

# ENVIRONMENTAL PRODUCT DECLARATION

## Grey expanded polystyrene (EPS) thermal insulation panel

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

### Products included in the EPD:

CONVERTO 31 G PLUS

An EPD may be updated or depublished if conditions change. To find the latest version of the EPD and to confirm its validity, see [www.environdec.com](http://www.environdec.com)

EPD of multiple products based on a representative product

**EPD Owner**  
IVAS SPA

**Programme**  
International EPD System  
[www.environdec.com](http://www.environdec.com)

**Programme operator**  
EPD International AB

**Registration number**  
EPD-IES-0028545:004

**Version date**  
2026-03-12

**Validity date**  
2031-03-12



# GENERAL INFORMATION

## Programme information

|           |                                                                     |
|-----------|---------------------------------------------------------------------|
| Programme | International EPD System                                            |
| Address   | EPD International AB<br>Box 210 60<br>SE-100 31 Stockholm<br>Sweden |
| Website   | www.environdec.com                                                  |
| E-mail    | support@environdec.com                                              |

## Product category rules

|                                                                       |                                                                                                                                                                                                                                                                                                            |
|-----------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| CEN standard EN 15804 serves as the Core Product Category Rules (PCR) |                                                                                                                                                                                                                                                                                                            |
| Product Category Rules (PCR)                                          | 2019:14 Construction products (EN 15804+A2) (version 2.0.1) 2.0.1                                                                                                                                                                                                                                          |
| PCR review was conducted by                                           | The Technical Committee of the International EPD System. See www.environdec.com for a list of members.<br><br>Review chair: Rob Rouwette (chair), Noa Meron (co-chair). The review panel may be contacted via the Secretariat <a href="http://www.environdec.com/support">www.environdec.com/support</a> . |
| Complementary Product Category Rules (c-PCR)                          | PCR 2019:14-c-PCR-005 Thermal insulation products (EN 16783) (c-PCR to PCR 2019:14) (1.0.0)                                                                                                                                                                                                                |
| c-PCR review was conducted by                                         | The Technical Committee of the International EPD System                                                                                                                                                                                                                                                    |

## Verification

|                                                                                                                                                                                                                                                                                                                                                                |                                                                                                                                                                                                                                                            |
|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Independent third-party verification of the declaration and data, according to ISO 14025:2006, via                                                                                                                                                                                                                                                             | <input checked="" type="checkbox"/> EPD verification through an individual EPD verification<br><input type="checkbox"/> EPD verification through EPD Process Certification*<br><input type="checkbox"/> EPD verification through a fully pre-verified tool |
| Third-party verifier                                                                                                                                                                                                                                                                                                                                           | IMQ S.p.A.                                                                                                                                                                                                                                                 |
| Accredited by                                                                                                                                                                                                                                                                                                                                                  | Accredia                                                                                                                                                                                                                                                   |
| Accredited certification body address                                                                                                                                                                                                                                                                                                                          | Italy                                                                                                                                                                                                                                                      |
| Procedure for follow-up of data during EPD validity involves third party verifier                                                                                                                                                                                                                                                                              | <input type="checkbox"/> Yes<br><input checked="" type="checkbox"/> No                                                                                                                                                                                     |
| <p>*EPD Process Certification involves an accredited certification body certifying and periodically auditing the EPD process and conducting external and independent verification of EPDs that are regularly published. More information can be found in the General Programme Instructions on <a href="http://www.environdec.com">www.environdec.com</a>.</p> |                                                                                                                                                                                                                                                            |

## Ownership and limitations on use of EPD

### Limitations

EPDs within the same product category but published in different EPD programmes, may not be comparable. For two EPDs to be comparable, they shall be based on the same PCR (including the same first-digit 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 identical scope in terms of included life-cycle stages (unless the excluded life-cycle stage is demonstrated to be insignificant); apply identical impact assessment methods (including the same version of characterisation factors); and be valid at the time of comparison.

### Ownership

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

## INFORMATION ABOUT EPD OWNER

|                       |                                                      |
|-----------------------|------------------------------------------------------|
| EPD Owner             | IVAS SPA                                             |
| Contact person name   | Andrea Cerri                                         |
| Contact person e-mail | acerri@gruppoivas.com                                |
| Organisation address  | VIA BELLARIA 40<br>47030 San Mauro Pascoli<br>Italy  |
| LCA Practitioner      | Valentina Giorgetti, v.giorgetti@orizonformazione.it |

### Description of the organisation of the EPD Owner

IVAS EPS+ is a division of IVAS S.p.A. specialized in thermal and energy insulation systems. This division focuses on the development and supply of innovative solutions to improve building energy efficiency, while reducing energy consumption and CO2 emissions.

## PRODUCT INFORMATION

|                                                |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |
|------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Product name                                   | CONVERTO 31 G PLUS                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |
| Product identification                         | Grey expanded polystyrene (EPS) thermal insulation panel                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |
| Product description                            | <p>Stress-relieved thermal insulation panel made of sintered expanded polystyrene (EPS) with 70% graphite additive, cut from block and suitable for external thermal insulation composite systems (ETICS).<br/>           Certified ETICS in accordance with EAD 040083-00-0404 (formerly ETAG 004) and UNI EN 13499:2005, and provided with a Certificate of Conformity in accordance with UNI EN 13163.</p> <p>The panels comply with the Italian Minimum Environmental Criteria (CAM) through the use of recycled EPS, as required by the DM 24.11.2025.</p> <p>They are supplied with a product certification issued by an independent third-party assessment body, certifying and guaranteeing the recycled content.</p> |
| Technical purpose of product                   | Expanded Polystyrene (EPS) is a thermal insulation material intended for use in building applications as part of the building envelope, such as walls, roofs, and floors. Its technical function is to reduce heat transfer between indoor and outdoor environments by providing thermal resistance within construction assemblies.                                                                                                                                                                                                                                                                                                                                                                                           |
| Manufacturing or service provision description | <p>Production of EPS panels at the IVAS EPS+ plant in San Mauro Pascoli (Italy) includes the following phases:</p> <ul style="list-style-type: none"> <li>- mixing of black and white eps beads</li> <li>- pre-expansion of EPS beads;</li> <li>- stabilization, drying, and aging of the pre-expanded material;</li> <li>- molding or block forming of the EPS;</li> <li>- EPS block pressing;</li> <li>- cutting and finishing of the panels;</li> <li>- packaging of the finished product.</li> </ul>                                                                                                                                                                                                                      |
| Material properties                            | <p>Area density: 14.5 kg/m<sup>2</sup></p> <p>Thickness: 0.12 m</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |
| Manufacturing site                             | <p>Ivas EPS+</p> <p>Via Vena</p> <p>47030 San Mauro Pascoli (FC)</p> <p>Italy</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |
| UN CPC code                                    | 369. Other plastics products                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |
| Geographical scope(s)                          | Europe                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |

PRODUCT IMAGES



Grey expanded polystyrene (EPS) thermal insulation panel

## CONTENT DECLARATION

|                                          |                                                                                                                                                                                                                                                                                   |
|------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Content declaration of multiple products | The EPD covers multiple products (Convento 31 G Plus, EPS 31-100 grigio Cam detensionato, Convento Fonostop, EPS 31 G Max, EPS 31 G 100 Fix R) and multiple thicknesses (from 2 cm to 30cm).<br>The EPD is based on a representative product (Convento 31 G Plus, thickness 12cm) |
| Hazardous and toxic substances           | The product does not contain any substances from the SVHC candidate list in concentrations exceeding 0.1% of its weight.                                                                                                                                                          |

| PRODUCT CONTENT                           |                                                                   |                                                    |                                      |                                               |
|-------------------------------------------|-------------------------------------------------------------------|----------------------------------------------------|--------------------------------------|-----------------------------------------------|
| Content name                              | Mass, kg                                                          | Post-consumer recycled material, mass-% of product | Biogenic material, mass-% of product | Biogenic material <sup>1</sup> , kg C/product |
| Virgin expandable polystyrene (EPS) beads | 0.85                                                              | 0                                                  | 0                                    | 0                                             |
| PCM expandable polystyrene (EPS) beads    | 0.15                                                              | 0.15                                               | 0                                    | 0                                             |
| <b>Total</b>                              | <b>1</b>                                                          | <b>0.15</b>                                        | <b>0</b>                             | <b>0</b>                                      |
| Note 1                                    | 1 kg biogenic carbon is equivalent to 44/12 kg of CO <sub>2</sub> |                                                    |                                      |                                               |

| PACKAGING MATERIALS |                                                                   |                             |                                               |
|---------------------|-------------------------------------------------------------------|-----------------------------|-----------------------------------------------|
| Material name       | Mass, kg                                                          | Mass-% (versus the product) | Biogenic material <sup>1</sup> , kg C/product |
| Plastic film        | 0.031                                                             | 1                           | 0                                             |
| <b>Total</b>        | <b>0.031</b>                                                      | <b>1</b>                    | <b>0</b>                                      |
| Note 1              | 1 kg biogenic carbon is equivalent to 44/12 kg of CO <sub>2</sub> |                             |                                               |

# LCA INFORMATION

|                                                                                             |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |
|---------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| EPD based on declared or functional unit                                                    | Functional unit                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |
| Functional unit description                                                                 | m2                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |
| Reference flow                                                                              | Insulation<br>Area: 1 m <sup>2</sup>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |
| Conversion factor to mass                                                                   | 0.145                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |
| Are infrastructure or capital goods included in any upstream, core or downstream processes? | <input type="checkbox"/> Yes<br><input checked="" type="checkbox"/> No                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |
| Data sources used for this EPD                                                              | ecoinvent database (general)<br>ecoinvent 3.10 database                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
| LCA Software                                                                                | SimaPro 10.1                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |
| Version of the EN 15804 reference package                                                   | EF Reference Package 3.1                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |
| Characterisation methods                                                                    | EN 15804 + A2 (adapted)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
| Technology description including background system                                          | <p>The product system includes the manufacturing of expanded polystyrene (EPS) insulation boards through pre-expansion of polystyrene beads, aging, moulding or block production, and cutting to final dimensions. The process includes internal handling, packaging, and waste management.</p> <p>Foreground processes cover all on-site manufacturing steps, including energy consumption (electricity and steam), auxiliary materials, and production waste.</p> <p>Background processes include the production of raw materials (polystyrene beads, additives, and blowing agents), electricity generation, steam supply, and transport of inputs to the manufacturing site. These processes are modelled using secondary data from LCA databases compliant with EN 15804 requirements.</p> |
| Scrap (recycled material) inputs contribution level                                         | Less than 10% of the GWP-GHG results in modules A1-A3 come from scrap inputs                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |

Data quality assessment

|                                                            |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |
|------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Description of data quality assessment and reference years | <p>Primary data used for the core manufacturing processes refer to the reference year 2024 and are based on actual production data collected from the manufacturing site.</p> <p>Secondary data are sourced from recognised LCA databases compliant with EN 15804 (e.g. ecoinvent or equivalent), and refer to recent available datasets representative of European average or specific regional conditions.</p> <p>The data quality is considered good in terms of temporal, geographical, and technological representativeness. Primary data are fully representative of current production conditions, while secondary data reflect state-of-the-art background processes available in the selected LCA database. Data completeness and consistency are ensured according to EN 15804+A2 requirements.</p> |
|------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|

| DATA QUALITY ASSESSMENT                                   |                                                                                                                                                                                                                                                                                                                                                                 |                               |                |               |                                                     |
|-----------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------|----------------|---------------|-----------------------------------------------------|
| Process name                                              | Source type                                                                                                                                                                                                                                                                                                                                                     | Source                        | Reference year | Data category | Share of primary data, of GWP-GHG results for A1-A3 |
| Virgin beads transportation                               | Database                                                                                                                                                                                                                                                                                                                                                        | Ecoinvent 3, release 10.1.0.4 | 2024           | Primary data  | 0.01%                                               |
| Electricity                                               | Database                                                                                                                                                                                                                                                                                                                                                        | Ecoinvent 3, release 10.1.0.4 | 2024           | Primary data  | 4.01%                                               |
| Gas                                                       | Database                                                                                                                                                                                                                                                                                                                                                        | Ecoinvent 3, release 10.1.0.4 | 2024           | Primary data  | 8.5%                                                |
| Total share of primary data, of GWP-GHG results for A1-A3 |                                                                                                                                                                                                                                                                                                                                                                 |                               |                |               | 12.52%                                              |
| Note                                                      | The share of primary data is calculated based on GWP-GHG results. It is a simplified indicator for data quality that supports the use of more primary data to increase the representativeness of and comparability between EPDs. Note that the indicator does not capture all relevant aspects of data quality and is not comparable across product categories. |                               |                |               |                                                     |

