

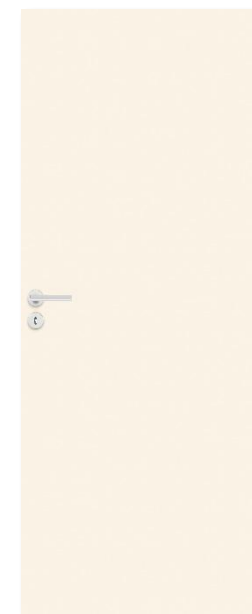
## ENVIRONMENTAL PRODUCT DECLARATION

IN ACCORDANCE WITH EN 15804+A2 & ISO 14025 / ISO 21930

### SWEDOOR ADVANCE LINE

INTERIOR UNCLASSIFIED DOORS 40 MM UNGLAZED, STEADY

### JELD-WEN



EPD HUB, EPD number HUB-1517

Published on 19.05.2026, last updated on 19.05.2026, valid until 18.05.2031

Life Cycle Assessment study has been performed in accordance with the requirements of EN 15804, EPD Hub PCR version 1.2 (24 Mar 2025) and JRC characterization factors EF 3.1.



## GENERAL INFORMATION

### MANUFACTURER

|                        |   |
|------------------------|---|
| <b>Manufacturer</b>    | JELD-WEN  |
| <b>Address</b>         | Retford Road, Woodhouse Mill, Sheffield, South Yorkshire, S13 9WH, UK |
| <b>Contact details</b> | EU_Sustainability@jeldwen.com   |
| <b>Website</b>         | www.jeld-wen.biz  |

### EPD STANDARDS, SCOPE AND VERIFICATION

|                           |  |
|---------------------------|--|
| <b>Program operator</b>   | EPD Hub, hub@epdhub.com  |
| <b>Reference standard</b> | EN 15804:2012+A2:2019/AC:2021 and ISO 14025  |
| <b>PCR</b>                | EPD Hub Core PCR Version 1.2, 24 Mar 2025<br>EN 17213 Windows and doors  |
| <b>Sector</b>             | Construction product   |
| <b>Category of EPD</b>    | Third party verified EPD   |
| <b>Scope of the EPD</b>   | Cradle to gate with options, A4-A5, and modules C1-C4, D   |
| <b>EPD author</b>         | Susanna Käsnänen   |
| <b>EPD verification</b>   | Independent verification of this EPD and data, according to ISO 14025:<br><input type="checkbox"/> Internal verification <input checked="" type="checkbox"/> External verification |
| <b>EPD verifier</b>       | Yazan Badour as an authorized verifier for EPD Hub   |

This EPD is intended for business-to-business and/or business-to-consumer communication. The manufacturer has the sole ownership, liability, and responsibility for the EPD. EPDs within the same product category but from different programs may not be comparable. EPDs of construction products may not be comparable if they do not comply with EN 15804 and if they are not compared in a building context.

### PRODUCT

|  |   |
|--|---|
| <b>Product name</b>                          | Swedoor ADVANCE-LINE Interior unclassified doors 40 mm unglazed, Steady |
| <b>Additional labels</b>                     | Swedoor Steady  |
| <b>Place of raw material origin</b>          | Europe, Global  |
| <b>Place of production</b>                   | Kuopio, Finland   |
| <b>Place of installation and use</b>         | Nordics   |
| <b>Period for data</b>                       | Calendar year 2025  |
| <b>Averaging in EPD</b>                      | No averaging  |
| <b>Variation in GWP-fossil for A1-A3 (%)</b> | 0 %   |
| <b>A1-A3 Specific data (%)</b>               | 90,9  |

### ENVIRONMENTAL DATA SUMMARY

|  |                  |
|--|------------------|
| <b>Declared unit</b>                             | one square meter |
| <b>Declared unit mass</b>                        | 14,51 kg         |
| <b>Mass of packaging</b>                         | 0,594 kg         |
| <b>GWP-fossil, A1-A3 (kgCO<sub>2</sub>e)</b>     | 34,40            |
| <b>GWP-total, A1-A3 (kgCO<sub>2</sub>e)</b>      | 13,00            |
| <b>Secondary material, inputs (%)</b>            | 2,42             |
| <b>Secondary material, outputs (%)</b>           | 67,10            |
| <b>Total energy use, A1-A3 (kWh)</b>             | 169              |
| <b>Net freshwater use, A1-A3 (m<sup>3</sup>)</b> | 0,39             |

# PRODUCT AND MANUFACTURER

## ABOUT THE MANUFACTURER

Headquartered in Charlotte, N.C., USA, JELD-WEN is a leading global manufacturer of high-performance interior and exterior building products, offering one of the broadest selections of windows, interior and exterior doors, and wall systems. JELD-WEN delivers a differentiated customer experience, providing construction professionals with durable, energy-efficient products and labor-saving services that help them maximize productivity and create beautiful, secure spaces for all to enjoy. The JELD-WEN team is driven by innovation and committed to creating safe, sustainable environments for customers, associates, and local communities. The JELD-WEN family of brands includes JELD-WEN® worldwide; LaCantina™ and VPI™ in North America; Swedoor® and DANA® in Europe. Visit JELD-WEN.com for more information.

