.es](mailto:contact@barbi.es)  
Web [www.blansol.es](http://www.blansol.es)



#### LCA Study

IK INGENIERÍA  
Avenida cervantes, 51 – edificio 10 – 5º  
dpto 7  
48970 Basauri (Bizkaia)

Tel. (+34) 94 418 17 46  
Mail [ik@ik-ingenieria.com](mailto:ik@ik-ingenieria.com)  
Web [www.ik-ingenieria.com/es/](http://www.ik-ingenieria.com/es/)



#### GlobalEPD Programme Operator

AENOR CONFÍA, S.A.U  
C/ Génova 6  
28004 – Madrid  
Spain

Tel. (+34) 902 102 201  
Mail [aenordap@aenor.com](mailto:aenordap@aenor.com)  
Web [www.aenor.com](http://www.aenor.com)

AENOR is a founding member of ECO Platform, the European Association of Environmental Product Declaration Verification Programmes

The European Standard EN 15804:2012+A2:2019/AC:2021 is the basis for PCRs

Independent verification of the declaration and data in accordance with  
EN ISO 14025:2010 Standard

☐ Internal ☒ External

Verification Body

**AENOR**

Certification Organization accredited by ENAC with accreditation Nº 1/C-PR468

## 1. General Information

### 1.1 The organisation

INDUSTRIAL BLANSOL, S.A. is a leading company in Europe specialized in the manufacture of cross-linked polyethylene (PEX) and multilayer pipe systems. The company is one of the only European manufacturers who offers complete systems as Blansol does not only produce the pipes but also a variety of fitting systems for sanitary applications. The main advantage of Blansol for their clients is the guarantee of a complete system, pipes and fittings that the company produces at their production plants of Bárcena de Cicero (Cantabria) and Palau de Plegamans (Barcelona), factories which are equipped with the most modern technology and are totally automatized.

The Company combines innovation and business tradition, maintaining a close relationship with its customers, many of whom have relied on its products for decades. BLANSOL operates under well-known brands such as Barbi, EasyPress, IxPress2, MultiPEX and Rayper, and exports to more than 30 countries, including France, Germany, Italy, United Kingdom, Mexico, Brazil, India...

BLANSOL is the local manufacturer of reference, as it produces all the pipes and fittings in its factories located in Cantabria and Barcelona (Spain). Always focusing on the circular economy, we look for raw material suppliers nearby.

Committed to sustainability and quality, BLANSOL has ISO 9001:2015 and ISO 14001:2015 certifications issued by AENOR, guaranteeing efficient processes and long-lasting investment in advanced machinery and the development of unique systems, adapting to the demands of the global market.

The quality of BLANSOL's products and services is certified in several countries, which have distinguished the company's excellence with their certifications: AENOR (Spain), QB (France), WRAS (UK).

### 1.2. Scope of the Declaration

This Environmental Product Declaration describes environmental information relating to the life cycle from cradle-to-gate production, including end-of-life options and benefits beyond the system, i.e. A1, A2, A3, C1, C2, C3, C4 and D. The analysis addresses the cross-linked and multilayer polyethylene piping systems produced by BLANSOL. This EPD covers the main PEX-a and PEX-b pipe systems for sanitary applications.

### 1.3. Life cycle and compliance

This EPD has been developed and verified in accordance with UNE-EN ISO 14025:2006 and UNE-EN 15804:2012+ A2:2019/AC:2021 and the following Category Rule:

| INFORMATION ABOUT THE RULES OF PRODUCT CATEGORY |  |
|---|--|
| Descriptive Title                               | Sustainability in construction. Environmental Product Declarations. Basic product category rules for construction products |
| Registration code and version                   | UNE-EN 15804:2012+ A2:2019/AC:2021   |
| Date of issue                                   | 2021   |
| Compliance                                      | UNE-EN 15804:2012+ A2:2019/AC:2021   |
| Programme Manager                               | AENOR  |

This Environmental Statement includes the following life cycle stages:

**Limits of the system. Information modules considered**

|  |    |  |     |
|--|----|--|-----|
| Product stage  | A1 | Supply of raw materials                        | X   |
|  | A2 | Transport to the factory                       | X   |
|  | A3 | Manufacturing                                  | X   |
| Construction   | A4 | Transport to construction                      | MNE |
|  | A5 | Installation / construction                    | MNE |
| Stage of use   | B1 | Use  | MNE |
|  | B2 | Maintenance                                    | MNE |
|  | B3 | Repair   | MNE |
|  | B4 | Replacement                                    | MNE |
|  | B5 | Rehabilitation                                 | MNE |
|  | B6 | In-service energy use                          | MNE |
|  | B7 | In-service water use                           | MNE |
| End of life  | C1 | Deconstruction / demolition                    | X   |
|  | C2 | Transport                                      | X   |
|  | C3 | Waste treatment                                | X   |
|  | C4 | Elimination                                    | X   |
|  | D  | Potential for reuse, recovery and/or recycling | X   |
| X = Module included in the LCA; NR = Not relevant Module; MNE = Module not evaluated |    |  |     |

This EPD may not be comparable with those ones developed in other Programmes or according to different reference documents, in particular it may not be comparable with EPDs not developed according to UNE-EN 15804:2012+A2:2019/AC:2021.

In addition to this, these EPDs may not be comparable if the origin of the data is different (e.g. databases), nor all relevant information modules are included or they are not based on the same scenarios.

The comparison of construction products must be made on the same function, applying the same functional unit and at the level of the building (for architectural or engineering work), i.e. including the behaviour of the product throughout its life cycle, as well as the specifications of section 6.7.2 of UNE-EN ISO 14025.

## 2. The Product

### 2.1. Product Identification

This EPD covers the main PEX-a, PEX-b and PERT piping systems, all of them with anti-oxygen EVOH barrier. They are specially designed for underfloor heating.

The system is composed by the following components:

- PEX-a BAO Pipes: Multilayer pipe composed by:
  - 1 inner layer of cross-linked polyethylene by the peroxide method.
  - 1 adhesive layer.
  - The EVOH anti-oxygen barrier layer. It is a thin layer of ethyl-vinyl-alcohol copolymer that prevents the permeability of the tube to oxygen diffusion.
- PEX-b BAO Pipes: Multilayer pipe composed by:
  - 1 inner layer of cross-linked polyethylene by the silane method.
  - 1 adhesive layer.
  - The EVOH anti-oxygen barrier layer. It is a thin layer of ethyl-vinyl-alcohol copolymer that prevents the permeability of the tube to oxygen diffusion.
- PERT BAO Pipes: Multilayer pipe composed by:
  - 1 inner layer of PERT made of a latest-generation ethylene-octene copolymer for long-term hydrostatic resistance.
  - 1 adhesive layer.
  - The EVOH anti-oxygen barrier layer. It is a thin layer of ethyl-vinyl-alcohol copolymer that prevents the permeability of the tube to oxygen diffusion.

UN CPC Code: 36320 - Pipes and pipe fittings, made of plastic

### 2.2. Product Performance

The manufacturer declares the following information on the technical specifications of the product:

#### System performance

| Feature                          | Value                | Units             |
|----------------------------------|----------------------|-------------------|
| Linear Dilatation                | $1.4 \times 10^{-4}$ | K <sup>-1</sup>   |
| Thermal Conductivity             | 0.38                 | W/mK              |
| Maximum Working Temperature      | 95                   | °C                |
| Maximum Point Temperature        | 110                  | °C                |
| Maximum Working Pressure at 20°C | 15                   | bar               |
| Maximum Working Pressure at 95°C | 6                    | bar               |
| Roughness                        | 0.007                | mm                |
| Density                          | 0.945                | g/cm <sup>3</sup> |
| PEX-a Cross-Linking Degree       | >70                  | %                 |
| PEX-b Cross-Linking Degree       | >65                  | %                 |

Both the materials used and the pipes and fittings manufactured comply with the specifications of the applicable standards:

- EN-ISO 15875-2: Plastics piping systems for hot and cold water installations - Crosslinked polyethylene (PE-X) - Part 2: Pipes
- RP 01.03: Particular Regulations of the AENOR N Mark for cross-linked polyethylene (PE-X) piping systems for hot and cold water installations.