| ELECTRICITY USED IN THE MANUFACTURING PROCESS IN A3 (A5 FOR SERVICES) |                                        |        |
|-----------------------------------------------------------------------|----------------------------------------|--------|
| Type of electricity mix                                               | Residual electricity mix on the market |        |
| Energy sources                                                        | Hydro                                  | 0%     |
|                                                                       | Wind                                   | 0.43%  |
|                                                                       | Solar                                  | 6.21%  |
|                                                                       | Biomass                                | 0.63%  |
|                                                                       | Geothermal                             | 0%     |
|                                                                       | Waste                                  | 0%     |
|                                                                       | Nuclear                                | 4.4%   |
|                                                                       | Natural gas                            | 58.22% |

|                           |                                 |        |
|---------------------------|---------------------------------|--------|
|                           | Coal                            | 22.72% |
|                           | Oil                             | 3.76%  |
|                           | Peat                            | 0%     |
|                           | Other                           | 3.62%  |
| Climate impact (GWP-GHG): | 0.64 kg CO <sub>2</sub> eq./kWh |        |

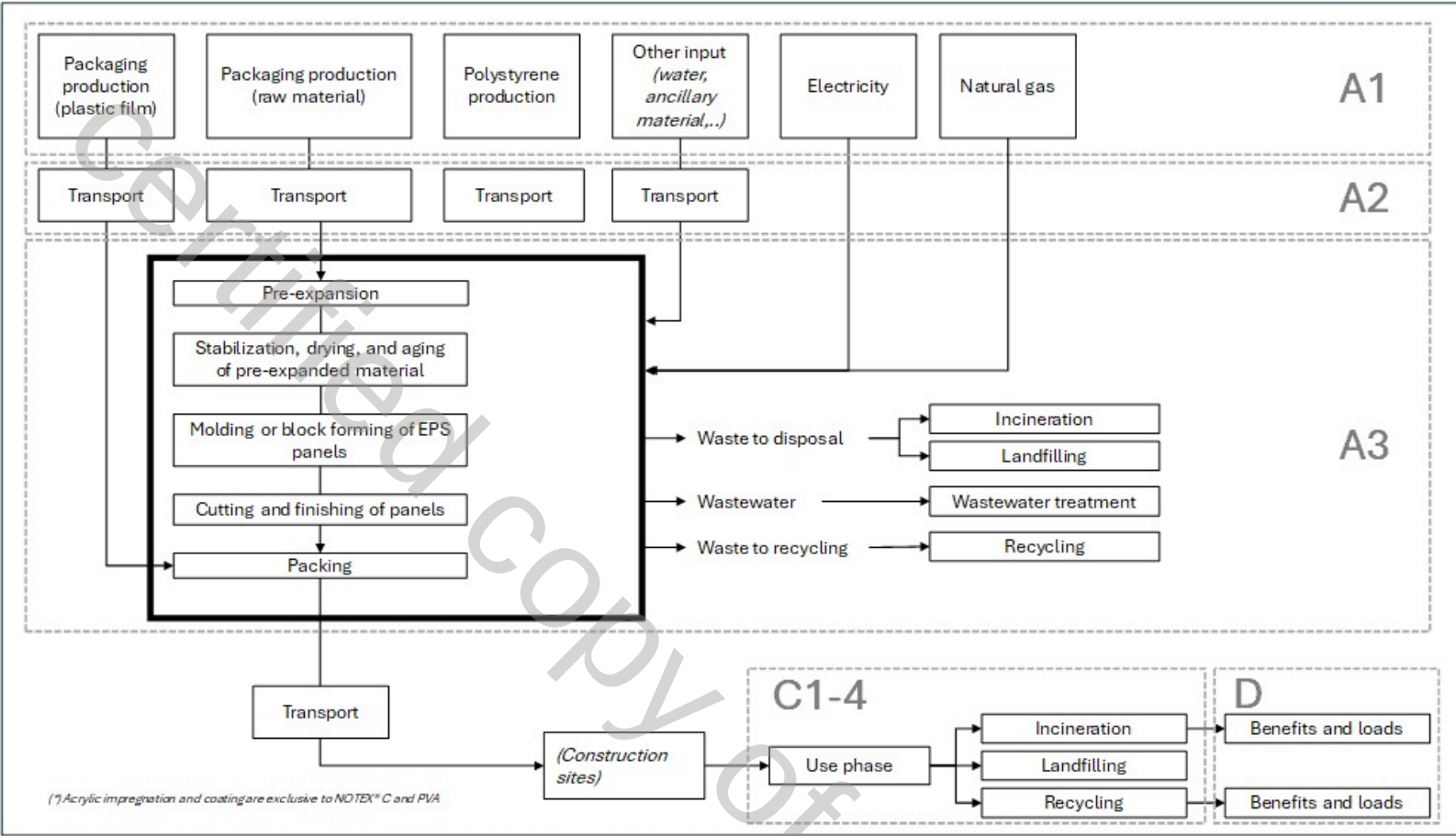
|                                                   |                                    |
|---------------------------------------------------|------------------------------------|
| Method used to calculate residual electricity mix | IT residual mix, source AIB (2023) |
|---------------------------------------------------|------------------------------------|