## PRODUCT DESCRIPTION

Advance-line interior 40mm rebated doorleaf with a solid structure. The core of the door is tubular particleboard, and the surface HDF board. Suitable for use in both private and public buildings e.g offices, schools, and hospitals. Installing solid door leaf with a frame with sealing would give a high sound reducing effect.

The scope of this EPD is the finished doorleaf with standard hardware and it does not include the frames where door is intended to be installed. For the results of the whole set, please add the EPDs of the frame set of your choice to your project. The indicator results for the declared unit of one square meter of product in this EPD are calculated with the reference product size of 0,825 m x 2,040 m.

The specific technical standards and additional product information for each door design can be found on Swedoor website, at [www.jeld-wen.biz](http://www.jeld-wen.biz).

## PRODUCT RAW MATERIAL MAIN COMPOSITION

| Raw material category | Amount, mass- % | Material origin |
|-----------------------|-----------------|-----------------|
| Bio-based materials   | 94              | EU              |
| Fossil materials      | 4               | EU              |
| Metals                | 2               | GLOBAL          |

## BIOGENIC CARBON CONTENT

Product's biogenic carbon content at the factory gate

|  |      |
|--|------|
| Biogenic carbon content in product, kg C   | 5,29 |
| Biogenic carbon content in packaging, kg C | 0,2  |

## FUNCTIONAL UNIT AND SERVICE LIFE

|                        |                  |
|------------------------|------------------|
| Declared unit          | one square meter |
| Mass per declared unit | 14,51 kg         |

## SUBSTANCES, REACH - VERY HIGH CONCERN

The product does not contain any REACH SVHC substances in amounts greater than 0,1 % (1000 ppm).

# PRODUCT LIFE-CYCLE

## SYSTEM BOUNDARY

This EPD covers the life-cycle modules listed in the following table.

| Product stage |           |               | Assembly stage |          | Use stage |             |        |             |               |                        |                       | End of life stage |           |                  |          | Beyond the system boundaries |          |           |
|---------------|-----------|---------------|----------------|----------|-----------|-------------|--------|-------------|---------------|------------------------|-----------------------|-------------------|-----------|------------------|----------|------------------------------|----------|-----------|
| A 1           | A 2       | A 3           | A 4            | A5       | B 1       | B 2         | B 3    | B 4         | B 5           | B 6                    | B 7                   | C1                | C2        | C3               | C4       | D                            |          |           |
| x             | x         | x             | x              | x        | MND       |             |        |             |               |                        |                       | x                 | x         | x                | x        | x                            |          |           |
| Raw materials | Transport | Manufacturing | Transport      | Assembly | Use       | Maintenance | Repair | Replacement | Refurbishment | Operational energy use | Operational water use | Deconstr./demol.  | Transport | Waste processing | Disposal | Reuse                        | Recovery | Recycling |

Modules not declared = MND. Modules not relevant = MNR.

### MANUFACTURING AND PACKAGING (A1-A3)

The environmental impacts considered for the product stage cover the manufacturing of raw materials used in the production as well as packaging materials and other ancillary materials. Also, fuels used by machines, and handling of waste formed in the production processes at the manufacturing facilities are included in this stage. The study also considers the material losses occurring during the manufacturing processes as well as losses during electricity transmission.

A market-based approach is used in modelling the electricity mix utilized in the factory. The product is made of wood-based boards,

paper, metal parts, plastic parts and chemicals (glue and paint). The materials are transported to JELD-WENs production facility.

The manufacturing process begins by preparing the components, followed by gluing and pressing the components of the doorleaf together. This is followed then by different milling phases, where the product components are made to meet the correct dimensions, as well as the holes for the hardware installations and chosen edge profiles are made. Lastly, before leaving the factory, the door is equipped with the necessary hardware, stacked onto pallets along other doors (max. 20 doors per pallet) and to shield the finished product during transportation phase, the stack is protected with cardboard and plastic packaging materials. After packing, the product is ready to be shipped to end customer / construction site.

Production waste generated during manufacturing is sent to waste treatment facilities for corresponding treatment per waste. Wooden waste from cutting and sizing processes has usable energy potential and is incinerated, and any recyclable waste is sent for recycling in case of occurring. The site does not manufacture or treat glass, plastic or hardware components to create recyclable waste directly from manufacturing processes in regular manner. Glue or other chemical waste is sent to hazardous waste treatment for neutralization. There is no production waste sent directly to landfill.

### TRANSPORT AND INSTALLATION (A4-A5)

Transportation impacts occurred from final products delivery to construction site (A4) cover fuel direct exhaust emissions,

environmental impacts of fuel production, as well as related infrastructure emissions.

When considering this phase of the life-cycle, there is not only one place where the transportation from us would end, as our customers can have multiple locations between each other, thus causing variance to the transport distance and the needed vehicles. The travel distances used on the transportation data is then a theoretical value, a weighted average value for this product, which is calculated based on its previous transportation history. The assumed vehicle for the transportation is a lorry, with the vehicle capacity value of 1, meaning that the lorry is carrying a full load all around while transporting the goods, causing distortion to the results. However, when considering the overall results of the product life-cycle, the impact of the variance among transportation can be considered negligible due having a low impact to the overall results. Empty returns are considered to be out of scope, as the transportation company is considered to be out of our use, when they are not having our goods on board, and serving their other customers or routes. Material loss is not expected to take place during transportation phase due to sufficient protective packaging of our products.