- EN-ISO 10147: Pipes and fittings made of crosslinked polyethylene (PE-X) - Estimation of the degree of crosslinking by determination of the gel content.
- EN-ISO 1167: Thermoplastics pipes, fittings and assemblies for the conveyance of fluids. Determination of the resistance to internal pressure.
- EN-ISO 2505: Thermoplastics pipes - Longitudinal reversion - Test method and parameters.
- EN-ISO 19892: Plastics piping systems - Thermoplastics pipes and fittings for hot and cold water - Test method for the resistance of joints to pressure cycling.
- EN-ISO 19893: Plastics piping systems - Thermoplastics pipes and fittings for hot and cold water - Test method for the resistance of mounted assemblies to temperature cycling.
- EN-ISO 3503: Plastics piping systems - Mechanical joints between fittings and pressure pipes - Test method for leaktightness under internal pressure of assemblies subjected to bending.
- EN-ISO 13056: Plastics piping systems - Pressure systems for hot and cold water - Test method for leaktightness under vacuum.
- EN-ISO 3501: Plastics piping systems - Mechanical joints between fittings and pressure pipes - Test method for resistance to pull-out under constant longitudinal force.

### 2.3. Product Composition

The declared composition by the manufacturer is as follows per kg of pipe or fitting:

#### PEX-a BAO pipe Composition

| Substance/<br>Component | Content    | Units                             |
|-------------------------|------------|-----------------------------------|
| PE                      | 90         | %                                 |
| Additives               | 10         | %                                 |
| Packaging<br>Materials  | Weight, kg | Weight, %<br>(1 kg of<br>product) |
| Plastic                 | 6.78E-03   | 0,68                              |
| Cardboard / Paper       | 3.19E-02   | 3,19                              |
| Wood                    | 9.72E-02   | 9,72                              |

#### PEX-b BAO pipe Composition

| Substance/<br>Component | Content    | Units                             |
|-------------------------|------------|-----------------------------------|
| PE                      | 90         | %                                 |
| Additives               | 10         | %                                 |
| Packaging<br>Materials  | Weight, kg | Weight,<br>% (1 kg of<br>product) |
| Plastic                 | 8.24E-03   | 0.82                              |
| Cardboard / Paper       | 3.87E-02   | 3.87                              |
| Wood                    | 1.18E-01   | 11.81                             |

#### PERT BAO pipe Composition

| Substance/<br>Component | Content    | Units                             |
|-------------------------|------------|-----------------------------------|
| PE                      | 95         | %                                 |
| Additives               | 5          | %                                 |
| Packaging<br>Materials  | Weight, kg | Weight,<br>% (1 kg of<br>product) |
| Plastic                 | 7.24E-03   | 0.72                              |
| Cardboard / Paper       | 3.40E-02   | 3.40                              |
| Wood                    | 1.04E-01   | 10.37                             |

None of the components of the final product are included in the Candidate List of Substances of Very High Concern (SVHC) for authorisation or subject to other regulations.

### 3. Information about LCA

#### 3.1. Life Cycle Analysis

This EPD is based on a “cradle to gate + C1-C4 and D” Life Cycle Assessment carried out according to the recommendations and requirements of the international standards ISO 14040:2006 and ISO 14044:2006 and the European Standard EN 15804:2012+A2:2019/AC:2021.

The Life Cycle Assessment Report for this EPD was carried out by IK Ingeniería in 2024.