SYSTEM BOUNDARY

|                                    |                                                                                                                           |
|------------------------------------|---------------------------------------------------------------------------------------------------------------------------|
| Description of the System boundary | b) Cradle to gate with options, modules C1-C4, module D and with optional modules (A1-A3 + C + D and additional modules). |
| Excluded modules                   | No, there is no excluded module, or there are no excluded modules                                                         |

|                        | Product stage                                                                                              |           |               | Construction process stage |                           | Use stage |             |        |             |               |                        |                       | End of life stage          |           |                  |          | Beyond product life cycle          |
|------------------------|------------------------------------------------------------------------------------------------------------|-----------|---------------|----------------------------|---------------------------|-----------|-------------|--------|-------------|---------------|------------------------|-----------------------|----------------------------|-----------|------------------|----------|------------------------------------|
|                        | Raw material supply                                                                                        | Transport | Manufacturing | Transport to site          | 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                         | ND        | ND          | ND     | ND          | ND            | ND                     | ND                    | X                          | X         | X                | X        | X                                  |
| Geography              | Europe                                                                                                     | Europe    | Europe        | Europe                     | Europe                    | N/A       | N/A         | N/A    | N/A         | N/A           | N/A                    | N/A                   | Global                     | Europe    | Europe           | Europe   | Europe                             |
| Share of specific data | 12.52%                                                                                                     |           |               | -                          | -                         | -         | -           | -      | -           | -             | -                      | -                     | -                          | -         | -                | -        | -                                  |
| Variation - products   | 83%                                                                                                        |           |               | -                          | -                         | -         | -           | -      | -           | -             | -                      | -                     | -                          | -         | -                | -        | -                                  |
| Variation - sites      | 0%                                                                                                         |           |               | -                          | -                         | -         | -           | -      | -           | -             | -                      | -                     | -                          | -         | -                | -        | -                                  |
| Disclaimer             | The share of specific/primary data and both variations (products and sites) refer to GWP-GHG results only. |           |               |                            |                           |           |             |        |             |               |                        |                       |                            |           |                  |          |                                    |

Process flow diagram(s) related images



## DEFAULT SCENARIO

|                                     |                                                                                                                                                                                                                                                                             |
|-------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Name of the default scenario        | Construction, use (installation) and end-of-life scenario for EPS insulation boards                                                                                                                                                                                         |
| Description of the default scenario | The scenario covers the transport of EPS insulation boards to the construction site (A4), their installation in building applications (A5), and the end-of-life treatment of the product (C), including transport, waste processing, and final disposal or recovery routes. |

### Module A4: Transport to the building site

|                                                       |                                                                                                                                                                                                                                                                                               |
|-------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Explanatory name of the default scenario in module A4 | Transport to site                                                                                                                                                                                                                                                                             |
| Description of the default scenario in module A4      | To calculate the impacts of transporting the finished product to the installation site, it was considered that this transport takes place by truck or ship. The countries of destination of the finished product are Italy or Spain, so also at this stage a precise distance was considered. |

### Module A5: Installation in the building

|                                                       |                                                                                                                                                                                                                                                               |
|-------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Explanatory name of the default scenario in module A5 | Installation of EPS                                                                                                                                                                                                                                           |
| Description of the default scenario in module A5      | The installation phase has no direct environmental impact as it is done manually. The only accountable impacts, in this case, derive from the plastic film with which the EPS panels are packaged to be shipped and which at this stage is sent for disposal. |

### Reference service life

|                                                               |           |
|---------------------------------------------------------------|-----------|
| Description of the default scenario in reference service life | 100 years |
|---------------------------------------------------------------|-----------|

## Module C: End-of-life

|                                                      |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |
|------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Explanatory name of the default scenario in module C | End-of-Life                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |
| Description of the default scenario in module C      | <p>C1: for the demolition/deconstruction phase of the material, the use of a diesel-powered machine with a power of 1,1 kWh per tonne of material was considered, as indicated in table 4 of PCR 2019:14.</p> <p>C2: the distance for transport from the de-installation site to the waste treatment site was considered to be 130 km, as indicated in Table 4 of PCR 2019:14.</p> <p>C3-C4: for the waste treatment phase, different percentages of recycling, energy recovery and landfill disposal were considered, distinguishing them for Italy and Spain on the basis of data from technical literature (UEMEPS study). For Italy a percentage of 8% recycled material, 30% energy recovery and 62% landfill disposal were assumed. For Spain, 6% of the waste material is sent for recycling, 22% for energy recovery and the remaining fraction, 72%, for disposal in landfills.</p> |

## Module D: Beyond product life cycle

|                                                      |                                                                                                                                                                                                           |
|------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Explanatory name of the default scenario in module D | Benefits and loads                                                                                                                                                                                        |
| Description of the default scenario in module D      | In this phase of the life cycle, the benefit deriving from energy recovery and material recycling was considered, against the impact of the treatment of waste up to the state of secondary raw material. |

## ADDITIONAL SCENARIO 1

|                                        |                                                    |
|----------------------------------------|----------------------------------------------------|
| Name of the additional scenario        | 100% recycling                                     |
| Description of the additional scenario | Scenario with 100% recycling of the product at EoL |

## Module A4: Transport to the building site

|                                                     |                        |
|-----------------------------------------------------|------------------------|
| Description of the additional scenario in module A4 | As in default scenario |
|-----------------------------------------------------|------------------------|

## Module A5: Installation in the building

|                                                     |                        |
|-----------------------------------------------------|------------------------|
| Description of the additional scenario in module A5 | As in default scenario |
|-----------------------------------------------------|------------------------|

## Module C: End-of-life

|                                                    |                                                    |
|----------------------------------------------------|----------------------------------------------------|
| Description of the additional scenario in module C | Scenario with 100% recycling of the product at EoL |
|----------------------------------------------------|----------------------------------------------------|

| Module C information  | Value | Unit |
|-----------------------|-------|------|
| EPS insulation boards | 1     | kg   |

## Module D: Beyond product life cycle

|                                                    |                                           |
|----------------------------------------------------|-------------------------------------------|
| Description of the additional scenario in module D | 100% material recovery (recycling of EPS) |
|----------------------------------------------------|-------------------------------------------|

| Module D information                 | Value | Unit |
|--------------------------------------|-------|------|
| Material recovery (recycling of EPS) | EPS   | N/A  |

## ADDITIONAL SCENARIO 2

|                                        |                                          |
|----------------------------------------|------------------------------------------|
| Name of the additional scenario        | 100% landfilling                         |
| Description of the additional scenario | 100% of the product is landfilled at EoL |

## Module A4: Transport to the building site

|                                                     |                        |
|-----------------------------------------------------|------------------------|
| Description of the additional scenario in module A4 | As in default scenario |
|-----------------------------------------------------|------------------------|

## Module A5: Installation in the building

|                                                     |                        |
|-----------------------------------------------------|------------------------|
| Description of the additional scenario in module A5 | As in default scenario |
|-----------------------------------------------------|------------------------|

## Module C: End-of-life

|                                                    |                                          |
|----------------------------------------------------|------------------------------------------|
| Description of the additional scenario in module C | 100% of the product is landfilled at EoL |
|----------------------------------------------------|------------------------------------------|

| Module C information | Value | Unit |
|----------------------|-------|------|
| Landfilling          | 1     | kg   |