Upon installing the products, the packaging materials are removed, leading to generating packaging waste. The pallet and wooden packaging materials are sent for incineration and recyclable materials (plastic) are sent for recycling. The benefits and loads of incineration and recycling are included in Module D. As the final product is only installed, there is no material loss expected to happen during installing phase nor such construction practices that would lead to material loss are needed. The installing work

consists of mounting and fastening, which can be done with hand tools. There are no extra materials needed to be used for the installing purposes. Energy use during installation has not been taken into account, as installing the door only requires mounting and fastening. No additional materials are needed for installation.

## PRODUCT USE AND MAINTENANCE (B1-B7)

Air, soil, and water impacts during the use phase have not been studied.

## PRODUCT END OF LIFE (C1-C4, D)

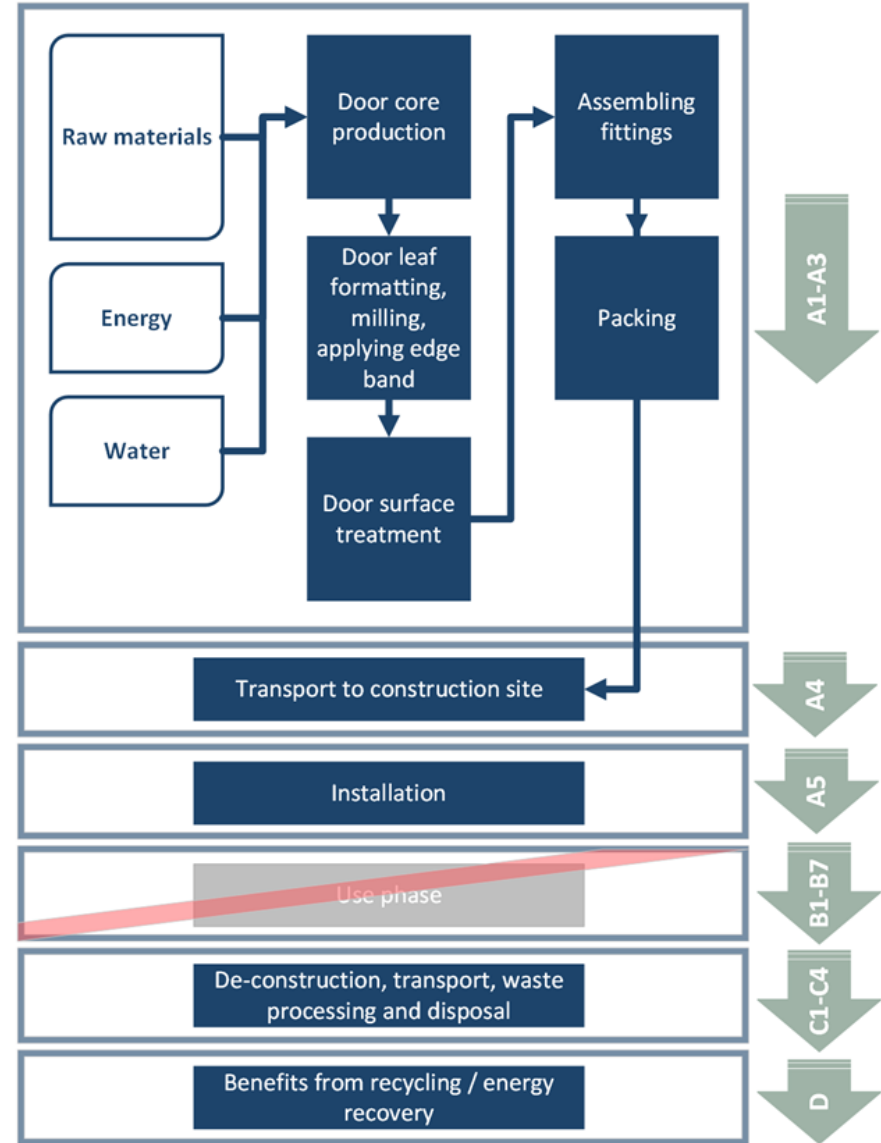
The energy and use of natural resources upon demolition process are considered negligible. Assumptions regarding the waste management are given regarding the sorting practices and transport distance. The waste collecting vehicle is assumed to a lorry and the waste is assumed to be part of the mixed construction waste- fraction. The travel distance of the lorry carrying the waste from the demolition site to the waste handling site is assumed to be 50 kilometres (C2).

Upon arriving to the waste management plant, the recyclable material of the waste and/or the energy-recovery applicable materials are separated from the waste and diverted to correct use. Per the end of life scenario of timber windows and doorsets (EN17213 Annex B), the wood, metal, plastic, paint and glue are sorted. Module C3 accounts for energy and resource inputs for sorting and treating these waste streams for recycling and incineration with energy recovery.

Per the end of life scenario of timber windows and doorsets (EN17213 Annex B), 5% of wood, 5% of metal, 5% of plastic and 5% of paint and glue waste goes to landfill. Additionally, hazardous waste that is incinerated is included in Module C4 (not included in Module D for benefits outside of the system boundary). As specific national data is not used for timber / wooden products, then according to the end of life scenario of timber windows and doorsets (EN17213 Annex B), 100% of sorted timber materials goes to incineration. The wooden pallet, wooden board, cardboard packaging and plastic packaging used during transportation are also incinerated for energy recovery or recycled.