This EPD covers the “cradle to gate + C1-C4 and D” Life Cycle stages:

- A1, extraction and processing of the used raw materials
- A2, transport of raw materials to the factory.
- A3, production of the pipe system
- C1, demolition of the structure at the end of its life.
- C2, Transport to manager of the structure at end of life
- C2, Transport of the steel structure to its end of life.
- C3, waste treatment and recycling.
- C4, final disposal.
- D, environmental benefits and burdens from feedstock recycling beyond the system boundary

#### 3.2. Declared Unit

According to the guidelines set by the standard, this declaration refers to the production of 1 kg of pipe system.

#### 3.3. Reference Service Life (RSL)

Reference Service Life (RSL) of the analysed system is not specified as it is a cradle-to-gate WTP with options.

#### 3.4. Allocation Criteria

Where necessary, an allocation of system inputs and outputs based on physical properties (mass) has been applied. It has not been necessary to apply economic allocation criteria. The gross weight/volume of all materials used in the production process of the analysed system has been included.

#### 3.5. Representativeness, Quality and Data Selection

To model the pipe manufacturing process, the production data from the facilities of Industrial Blansol, S.A. located in Ambrosero (Cantabria) and Palau (Barcelona) were used. Detailed data was collected from these factories relating to: the consumption of raw materials (cross-linked polyethylene, aluminium, adhesives...) and energy; the emissions generated during the production process; and the quantity and type of generated waste, including its management and recovery, in accordance with the applicable regulations.

All the data referring to the consumption of the internal processes of the project come from company measurements, and they are representative of a normal and current operation of the studied service. All inputs and outputs of the system have been allocated per kg of produced product.

The collection of factory data corresponds to the period 01/01/2023 until 31/12/2023. The electricity mix corresponds to the year 2023. In this study, no data sets older than 10 years have



been used. In addition to this, Ecoinvent 3.10 has been used, which is the most comprehensive and highest quality European life cycle inventory database, as it contains the most extensive information. Its scope coincides with the geographical, technological and temporal scope of this project. The LCA has been modelled with Simapro 9.6.0.1 using the method defined by “EN 15804 +A2 LCIA & LCI indicators”. The impacts of energy resources were analysed using the “Cumulative Energy Demand (CED)” methodology, the “Environmental Design of Industrial Products (EDIP)” methodology was used to analyse the impacts of waste and water consumptions obtained using the “Recipe Midpoint” methodology. The characterisation factors correspond to those established in the EN15804: 2012 + A2:2019/AC:2021 and EF 3.1 standards.

- Time coverage: The data collection was carried out during the period 01/01/2023 to 31/12/2023. The generic data used are current and have been obtained from the Ecoinvent 3.10 databases, which are less than 10 years old ([www.ecoinvent.org](http://www.ecoinvent.org)).
- Geographical coverage: The used data are representative of the region where the analysed service is carried out. Data collection has been carried out for each of the considered production plants. The data set was analysed to ensure that it was representative of the process or used material. Regarding the transport, the Ecoinvent 3.10 database was used, which has global standard emissions.
- The data for electricity generation were obtained from the electricity mix of the retailer published by the national commission for markets and competition (<https://gdo.cnmc.es/CNE/resumenGdo.do?anio=2023>) and they represent the energy consumption profile of that retailer.

- Technology coverage: It reflects the physical reality of the declared product o group of products. Data for all life cycle stages are characteristic for these products. The generic data were obtained from the Ecoinvent 3.10 database and it represents technological processes similar to those used for fuel productions, feedstock and auxiliary input production and transport.

The data quality assessment has been performed according to EN15804: 2012 + A2:2019/AC:2021, Table E.1: Data quality level and criterion of the UN global environmental guidelines on the development of LCI databases. The quality of the data is as follows.

- Module A1: Raw material extraction, it is very good.
- Module A2: Transport is good.
- Module A3: Manufacturing is very good.
- Modules C1 to C4:, end of life, good
- Module D: it is good.

### 3.6. Other calculation rules and hypothesis

This EPD expresses the average performance of the described systems in section 2.1. For the calculation of the average performance, the arithmetic average of the analysed systems has been used. The variability of the results of the 3 analysed systems in the impact category GWP-total-IPCC in modules A1-A3 is 1,9%.