## Module D: Beyond product life cycle

|                                                    |                         |
|----------------------------------------------------|-------------------------|
| Description of the additional scenario in module D | No activity in module D |
|----------------------------------------------------|-------------------------|

### ADDITIONAL SCENARIO 3

|                                        |                                                                |
|----------------------------------------|----------------------------------------------------------------|
| Name of the additional scenario        | 100% incineration                                              |
| Description of the additional scenario | 100% of the product is incinerated with energy recovery at EoL |

### Module A4: Transport to the building site

|                                                     |                        |
|-----------------------------------------------------|------------------------|
| Description of the additional scenario in module A4 | As in default scenario |
|-----------------------------------------------------|------------------------|

### Module A5: Installation in the building

|                                                     |                        |
|-----------------------------------------------------|------------------------|
| Description of the additional scenario in module A5 | As in default scenario |
|-----------------------------------------------------|------------------------|

### Module C: End-of-life

|                                                    |                                                                |
|----------------------------------------------------|----------------------------------------------------------------|
| Description of the additional scenario in module C | 100% of the product is incinerated with energy recovery at EoL |
|----------------------------------------------------|----------------------------------------------------------------|

| Module C information              | Value | Unit |
|-----------------------------------|-------|------|
| Incineration with energy recovery | 1     | kg   |

### Module D: Beyond product life cycle

|                                                    |                            |
|----------------------------------------------------|----------------------------|
| Description of the additional scenario in module D | 100% material incineration |
|----------------------------------------------------|----------------------------|

ENVIRONMENTAL PERFORMANCE

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.

Mandatory environmental performance indicators according to EN 15804

| Impact category                                      | Indicator                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     | Unit                              | A1-A3   | A4      | A5       | B1 | B2 | B3 | B4 | B5 | B6 | B7 | C1       | C2       | C3       | C4       | D        |
|------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------|---------|---------|----------|----|----|----|----|----|----|----|----------|----------|----------|----------|----------|
| Climate change - total                               | GWP-total                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     | kg CO <sub>2</sub> eq.            | 6.82E+0 | 8.05E-2 | 7.76E-2  | ND | ND | ND | ND | ND | ND | ND | 6.91E-4  | 4.38E-2  | 2.06E-4  | 1.76E+0  | -4.09E-1 |
| Climate change - fossil                              | GWP-fossil                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    | kg CO <sub>2</sub> eq.            | 6.75E+0 | 8.04E-2 | 7.76E-2  | ND | ND | ND | ND | ND | ND | ND | 6.90E-4  | 4.38E-2  | 1.96E-4  | 1.76E+0  | -4.06E-1 |
| Climate change - biogenic                            | GWP-biogenic                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  | kg CO <sub>2</sub> eq.            | 7.21E-2 | 5.46E-5 | 4.45E-6  | ND | ND | ND | ND | ND | ND | ND | 7.54E-8  | 3.00E-5  | 9.47E-6  | 2.14E-4  | -3.32E-3 |
| Climate change - land use and land-use change        | GWP-luluc                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     | kg CO <sub>2</sub> eq.            | 5.11E-4 | 2.64E-5 | 5.79E-7  | ND | ND | ND | ND | ND | ND | ND | 5.99E-8  | 1.43E-5  | 7.82E-8  | 4.15E-6  | -6.29E-7 |
| Ozone depletion                                      | ODP                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           | kg CFC-11 eq.                     | 1.01E-7 | 1.60E-9 | 3.08E-11 | ND | ND | ND | ND | ND | ND | ND | 1.06E-11 | 8.71E-10 | 3.69E-12 | 5.87E-10 | -4.45E-9 |
| Acidification                                        | AP                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            | mol H <sup>+</sup> eq.            | 2.22E-2 | 2.66E-4 | 1.49E-5  | ND | ND | ND | ND | ND | ND | ND | 6.23E-6  | 1.37E-4  | 1.18E-6  | 2.62E-4  | -1.48E-3 |
| Eutrophication aquatic freshwater                    | EP-freshwater                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 | kg P eq.                          | 3.00E-4 | 5.35E-6 | 1.72E-7  | ND | ND | ND | ND | ND | ND | ND | 2.02E-8  | 2.92E-6  | 1.98E-8  | 2.12E-6  | -1.18E-5 |
| Eutrophication aquatic marine                        | EP-marine                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     | kg N eq.                          | 3.65E-3 | 8.81E-5 | 1.38E-5  | ND | ND | ND | ND | ND | ND | ND | 2.89E-6  | 4.62E-5  | 4.34E-7  | 8.49E-4  | -2.24E-4 |
| Eutrophication terrestrial                           | EP-terrestrial                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                | mol N eq.                         | 3.87E-2 | 9.59E-4 | 7.13E-5  | ND | ND | ND | ND | ND | ND | ND | 3.16E-5  | 5.02E-4  | 4.74E-6  | 1.32E-3  | -2.40E-3 |
| Photochemical ozone formation                        | POCP                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          | kg NMVOC eq.                      | 8.26E-2 | 4.03E-4 | 2.23E-5  | ND | ND | ND | ND | ND | ND | ND | 9.43E-6  | 2.15E-4  | 1.51E-6  | 4.02E-4  | -1.29E-3 |
| Depletion of abiotic resources - minerals and metals | ADP-minerals&metals <sup>1</sup>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              | kg Sb eq.                         | 3.36E-6 | 2.56E-7 | 4.10E-9  | ND | ND | ND | ND | ND | ND | ND | 2.46E-10 | 1.40E-7  | 2.38E-10 | 4.65E-8  | -4.23E-8 |
| Depletion of abiotic resources - fossil fuels        | ADP-fossil <sup>1</sup>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       | MJ, net calorific value           | 1.56E+2 | 1.13E+0 | 2.31E-2  | ND | ND | ND | ND | ND | ND | ND | 9.03E-3  | 6.15E-1  | 2.99E-3  | 3.68E-1  | -9.74E+0 |
| Water use                                            | WDP <sup>1</sup>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              | m <sup>3</sup> world eq. deprived | 4.58E+0 | 4.61E-3 | -4.28E-3 | ND | ND | ND | ND | ND | ND | ND | 1.96E-5  | 2.52E-3  | 8.16E-5  | -3.19E-3 | -3.21E-1 |
| 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 |                                   |         |         |          |    |    |    |    |    |    |    |          |          |          |          |          |
| General disclaimer                                   | The results of the end-of-life stage (modules C1-C4) should be considered when using the results of the product stage (modules A1-A3/A1-A5 for services).                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |                                   |         |         |          |    |    |    |    |    |    |    |          |          |          |          |          |
| Disclaimer 1                                         | 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 environmental performance indicators