The benefits and loads of incineration and recycling are included in Module D. Plastic and steel parts hold potential for recycling and material recovery for secondary material production purposes, that reduce the need for virgin raw materials (D) The fibreboards and wooden content of the doorleaf have great heating value and are applicable for energy production upon used as a fuel in the incineration process (D), decreasing the demand for virgin fuel production and use.

# MANUFACTURING PROCESS AND SYSTEM BOUNDARY



# LIFE-CYCLE ASSESSMENT

## CUT-OFF CRITERIA

The study does not exclude any modules or processes which are stated mandatory in the reference standard and the applied PCR. The study does not exclude any hazardous materials or substances. The study includes all major raw material and energy consumption. All inputs and outputs of the unit processes, for which data is available for, are included in the calculation. There is no neglected unit process more than 1% of total mass or energy flows. The module specific total neglected input and output flows also do not exceed 5% of energy usage or mass.

The production of capital equipment, construction activities, and infrastructure, maintenance and operation of capital equipment, personnel-related activities, energy and water use related to company management and sales activities are excluded.

## VALIDATION OF DATA

Data collection for production, transport, and packaging was conducted using time and site-specific information, as defined in the general information section on page 1 and 2. Upstream process calculations rely on generic data as defined in the Bibliography section. Manufacturer-provided specific and generic data were used for the product's manufacturing stage. The analysis was performed in One Click LCA EPD Generator, with the 'Cut-Off, EN 15804+A2' allocation method, and characterization factors according to EN 15804:2012+A2:2019/AC:2021 and JRC EF 3.1

## ALLOCATION, ESTIMATES AND ASSUMPTIONS

Allocation is required if some material, energy, and waste data cannot be measured separately for the product under investigation. All allocations are done as per the reference standards and the applied PCR. In this study, allocation has been done in the following ways:

| Data type                      | Allocation                  |
|--------------------------------|-----------------------------|
| Raw materials                  | No allocation               |
| Packaging materials            | Allocated by mass or volume |
| Ancillary materials            | Allocated by mass or volume |
| Manufacturing energy and waste | Allocated by mass or volume |

## AVERAGES AND VARIABILITY

|                                   |             |
|-----------------------------------|-------------|
| Type of grouping                  | No grouping |
| Grouping method                   | N/A         |
| Variation in GWP-fossil for A1-A3 | 0 %         |
| Higher impact                     | N/A         |
| Lower impact                      | N/A         |

This EPD is both product and factory specific.

## LCA SOFTWARE AND BIBLIOGRAPHY

This EPD has been created using One Click LCA EPD Generator. The LCA and EPD have been prepared according to the reference standards and ISO 14040/14044. Ecoinvent v3.10.1 and One Click LCA databases were used as sources of environmental data. Allocation used in Ecoinvent 3.10.1 environmental data sources follow the methodology 'allocation, Cut-off, EN 15804+A2'.

# ENVIRONMENTAL IMPACT DATA

The estimated impact results are only relative statements which do not indicate the end points of the impact categories, exceeding threshold values, safety margins or risks.