### 3.7. Cut-off criteria

ISO 14025 and EN 15804:2012 + A2 indicate that life cycle inventory data should include a minimum of 95% of the total inputs (material and energy). In this study, the cut-off criterion has been applied to auxiliary lubricants in the production process.



## 4. System Limits, scenarios and additional technical information.

### 4.1. Previous production processes (upstream) and production of product (A1-A3)

The manufacturing process of PEX-a pipes starts with the extrusion of polyethylene resin and additives, then the cross-linking process takes place in the ultraviolet ovens. The pipes are then rolled, cut and packed for subsequent shipment to the warehouse. The final products are delivered to the warehouse from each production area.

The manufacturing process of PEX-b pipes starts with the extrusion of polyethylene resin and additives. Subsequently, the pipe is rolled and fed into the cross-linking process. The pipes are then rolled, cut and packed for subsequent shipment to the warehouse. The final products are delivered to the warehouse from each production area.

The manufacturing of PERT pipes is similar to the previous one, without the cross-linking process.

The EVOH layer is an additional stage that takes place before the rolling to include the adhesive and the EVOH layer.

### 4.2 Construction process

Not evaluated module (NEM).

### 4.3 Linked use to the building structure

Not evaluated module (NEM).

### 4.4 Linked use to the operation of the building.

Not evaluated module (NEM).

### 4.5 End of life stage

In the end-of-life stage, modules C1, C2, C3 and C4 have been considered. The included scenarios are currently in use and are representative of one of the most likely alternatives. The established scenarios for this module are as follows:

- Dismantling / demolition (C1 module): Not considered relevant as it is a structural product.
- Transport (C2 module): With a collection rate of 100%, transports are carried out by lorry (EURO 5) over 50 km.
- Waste processing and disposal (C3 and C4 modules). Annex C of the European Commission documents relating to the Environmental Footprint (<https://eplca.jrc.ec.europa.eu/LCDN/developerEF.html>) states that the recycling ratio for water supply pipes is zero.

**End of life**

| Parameter  | Unit (expressed per functional unit)                |
|--|---|
| Collection process, specified by type                | 1.00E+00 kg separately collected                    |
|  | 0.00E+00 kg collected with mixed construction waste |
| Recovery system, specified by type                   | 0.00E+00 kg for reuse                               |
|  | 0.00E+00 kg for recycling                           |
|  | 0.00E+00 kg for energy recovery                     |
| Elimination, specified by type                       | 1,00E-00 kg product or material for final disposal  |
| Hypothesis for scenario development (e.g. transport) | Lorry 16-32 metric ton, EURO5<br>Distance: 50 km    |

**4.2. Benefits and burdens beyond the system**

D module contains benefits from the recycling in C3 module. In order to calculate the benefits beyond the system (D module) the formula given in 15804:2012 +A2:2019 / AC:2021 document has been used.

## 5. LCA and LCI Environmental parameter statements

### 5.1 Environmental impacts.

The estimated impact results are relative and do not indicate the final value of the impact categories, nor do they refer to threshold values, safety margins or risks.