| Impact category          | Indicator                                                                                                                                                                                                                                                                                                                                  | Unit                   | A1-A3   | A4      | A5      | B1 | B2 | B3 | B4 | B5 | B6 | B7 | C1      | C2      | C3      | C4      | D        |
|--------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------|---------|---------|---------|----|----|----|----|----|----|----|---------|---------|---------|---------|----------|
| Climate change - GWP-GHG | GWP-GHG <sup>1</sup>                                                                                                                                                                                                                                                                                                                       | kg CO <sub>2</sub> eq. | 6.78E+0 | 8.04E-2 | 7.76E-2 | ND | ND | ND | ND | ND | ND | ND | 6.91E-4 | 4.38E-2 | 1.97E-4 | 1.76E+0 | -4.07E-1 |
| Acronyms                 | GWP-GHG = Global warming potential greenhouse gas.                                                                                                                                                                                                                                                                                         |                        |         |         |         |    |    |    |    |    |    |    |         |         |         |         |          |
| General disclaimer       | The results of the end-of-life stage (modules C1-C4) should be considered when using the results of the product stage (modules A1-A3/A1-A5 for services).                                                                                                                                                                                  |                        |         |         |         |    |    |    |    |    |    |    |         |         |         |         |          |
| Disclaimer 1             | The GWP-GHG indicator is termed GWP-IOBC/GHG in the ILCD+EPD+ data format. The 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. |                        |         |         |         |    |    |    |    |    |    |    |         |         |         |         |          |

Additional voluntary environmental performance indicators according to EN 15804

| Impact category                       | Indicator                                                                                                                                                                                                                                                                                                                                                                                                                       | Unit              | A1-A3   | A4      | A5       | B1 | B2 | B3 | B4 | B5 | B6 | B7 | C1       | C2       | C3       | C4       | D         |
|---------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------|---------|---------|----------|----|----|----|----|----|----|----|----------|----------|----------|----------|-----------|
| Particulate matter emissions          | PM                                                                                                                                                                                                                                                                                                                                                                                                                              | Disease incidence | 2.47E-7 | 6.29E-9 | 1.55E-10 | ND | ND | ND | ND | ND | ND | ND | 1.77E-10 | 3.44E-9  | 2.46E-11 | 2.59E-9  | -1.60E-8  |
| Ionizing radiation - human health     | IRP <sup>1</sup>                                                                                                                                                                                                                                                                                                                                                                                                                | kBq U235 eq.      | 4.20E-2 | 1.44E-3 | 2.68E-5  | ND | ND | ND | ND | ND | ND | ND | 4.05E-6  | 7.89E-4  | 1.83E-5  | 6.32E-4  | -9.82E-5  |
| Eco-toxicity - freshwater             | ETP-fw <sup>2</sup>                                                                                                                                                                                                                                                                                                                                                                                                             | CTUe              | 1.19E+1 | 6.04E-1 | 7.53E-2  | ND | ND | ND | ND | ND | ND | ND | 2.56E-3  | 3.30E-1  | 7.62E-4  | 2.96E+0  | -2.76E-1  |
| Human toxicity - cancer effects       | HTP-c <sup>2</sup>                                                                                                                                                                                                                                                                                                                                                                                                              | CTUh              | 9.03E-9 | 1.12E-9 | 3.18E-11 | ND | ND | ND | ND | ND | ND | ND | 5.40E-12 | 6.12E-10 | 1.17E-12 | 5.05E-10 | -5.84E-11 |
| Human toxicity - non-cancer effects   | HTP-nc <sup>2</sup>                                                                                                                                                                                                                                                                                                                                                                                                             | CTUh              | 2.33E-8 | 1.40E-9 | 3.16E-10 | ND | ND | ND | ND | ND | ND | ND | 2.23E-12 | 7.67E-10 | 1.22E-12 | 6.30E-9  | -7.64E-10 |
| Land-use related impacts/soil quality | SQP <sup>2</sup>                                                                                                                                                                                                                                                                                                                                                                                                                | Dimensionless     | 4.78E+0 | 6.68E-1 | 2.59E-2  | ND | ND | ND | ND | ND | ND | ND | 6.35E-4  | 3.66E-1  | 3.99E-4  | 6.48E-1  | -7.49E-3  |
| Acronyms                              | PM = Potential incidence of disease due to particulate matter emissions; IRP = Potential human exposure efficiency relative to U235; ETP-fw = Potential comparative toxic unit for ecosystems; HTP-c = Potential comparative toxic unit for humans; HTP-nc = Potential comparative toxic unit for humans; SQP = Potential soil quality index.                                                                                   |                   |         |         |          |    |    |    |    |    |    |    |          |          |          |          |           |
| General disclaimer                    | The results of the end-of-life stage (modules C1-C4) should be considered when using the results of the product stage (modules A1-A3/A1-A5 for services).                                                                                                                                                                                                                                                                       |                   |         |         |          |    |    |    |    |    |    |    |          |          |          |          |           |
| Disclaimer 1                          | 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. |                   |         |         |          |    |    |    |    |    |    |    |          |          |          |          |           |
| Disclaimer 2                          | 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.                                                                                                                                                                                                                                                 |                   |         |         |          |    |    |    |    |    |    |    |          |          |          |          |           |