## CORE ENVIRONMENTAL IMPACT INDICATORS – EN 15804+A2, PEF

| Impact category                     | Unit                   | A1        | A2       | A3       | A1-A3     | A4       | A5       | B1 | B2 | B3 | B4 | B5 | B6 | B7 | C1       | C2       | C3       | C4       | D         |
|-------------------------------------|------------------------|-----------|----------|----------|-----------|----------|----------|----|----|----|----|----|----|----|----------|----------|----------|----------|-----------|
| GWP – total <sup>1)</sup>           | kg CO <sub>2</sub> e   | -1,06E+01 | 6,89E+00 | 1,67E+01 | 1,30E+01  | 1,26E+00 | 8,32E-01 | ND | ND | ND | ND | ND | ND | ND | 0,00E+00 | 1,41E-01 | 2,20E+01 | 1,03E+00 | 1,17E+01  |
| GWP – fossil                        | kg CO <sub>2</sub> e   | 1,38E+01  | 6,89E+00 | 1,37E+01 | 3,44E+01  | 1,26E+00 | 2,83E-02 | ND | ND | ND | ND | ND | ND | ND | 0,00E+00 | 1,40E-01 | 2,47E+00 | 4,52E-03 | -8,92E+00 |
| GWP – biogenic                      | kg CO <sub>2</sub> e   | -2,43E+01 | 1,35E-03 | 2,94E+00 | -2,14E+01 | 0,00E+00 | 8,03E-01 | ND | ND | ND | ND | ND | ND | ND | 0,00E+00 | 1,58E-06 | 1,96E+01 | 1,03E+00 | 2,06E+01  |
| GWP – LULUC                         | kg CO <sub>2</sub> e   | 1,56E-02  | 2,46E-03 | 3,97E-03 | 2,20E-02  | 4,46E-04 | 1,10E-05 | ND | ND | ND | ND | ND | ND | ND | 0,00E+00 | 4,96E-05 | 3,79E-04 | 2,58E-06 | -1,71E-02 |
| Ozone depletion                     | kg CFC <sub>11</sub> e | 3,09E-07  | 1,36E-07 | 3,47E-07 | 7,92E-07  | 2,51E-08 | 3,45E-10 | ND | ND | ND | ND | ND | ND | ND | 0,00E+00 | 2,79E-09 | 1,60E-08 | 1,31E-10 | -6,63E-08 |
| Acidification potential             | mol H <sup>+</sup> e   | 7,75E-02  | 2,59E-02 | 6,19E-02 | 1,65E-01  | 3,95E-03 | 1,37E-04 | ND | ND | ND | ND | ND | ND | ND | 0,00E+00 | 4,39E-04 | 2,10E-03 | 3,20E-05 | -6,54E-02 |
| EP-freshwater <sup>2)</sup>         | kg Pe                  | 4,39E-03  | 4,51E-04 | 2,46E-03 | 7,31E-03  | 8,37E-05 | 5,27E-06 | ND | ND | ND | ND | ND | ND | ND | 0,00E+00 | 9,31E-06 | 1,04E-04 | 3,71E-07 | -3,53E-03 |
| EP-marine                           | kg Ne                  | 1,58E-02  | 8,31E-03 | 9,29E-03 | 3,34E-02  | 1,33E-03 | 6,69E-05 | ND | ND | ND | ND | ND | ND | ND | 0,00E+00 | 1,48E-04 | 3,84E-04 | 1,22E-05 | -9,39E-03 |
| EP-terrestrial                      | mol Ne                 | 1,99E-01  | 9,06E-02 | 9,75E-02 | 3,87E-01  | 1,45E-02 | 6,19E-04 | ND | ND | ND | ND | ND | ND | ND | 0,00E+00 | 1,61E-03 | 4,04E-03 | 1,33E-04 | -1,00E-01 |
| POCP (“smog”) <sup>3)</sup>         | kg NMVOCe              | 5,43E-02  | 3,66E-02 | 3,92E-02 | 1,30E-01  | 6,19E-03 | 1,81E-04 | ND | ND | ND | ND | ND | ND | ND | 0,00E+00 | 6,89E-04 | 2,33E-03 | 4,77E-05 | -3,01E-02 |
| ADP-minerals & metals <sup>4)</sup> | kg Sbe                 | 8,41E-05  | 2,21E-05 | 5,46E-06 | 1,12E-04  | 4,13E-06 | 8,49E-08 | ND | ND | ND | ND | ND | ND | ND | 0,00E+00 | 4,59E-07 | 1,43E-06 | 7,17E-09 | -8,71E-06 |
| ADP-fossil                          | MJ                     | 2,64E+02  | 9,64E+01 | 1,63E+02 | 5,23E+02  | 1,77E+01 | 2,61E-01 | ND | ND | ND | ND | ND | ND | ND | 0,00E+00 | 1,97E+00 | 1,19E+01 | 1,11E-01 | -1,12E+02 |
| Water use <sup>5)</sup>             | m <sup>3</sup> e depr. | 1,02E+01  | 4,69E-01 | 3,63E+01 | 4,70E+01  | 8,71E-02 | 1,97E-02 | ND | ND | ND | ND | ND | ND | ND | 0,00E+00 | 9,69E-03 | 1,00E-01 | 3,20E-04 | -1,71E+00 |

1) GWP = Global Warming Potential; 2) EP = Eutrophication potential. Required characterisation method and data are in kg P-eq. Multiply by 3,07 to get PO4e; 3) POCP = Photochemical ozone formation; 4) ADP = Abiotic depletion potential; 5) EN 15804+A2 disclaimer for Abiotic depletion and Water use and optional indicators except Particulate matter and Ionizing radiation, human health. The results of these environmental impact indicators shall be used with care as the uncertainties on these results are high or as there is limited experience with the indicator.

### ADDITIONAL (OPTIONAL) ENVIRONMENTAL IMPACT INDICATORS – EN 15804+A2, PEF

| Impact category                  | Unit      | A1       | A2       | A3       | A1-A3    | A4       | A5       | B1 | B2 | B3 | B4 | B5 | B6 | B7 | C1       | C2       | C3       | C4       | D         |
|----------------------------------|-----------|----------|----------|----------|----------|----------|----------|----|----|----|----|----|----|----|----------|----------|----------|----------|-----------|
| Particulate matter               | Incidenc  | 2,03E-06 | 5,33E-07 | 5,15E-07 | 3,08E-06 | 9,93E-08 | 2,10E-09 | ND | ND | ND | ND | ND | ND | ND | 0,00E+00 | 1,10E-08 | 2,13E-08 | 7,29E-10 | -7,11E-07 |
| Ionizing radiation <sup>6)</sup> | kBq U235e | 1,90E+00 | 1,21E-01 | 2,85E+00 | 4,87E+00 | 2,26E-02 | 5,10E-04 | ND | ND | ND | ND | ND | ND | ND | 0,00E+00 | 2,52E-03 | 6,42E-02 | 6,97E-05 | -2,14E+00 |
| Ecotoxicity (freshwater)         | CTUe      | 1,84E+02 | 1,25E+01 | 1,95E+01 | 2,16E+02 | 2,33E+00 | 1,06E-01 | ND | ND | ND | ND | ND | ND | ND | 0,00E+00 | 2,59E-01 | 3,07E+00 | 9,29E-03 | -1,28E+01 |
| Human toxicity, cancer           | CTUh      | 3,90E-07 | 1,18E-09 | 3,44E-09 | 3,95E-07 | 2,15E-10 | 2,16E-11 | ND | ND | ND | ND | ND | ND | ND | 0,00E+00 | 2,39E-11 | 4,31E-09 | 8,32E-13 | -1,95E-09 |
| Human tox. non-cancer            | CTUh      | 3,22E-07 | 5,98E-08 | 6,93E-08 | 4,51E-07 | 1,11E-08 | 1,23E-09 | ND | ND | ND | ND | ND | ND | ND | 0,00E+00 | 1,24E-09 | 9,44E-09 | 1,91E-11 | -7,80E-08 |
| SQP <sup>7)</sup>                | -         | 2,00E+03 | 5,64E+01 | 9,99E+01 | 2,15E+03 | 1,06E+01 | 1,65E-01 | ND | ND | ND | ND | ND | ND | ND | 0,00E+00 | 1,17E+00 | 1,42E+00 | 2,18E-01 | -7,04E+01 |