| Parameter                         | Units             | A1-A3    | C1       | C2       | C3       | C4        | D        |
|-----------------------------------|-------------------|----------|----------|----------|----------|-----------|----------|
| GWP-total                         | kg CO2 eq         | 4.25E+00 | 0.00E+00 | 9.68E-03 | 0.00E+00 | 1.19E-01  | 0.00E+00 |
| GWP-fossil                        | kg CO2 eq         | 4.24E+00 | 0.00E+00 | 9.68E-03 | 0.00E+00 | 1.19E-01  | 0.00E+00 |
| GWP-biogenic                      | kg CO2 eq         | 2.33E-03 | 0.00E+00 | 1.72E-06 | 0.00E+00 | 4.27E-06  | 0.00E+00 |
| GWP-luluc                         | kg CO2 eq         | 2.25E-03 | 0.00E+00 | 3.17E-06 | 0.00E+00 | 1.99E-06  | 0.00E+00 |
| GWP-total-IPCC                    | kg CO2 eq         | 4.25E+00 | 0.00E+00 | 9.68E-03 | 0.00E+00 | 1.19E-01  | 0.00E+00 |
| ODP                               | kg CFC11 eq       | 1.27E-07 | 0.00E+00 | 1.92E-10 | 0.00E+00 | 3.35E-10  | 0.00E+00 |
| AP                                | mol H+ eq         | 1.32E-02 | 0.00E+00 | 3.03E-05 | 0.00E+00 | 6.58E-05  | 0.00E+00 |
| EP-freshwater                     | kg P eq           | 7.58E-05 | 0.00E+00 | 7.44E-08 | 0.00E+00 | 7.98E-08  | 0.00E+00 |
| EP-marine                         | kg N eq           | 2.60E-03 | 0.00E+00 | 1.01E-05 | 0.00E+00 | 3.57E-05  | 0.00E+00 |
| EP-terrestrial                    | mol N eq          | 2.83E-02 | 0.00E+00 | 1.11E-04 | 0.00E+00 | 2.97E-04  | 0.00E+00 |
| POCP                              | Kg NMVOC eq       | 1.80E-02 | 0.00E+00 | 4.74E-05 | 0.00E+00 | 1.43E-04  | 0.00E+00 |
| ADP-minerals& metals <sup>1</sup> | kg Sb eq          | 2.41E-05 | 0.00E+00 | 3.09E-08 | 0.00E+00 | 2.17E-08  | 0.00E+00 |
| ADP-fossil <sup>1</sup>           | MJ                | 9.95E+01 | 0.00E+00 | 1.36E-01 | 0.00E+00 | 2.34E-01  | 0.00E+00 |
| WDP <sup>1</sup>                  | m3 worl eq depriv | 1.00E+00 | 0.00E+00 | 7.57E-04 | 0.00E+00 | -1.93E-01 | 0.00E+00 |

**GWP - total:** Global warming potential; **GWP - fossil:** Global warming potential of fossil fuels; **GWP - biogenic:** Biogenic global warming potential; **GWP - luluc:** Global warming potential from land use and land change of use; **ODP:** Stratospheric ozone depletion potential; **AP:** Acidification potential, cumulative surplus; **EP-freshwater:** Eutrophication potential, fraction of nutrients that reach the final compartment of fresh water; **EP-marine:** Eutrophication potential, fraction of nutrients that reach the final compartment of marine water; **EP-terrestrial:** Eutrophication potential, cumulative surplus; **POCP:** Photochemical ozone creation potential; **ADP-minerals&metals:** Abiotic depletion potential for minerals and metals; **ADP-fossil:** Abiotic depletion potential for fossil resources; **WDP:** Water deprivation potential (user), consumption of pondered privation of water. **NR:** Not relevant.

**Warning 1:** The results of this environmental impact indicator should be used with caution, as the uncertainties of the results are high and experience with this parameter is limited

## 5.2 Use of resources

| Parameter | Units          | A1-A3    | C1       | C2       | C3       | C4        | D        |
|-----------|----------------|----------|----------|----------|----------|-----------|----------|
| PERE      | MJ             | 1.04E+00 | 0.00E+00 | 2.30E-03 | 0.00E+00 | 1.88E+00  | 0.00E+00 |
| PERM      | MJ             | 1.87E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | -1.87E+00 | 0.00E+00 |
| PERT      | MJ             | 2.92E+00 | 0.00E+00 | 2.30E-03 | 0.00E+00 | 6.51E-03  | 0.00E+00 |
| PENRE     | MJ             | 5.54E+01 | 0.00E+00 | 1.36E-01 | 0.00E+00 | 4.44E+01  | 0.00E+00 |
| PENRM     | MJ             | 4.41E+01 | 0.00E+00 | 0.00E+00 | 0.00E+00 | -4.41E+01 | 0.00E+00 |
| PENRT     | MJ             | 9.96E+01 | 0.00E+00 | 1.36E-01 | 0.00E+00 | 2.34E-01  | 0.00E+00 |
| SM        | kg             | 3.86E-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 |
| NRSF      | MJ             | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00  | 0.00E+00 |
| FW        | m <sup>3</sup> | 2.43E-02 | 0.00E+00 | 1.86E-05 | 0.00E+00 | -4.49E-03 | 0.00E+00 |