Resource use indicators according to EN 15804

| Indicator          | Unit                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       | A1-A3   | A4      | A5       | B1 | B2 | B3 | B4 | B5 | B6 | B7 | C1      | C2      | C3      | C4       | D        |
|--------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------|---------|----------|----|----|----|----|----|----|----|---------|---------|---------|----------|----------|
| PERE               | MJ, net calorific value                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    | 9.60E-1 | 3.23E-2 | 4.05E-4  | ND | ND | ND | ND | ND | ND | ND | 5.38E-5 | 1.01E-2 | 6.20E-4 | 1.08E-2  | -4.63E-2 |
| PERM               | MJ, net calorific value                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    | 2.42E-1 | 0.00E+0 | 0.00E+0  | ND | ND | ND | ND | ND | ND | ND | 0.00E+0 | 0.00E+0 | 0.00E+0 | 0.00E+0  | 0.00E+0  |
| PERT               | MJ, net calorific value                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    | 1.20E+0 | 3.23E-2 | 4.05E-4  | ND | ND | ND | ND | ND | ND | ND | 5.38E-5 | 1.01E-2 | 6.20E-4 | 1.08E-2  | -4.63E-2 |
| PENRE              | MJ, net calorific value                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    | 8.60E+1 | 1.98E+0 | 2.32E-2  | ND | ND | ND | ND | ND | ND | ND | 9.03E-3 | 6.15E-1 | 2.99E-3 | 3.68E-1  | -9.74E+0 |
| PENRM              | MJ, net calorific value                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    | 7.31E+1 | 0.00E+0 | 0.00E+0  | ND | ND | ND | ND | ND | ND | ND | 0.00E+0 | 0.00E+0 | 0.00E+0 | 0.00E+0  | 0.00E+0  |
| PENRT              | MJ, net calorific value                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    | 1.59E+2 | 1.98E+0 | 2.32E-2  | ND | ND | ND | ND | ND | ND | ND | 9.03E-3 | 6.15E-1 | 2.99E-3 | 3.68E-1  | -9.74E+0 |
| SM                 | kg                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         | 2.64E-1 | 0.00E+0 | 0.00E+0  | ND | ND | ND | ND | ND | ND | ND | 0.00E+0 | 0.00E+0 | 0.00E+0 | 0.00E+0  | 0.00E+0  |
| RSF                | MJ, net calorific value                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    | 0.00E+0 | 0.00E+0 | 0.00E+0  | ND | ND | ND | ND | ND | ND | ND | 0.00E+0 | 0.00E+0 | 0.00E+0 | 0.00E+0  | 0.00E+0  |
| NRSF               | MJ, net calorific value                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    | 0.00E+0 | 0.00E+0 | 0.00E+0  | ND | ND | ND | ND | ND | ND | ND | 0.00E+0 | 0.00E+0 | 0.00E+0 | 0.00E+0  | 0.00E+0  |
| FW                 | m³                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         | 1.09E-1 | 2.67E-4 | -9.50E-5 | ND | ND | ND | ND | ND | ND | ND | 5.77E-7 | 8.34E-5 | 2.11E-6 | -4.64E-3 | -7.53E-3 |
| 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 resources; SM = Use of secondary material; RSF = Use of renewable secondary fuels; NRSF = Use of non-renewable secondary fuels; FW = Use of net fresh water. |         |         |          |    |    |    |    |    |    |    |         |         |         |          |          |
| General disclaimer | The results of the end-of-life stage (modules C1-C4) should be considered when using the results of the product stage (modules A1-A3/A1-A5 for services).                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |         |         |          |    |    |    |    |    |    |    |         |         |         |          |          |

Waste indicators according to EN 15804

| Indicator          | Unit                                                                                                                                                      | A1-A3   | A4      | A5      | B1 | B2 | B3 | B4 | B5 | B6 | B7 | C1       | C2      | C3      | C4      | D        |
|--------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------|---------|---------|---------|----|----|----|----|----|----|----|----------|---------|---------|---------|----------|
| HWD                | kg                                                                                                                                                        | 5.54E-3 | 4.88E-5 | 5.03E-4 | ND | ND | ND | ND | ND | ND | ND | 8.24E-8  | 1.52E-5 | 4.82E-8 | 1.42E-2 | -3.81E-4 |
| NHWD               | kg                                                                                                                                                        | 2.72E-1 | 9.32E-2 | 3.04E-2 | ND | ND | ND | ND | ND | ND | ND | 5.52E-6  | 2.92E-2 | 4.93E-6 | 1.10E+0 | -1.41E-3 |
| RWD                | kg                                                                                                                                                        | 1.06E-5 | 6.27E-7 | 6.66E-9 | ND | ND | ND | ND | ND | ND | ND | 9.93E-10 | 1.96E-7 | 4.68E-9 | 1.52E-7 | -2.58E-8 |
| Acronyms           | HWD = Hazardous waste disposed; NHWD = Non-hazardous waste disposed; RWD = Radioactive waste disposed.                                                    |         |         |         |    |    |    |    |    |    |    |          |         |         |         |          |
| General disclaimer | The results of the end-of-life stage (modules C1-C4) should be considered when using the results of the product stage (modules A1-A3/A1-A5 for services). |         |         |         |    |    |    |    |    |    |    |          |         |         |         |          |

Output flow indicators according to EN 15804

| Indicator          | Unit                                                                                                                                                              | A1-A3   | A4      | A5      | B1 | B2 | B3 | B4 | B5 | B6 | B7 | C1      | C2      | C3      | C4      | D       |
|--------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------|---------|---------|----|----|----|----|----|----|----|---------|---------|---------|---------|---------|
| CRU                | kg                                                                                                                                                                | 0.00E+0 | 0.00E+0 | 0.00E+0 | ND | ND | ND | ND | ND | ND | ND | 0.00E+0 | 0.00E+0 | 0.00E+0 | 0.00E+0 | 0.00E+0 |
| MFR                | kg                                                                                                                                                                | 0.00E+0 | 0.00E+0 | 0.00E+0 | ND | ND | ND | ND | ND | ND | ND | 0.00E+0 | 0.00E+0 | 1.36E-1 | 0.00E+0 | 0.00E+0 |
| MER                | kg                                                                                                                                                                | 0.00E+0 | 0.00E+0 | 0.00E+0 | ND | ND | ND | ND | ND | ND | ND | 0.00E+0 | 0.00E+0 | 0.00E+0 | 0.00E+0 | 0.00E+0 |
| EEE                | MJ, net calorific value                                                                                                                                           | 0.00E+0 | 0.00E+0 | 0.00E+0 | ND | ND | ND | ND | ND | ND | ND | 0.00E+0 | 0.00E+0 | 0.00E+0 | 0.00E+0 | 0.00E+0 |
| EET                | MJ, net calorific value                                                                                                                                           | 0.00E+0 | 0.00E+0 | 0.00E+0 | ND | ND | ND | ND | ND | ND | ND | 0.00E+0 | 0.00E+0 | 0.00E+0 | 0.00E+0 | 0.00E+0 |
| Acronyms           | CRU = Components for re-use; MFR = Materials for recycling; MER = Materials for energy recovery; EEE = Exported electrical energy; EET = Exported thermal energy. |         |         |         |    |    |    |    |    |    |    |         |         |         |         |         |
| General disclaimer | The results of the end-of-life stage (modules C1-C4) should be considered when using the results of the product stage (modules A1-A3/A1-A5 for services).         |         |         |         |    |    |    |    |    |    |    |         |         |         |         |         |

# ADDITIONAL ENVIRONMENTAL INFORMATION

The recycled material content of “Converto 31 G Plus” is certified under the ReMade scheme.