6) EN 15804+A2 disclaimer for ionizing radiation, human health. 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; 7) SQP = Land use related impacts/soil quality.

## USE OF NATURAL RESOURCES

| Impact category          | Unit | A1       | A2       | A3        | A1-A3    | A4       | A5        | B1 | B2 | B3 | B4 | B5 | B6 | B7 | C1       | C2       | C3        | C4        | D         |
|--------------------------|------|----------|----------|-----------|----------|----------|-----------|----|----|----|----|----|----|----|----------|----------|-----------|-----------|-----------|
| Renew. PER as energy 8)  | MJ   | 1,30E+02 | 1,65E+00 | -2,62E+01 | 1,06E+02 | 3,07E-01 | -9,18E+00 | ND | ND | ND | ND | ND | ND | ND | 0,00E+00 | 3,41E-02 | -6,77E-01 | -1,09E+01 | 1,93E+02  |
| Renew. PER as material   | MJ   | 2,79E+02 | 0,00E+00 | -3,80E+01 | 2,41E+02 | 0,00E+00 | -6,78E+00 | ND | ND | ND | ND | ND | ND | ND | 0,00E+00 | 0,00E+00 | -2,23E+02 | -1,17E+01 | 0,00E+00  |
| Total use of renew. PER  | MJ   | 4,10E+02 | 1,65E+00 | -6,41E+01 | 3,47E+02 | 3,07E-01 | -1,60E+01 | ND | ND | ND | ND | ND | ND | ND | 0,00E+00 | 3,41E-02 | -2,24E+02 | -2,26E+01 | 1,93E+02  |
| Non-re. PER as energy    | MJ   | 2,28E+02 | 9,64E+01 | 1,76E+02  | 5,01E+02 | 1,77E+01 | -1,88E+00 | ND | ND | ND | ND | ND | ND | ND | 0,00E+00 | 1,97E+00 | -9,38E+00 | -1,23E-01 | -1,12E+02 |
| Non-re. PER as material  | MJ   | 4,34E+01 | 0,00E+00 | -5,54E+00 | 3,79E+01 | 0,00E+00 | -2,45E+00 | ND | ND | ND | ND | ND | ND | ND | 0,00E+00 | 0,00E+00 | -3,37E+01 | -1,77E+00 | 0,00E+00  |
| Total use of non-re. PER | MJ   | 2,72E+02 | 9,64E+01 | 1,70E+02  | 5,39E+02 | 1,77E+01 | -4,34E+00 | ND | ND | ND | ND | ND | ND | ND | 0,00E+00 | 1,97E+00 | -4,31E+01 | -1,90E+00 | -1,12E+02 |
| Secondary materials      | kg   | 3,51E-01 | 4,41E-02 | 3,40E-02  | 4,29E-01 | 8,12E-03 | 4,17E-04  | ND | ND | ND | ND | ND | ND | ND | 0,00E+00 | 9,04E-04 | 4,97E-03  | 2,79E-05  | 8,58E-02  |
| Renew. secondary fuels   | MJ   | 1,37E-01 | 5,48E-04 | 2,34E-01  | 3,72E-01 | 1,03E-04 | 2,71E-06  | ND | ND | ND | ND | ND | ND | ND | 0,00E+00 | 1,14E-05 | 1,25E-05  | 5,77E-07  | 1,59E-03  |
| Non-ren. secondary fuels | MJ   | 0,00E+00 | 0,00E+00 | 0,00E+00  | 0,00E+00 | 0,00E+00 | 0,00E+00  | ND | ND | ND | ND | ND | ND | ND | 0,00E+00 | 0,00E+00 | 0,00E+00  | 0,00E+00  | 0,00E+00  |
| Use of net fresh water   | m3   | 3,02E-01 | 1,28E-02 | 7,55E-02  | 3,90E-01 | 2,39E-03 | 1,49E-04  | ND | ND | ND | ND | ND | ND | ND | 0,00E+00 | 2,66E-04 | 1,91E-03  | 1,15E-04  | -8,84E-02 |

8) PER = Primary energy resources.