**PERE:** Primary energy renewable, energy resources; **PERM:** Primary energy renewable, material; **PERT:** Primary energy renewable, total; **PENRE:** Primary energy non-renewable, energy resources; **PENRM:** Primary energy non-renewable, material; **PENRT:** Primary energy non-renewable, total; **SM:** Secondary materials; **RSF:** Renewable secondary fuels; **NRSF:** Non-renewable secondary fuels; **FW:** Flowing water; **NR:** Not relevant

## 5.3 Waste categories

| Parameter | Units | A1-A3    | C1       | C2       | C3       | C4       | D        |
|-----------|-------|----------|----------|----------|----------|----------|----------|
| HWD       | kg    | 1.57E-01 | 0.00E+00 | 1.96E-04 | 0.00E+00 | 3.50E-04 | 0.00E+00 |
| NHWD      | kg    | 2.05E+01 | 0.00E+00 | 4.13E-03 | 0.00E+00 | 5.78E+00 | 0.00E+00 |
| RWD       | kg    | 1.50E-04 | 0.00E+00 | 4.33E-08 | 0.00E+00 | 8.22E-08 | 0.00E+00 |

**HWD:** Hazardous waste disposed; **NHWD:** Non-hazardous waste disposed; **RWD:** Radioactive waste disposed; **NR:** Not relevant

## 5.4 Outflows

| Parameter | Units | A1-A3    | C1       | C2       | C3       | C4       | D        |
|-----------|-------|----------|----------|----------|----------|----------|----------|
| CRU       | kg    | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 |
| MFR       | kg    | 2.43E-01 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 |
| MER       | kg    | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 |
| EE        | MJ    | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 |

**CRU:** Components for reuse; **MFR:** Materials for recycling; **MER:** Materials for energy recovery; **EE:** Exported energy; **NR:** Not relevant

## 5.5 Information about biogenic carbon content

| Biogenic carbon content                    | Units | Result per declared functional unit |
|--|-------|-------------------------------------|
| Biogenic carbon content - product – Kg C   | Kg C  | 0.00E+00                            |
| Biogenic carbon content - packaging – Kg C | Kg C  | 6.58E-02                            |

## 6. Additional environmental information.

1-Impact of electricity consumption by specific supplier: 4.42E-01 kg CO<sub>2</sub>e/kWh.

2-Natural gas impact: 7.30E-03 kg CO<sub>2</sub>e/MJ.

## References

- [1] General Instructions for the GlobalEPD Programme, 3rd revision 09-10 2023
- [2] EN ISO 14025:2010 Environmental labels and declarations - Type III environmental declarations - Principles and procedures (ISO 14025:2006).
- [3] EN 15804:2012+A2:2019/AC:2021 Sustainability of construction works - Environmental product declarations - Core rules for the product category of construction products.
- [4] EN ISO 14040. Environmental management - Life cycle assessment - Principles and framework. 2006.
- [5] EN ISO 14044. Environmental management - Life cycle assessment - Requirements and guidelines. 2006
- [6] [Life cycle analysis report for the WTP of cross-linked polyethylene systems of Industrial Blansol. Developed by IK Ingeniería. 2025
- [7] Annex C of the European Commission's Environmental Footprint (EF method)]

---

## Index

|   |    |
|---|----|
| 1. General Information .....  | 3  |
| 2. The Product .....  | 5  |
| 3. Information about LCA.....   | 8  |
| 4. System Limits, scenarios and additional technical information..... | 10 |
| 5. LCA and LCI Environmental parameter statements .....               | 12 |
| 6. Additional environmental information.....                          | 14 |
| References.....   | 15 |



# AENOR



Una declaración ambiental verificada

# GlobalEPD