The certificate, issued by Istituto Giordano S.p.A. [Accredited Certification Body], confirms a recycled material content of 15%.

This information constitutes complementary data to this EPD and is not included in the LCA results or in the environmental indicators reported above.

Certificate of conformity: N. 326/CP/1

## Products:

- Converto 31 G Plus
- Converto Fonostop
- EPS 31 G Max R
- EPS 31 G 100 Fix R

## Class identity: C

## Composition (applicable to all products):

- Total amount: 15%
- Recycled material post consumer: 15%
- Recovered material: 0%
- By-internal product material: 0%
- By-external product material: 0%

above values are identical for all listed products.

LCA result of one declared unit product

| (A-C)         | Unit          | Min      | Representative | Max      |
|---------------|---------------|----------|----------------|----------|
| GWP- total    | kg CO2 eq.    | 1,46E+00 | 8,78E+00       | 2,20E+01 |
| GWP-fossil    | kg CO2 eq.    | 1,45E+00 | 8,71E+00       | 2,18E+01 |
| GWP-biogenic  | kg CO2 eq.    | 1,21E-02 | 7,25E-02       | 1,81E-01 |
| GWP- luluc    | kg CO2 eq.    | 9,27E-05 | 5,56E-04       | 1,39E-03 |
| ODP           | kg CFC 11 eq. | 1,74E-08 | 1,04E-07       | 2,60E-07 |
| AP            | mol H+ eq.    | 3,82E-03 | 2,29E-02       | 5,72E-02 |
| EP-freshwater | kg P eq.      | 5,18E-05 | 3,11E-04       | 7,77E-04 |

|                     |              |          |          |          |
|---------------------|--------------|----------|----------|----------|
| EP-marine           | kg N eq.     | 7,75E-04 | 4,65E-03 | 1,16E-02 |
| EP-terrestrial      | mol N eq.    | 6,93E-03 | 4,16E-02 | 1,04E-01 |
| POCP                | kg NMVOC eq. | 1,39E-02 | 8,36E-02 | 2,09E-01 |
| ADP-minerals&metals | kg Sb eq.    | 6,34E-07 | 3,80E-06 | 9,51E-06 |
| ADP-fossil          | kg CO2 eq.   | 2,63E+01 | 1,58E+02 | 3,95E+02 |
| WDP                 | kg CO2 eq.   | 7,63E-01 | 4,58E+00 | 1,15E+01 |
| GWP-GHG             | kg CO2 eq.   | 1,46E+00 | 8,74E+00 | 2,19E+01 |

## INFORMATION RELATED TO EPDS OF MULTIPLE PRODUCTS

|                                              |                                                                                                                                                                                                                                                                                                                                                                                                                           |
|----------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Justification for why this is representative | <p>The EPD is based on a representative product named Converto 31 BW that is 12 cm thick.</p> <p>Although the best-selling product was the one with a thickness of 14 cm in the reference period, the company chose to conduct the study on the thickness of 12 cm to ensure comparability of environmental results between the LCA report of the CONVERTO 31 G PLUS product, CONVERTO 31 BW and the CONVERTO 35-100.</p> |
|----------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|

## ABBREVIATIONS

### General Abbreviations

- EN – European Norm (Standard)
- EPD – Environmental Product Declaration
- EF – Environmental Footprint
- GPI – General Programme Instructions
- ISO – International Organization for Standardization
- LCA – Life Cycle Assessment
- PCR – Product Category Rules
- c-PCR – Complementary Product Category Rules
- CEN – European Committee for Standardization
- CLC – Co-location centre
- CPC – Central product classification
- GHS – Globally Harmonized System of Classification and Labelling of Chemicals
- GRI – Global Reporting Initiative

### Lifecycle Stages / Modules

A1 – Raw material supply

A2 – Transport

A3 – Manufacturing

A4 – Transport to site

A5 – Construction/Installation

B1 – Use

B2 – Maintenance

B3 – Repair

B4 – Replacement

B5 – Refurbishment

B6 – Operational energy use

B7 – Operational water use

C1 – Deconstruction/Demolition

C2 – Transport to waste processing

C3 – Waste processing

C4 – Disposal

D – Reuse-Recovery-Recycling potential

**Other Relevant Terms**

SVHC – Substances of Very High Concern

EC No. – European Community Number

CAS No. – Chemical Abstracts Service Number

MJ – Megajoule

kg – Kilogram

m<sup>3</sup> – Cubic Meter

NMVOC – Non-Methane Volatile Organic Compounds

Sb eq. – Antimony Equivalents

P eq. – Phosphorus Equivalents

N eq. – Nitrogen Equivalents

CFC-11 eq. – Chlorofluorocarbon-11 Equivalents

- CO<sub>2</sub> eq. – Carbon Dioxide Equivalents
- kg C – Kilograms of Carbon
- kg CO<sub>2</sub> eq. – Kilograms of Carbon Dioxide Equivalent
- ND – Not Declared

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## REFERENCES

- a) General Programme Instructions of International EPD System. Version 5.0.1
- b) PCR 2019:14. Version 2.0.1 valid until: 2030-04-07
- c) 2019:14-c-PCR-005 Thermal insulation products (EN 16783) (c-PCR to PCR 2019:14) 1.0.0
- d) EN+15804-2012+A2-2019
- e) EN+15804-2012+A2-2019+AC+2021
- f) ISO 14025:2006
- g) Report LCA "LCA Report Life cycle study of the EPS panel of the product family CONVERTO 31 G PLUS with thickness range from 2 to 30 cm", version02

## VERSION HISTORY

2026-03-26

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