## END OF LIFE – WASTE

| Impact category   | Unit | A1       | A2       | A3       | A1-A3    | A4       | A5       | B1 | B2 | B3 | B4 | B5 | B6 | B7 | C1       | C2       | C3       | C4       | D         |
|-------------------|------|----------|----------|----------|----------|----------|----------|----|----|----|----|----|----|----|----------|----------|----------|----------|-----------|
| Hazardous waste   | kg   | 8,47E-01 | 1,38E-01 | 5,86E-01 | 1,57E+00 | 2,54E-02 | 4,27E-03 | ND | ND | ND | ND | ND | ND | ND | 0,00E+00 | 2,83E-03 | 5,08E-02 | 1,22E-04 | -9,84E-01 |
| Non-hazardous     | kg   | 2,72E+01 | 2,89E+00 | 1,94E+01 | 4,95E+01 | 5,37E-01 | 5,78E-01 | ND | ND | ND | ND | ND | ND | ND | 0,00E+00 | 5,97E-02 | 1,93E+00 | 2,80E-03 | -2,57E+01 |
| Radioactive waste | kg   | 1,72E-04 | 3,01E-05 | 3,14E-04 | 5,16E-04 | 5,62E-06 | 1,28E-07 | ND | ND | ND | ND | ND | ND | ND | 0,00E+00 | 6,25E-07 | 1,64E-05 | 1,70E-08 | -4,62E-04 |

## END OF LIFE – OUTPUT FLOWS

| Impact category               | Unit | A1       | A2       | A3       | A1-A3    | A4       | A5       | B1 | B2 | B3 | B4 | B5 | B6 | B7 | C1       | C2       | C3       | C4       | D        |
|-------------------------------|------|----------|----------|----------|----------|----------|----------|----|----|----|----|----|----|----|----------|----------|----------|----------|----------|
| Components for re-use         | kg   | 4,85E-07 | 0,00E+00 | 0,00E+00 | 4,85E-07 | 0,00E+00 | 0,00E+00 | ND | ND | ND | ND | ND | ND | ND | 0,00E+00 | 0,00E+00 | 0,00E+00 | 0,00E+00 | 0,00E+00 |
| Materials for recycling       | kg   | 8,26E-02 | 0,00E+00 | 1,02E-12 | 8,26E-02 | 0,00E+00 | 5,05E-02 | ND | ND | ND | ND | ND | ND | ND | 0,00E+00 | 0,00E+00 | 2,41E-01 | 0,00E+00 | 0,00E+00 |
| Materials for energy recovery | kg   | 5,72E-04 | 0,00E+00 | 2,44E+00 | 2,44E+00 | 0,00E+00 | 5,43E-01 | ND | ND | ND | ND | ND | ND | ND | 0,00E+00 | 0,00E+00 | 9,50E+00 | 0,00E+00 | 0,00E+00 |
| Exported energy               | MJ   | 2,07E-01 | 0,00E+00 | 3,58E+01 | 3,60E+01 | 0,00E+00 | 4,95E+00 | ND | ND | ND | ND | ND | ND | ND | 0,00E+00 | 0,00E+00 | 0,00E+00 | 0,00E+00 | 0,00E+00 |
| Exported energy - Electricity | MJ   | 0,00E+00 | 0,00E+00 | 5,39E+00 | 5,39E+00 | 0,00E+00 | 7,50E-01 | ND | ND | ND | ND | ND | ND | ND | 0,00E+00 | 0,00E+00 | 0,00E+00 | 0,00E+00 | 0,00E+00 |
| Exported energy - Heat        |      | 0,00E+00 | 0,00E+00 | 3,04E+01 | 3,04E+01 | 0,00E+00 | 4,20E+00 | ND | ND | ND | ND | ND | ND | ND | 0,00E+00 | 0,00E+00 | 0,00E+00 | 0,00E+00 | 0,00E+00 |

## ENVIRONMENTAL IMPACTS – GWP-GHG - THE INTERNATIONAL EPD SYSTEM

| Impact category       | Unit                 | A1       | A2       | A3       | A1-A3    | A4       | A5       | B1 | B2 | B3 | B4 | B5 | B6 | B7 | C1       | C2       | C3       | C4       | D         |
|-----------------------|----------------------|----------|----------|----------|----------|----------|----------|----|----|----|----|----|----|----|----------|----------|----------|----------|-----------|
| GWP-GHG <sup>9)</sup> | kg CO <sub>2</sub> e | 1,38E+01 | 6,89E+00 | 1,37E+01 | 3,44E+01 | 1,26E+00 | 2,83E-02 | ND | ND | ND | ND | ND | ND | ND | 0,00E+00 | 1,41E-01 | 2,47E+00 | 4,52E-03 | -8,93E+00 |

9) This indicator includes all greenhouse gases excluding biogenic carbon dioxide uptake and emissions and biogenic carbon stored in the product as defined by IPCC AR 5 (IPCC 2013). In addition, the characterisation factors for the flows - CH<sub>4</sub> fossil, CH<sub>4</sub> biogenic and Dinitrogen monoxide - were updated in line with the guidance of IES PCR 1.2.5 Annex 1. This indicator is identical to the GWP-total of EN 15804:2012+A2:2019 except that the characterization factor for biogenic CO<sub>2</sub> is set to zero.

# SCENARIO DOCUMENTATION

## MANUFACTURING ENERGY SCENARIO DOCUMENTATION

| Scenario parameter                     | Value   |
|--|---|
| Electricity data source and quality    | Electricity, Finland, residual mix, 2024 (One Click LCA)        |
| Electricity kg CO <sub>2</sub> e / kWh | 0,55  |
| Heat data source and quality           | Market for heat, district or industrial, other than natural gas |
| Heat kg CO <sub>2</sub> e / MJ         | 0.0707  |
| Heat data source and quality           | Heat production, light fuel oil, at industrial furnace 1MW      |
| Heat kg CO <sub>2</sub> e / kWh        | 0.10  |

## TRANSPORT SCENARIO DOCUMENTATION A4 (TRANSPORT RESOURCES)

| Scenario parameter  | Value   |
|---|---|
| Fuel and vehicle type. Eg, electric truck, diesel powered truck | Transport, freight, lorry 16-32 metric ton, EURO5 |
| Average transport distance, km                                  | 450   |
| Capacity utilization (including empty return) %                 | 100   |
| Bulk density of transported products                            | N/A   |
| Volume capacity utilization factor                              | 1   |

## INSTALLATION SCENARIO DOCUMENTATION A5

| Scenario information  | Value  |
|---|--------|
| Ancillary materials for installation (specified by material) / kg or other units as appropriate | 0      |
| Water use / m <sup>3</sup>  | 0      |
| Treatment of waste polyethylene, for recycling, unsorted, sorting (Ecoinvent) [kg]              | 0,003  |
| Treatment of waste polyethylene, for recycling, unsorted, sorting (Ecoinvent) [kg]              | 0,0475 |
| Treatment of waste wood, untreated, municipal incineration (Ecoinvent) [kg]                     | 0,1327 |
| Treatment of waste wood, untreated, municipal incineration (Ecoinvent) [kg]                     | 0,4010 |
| Exported Energy: Thermal (Ecoinvent) [MJ]   | 4,2    |
| Exported Energy: Electricity (Ecoinvent) [MJ]   | 0,75   |

## END OF LIFE SCENARIO DOCUMENTATION

| Scenario information                               | Value                  |
|--|------------------------|
| Collection process - kg collected separately       | 14,51                  |
| Collection process - kg collected with mixed waste | 0                      |
| Recovery process - kg for re-use                   | 0                      |
| Recovery process - kg for recycling                | 1,06                   |
| Recovery process - kg for energy recovery          | 11,97                  |
| Disposal (total) - kg for final deposition         | 2,55                   |
| Scenario assumptions e.g. transportation           | As per EN17213 Annex B |

| DATA SOURCES  | Unit                               | Value |
|---|------------------------------------|-------|
| Market for electricity, medium voltage, Ecoinvent                               | [kWh]                              | 0     |
| Wood chipping, industrial residual wood, stationary electric chipper, Ecoinvent | Materials for energy recovery [kg] | 9.45  |
| Wood chipping, industrial residual wood, stationary electric chipper, Ecoinvent | [kg]                               | 3.50  |
| Treatment of waste paperboard, inert material landfill, Ecoinvent,              | [kg]                               | 0.68  |
| Treatment of waste paperboard, inert material landfill, Ecoinvent, recovery     | [kg]                               | 0.03  |
| Treatment of waste paperboard, municipal incineration, Ecoinvent                | Materials for energy recovery [kg] | 0.05  |
| Sorting and pressing of iron scrap, Ecoinvent                                   | Materials for recycling [kg]       | 0.24  |
| Treatment of scrap steel, inert material landfill, Ecoinvent                    | [kg]                               | 0.01  |
| Treatment of waste paint on wall, sorting plant, Ecoinvent                      | [kg]                               | 0.54  |
| Treatment of waste emulsion paint, inert material landfill, Ecoinvent           | [kg]                               | 0.03  |
| Treatment of waste paint, hazardous waste incineration, Ecoinvent               | [kg]                               | 0.54  |

## THIRD-PARTY VERIFICATION STATEMENT

EPD HUB declares that this EPD is verified in accordance with ISO 14025 by an independent, third-party verifier. The project report on the Life Cycle Assessment and the report(s) on features of environmental relevance are filed at EPD Hub. EPD Hub PCR and ECO Platform verification checklist are used.

EPD Hub is not able to identify any unjustified deviations from the PCR and EN 15802+A2 in the Environmental Product Declaration and its project report.

EPD Hub maintains its independence as a third-party body; it was not involved in the execution of the LCA or in the development of the declaration and has no conflicts of interest regarding this verification.

The company-specific data and upstream and downstream data have been examined as regards plausibility and consistency. The publisher is responsible for ensuring the factual integrity and legal compliance of this declaration.

The software used in creation of this LCA and EPD is verified by EPD Hub to conform to the procedural and methodological requirements outlined in ISO 14025:2010, ISO 14040/14044, EN 15804+A2, and EPD Hub Core Product Category Rules and General Program Instructions.

### Verified tools

Tool verifier: Magaly Gonzalez Vazquez

Tool verification validity: 27 March 2025 - 26 March 2028

**Yazan Badour as an authorized verifier for EPD Hub Limited 21.04.2026**

