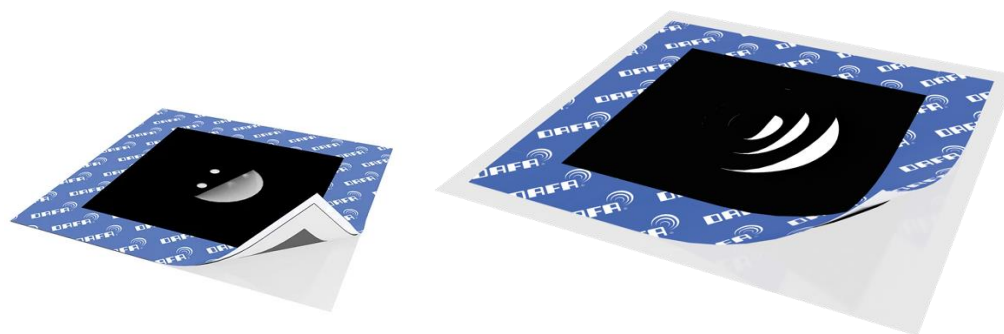




# ENVIRONMENTAL PRODUCT DECLARATION

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

DAFA Universal cable & pipe collars  
DAFA A/S



**EPD HUB, HUB-0733**

Publishing date 29 September 2023, last updated on 29 September 2023, valid until 29 September 2028.



## GENERAL INFORMATION

### MANUFACTURER

|                 |   |
|-----------------|---|
| Manufacturer    | DAFA A/S  |
| Address         | Holmstrupgårdvej 12, 8220 Brabrand, Denmark                       |
| Contact details | dbb@dafa-group.com  |
| Website         | <a href="https://dafa-build.com/en">https://dafa-build.com/en</a> |

### EPD STANDARDS, SCOPE AND VERIFICATION

|                    |   |
|--------------------|---|
| Program operator   | EPD Hub, hub@epdhub.com   |
| Reference standard | EN 15804+A2:2019, ISO 14025 and ISO 21930   |
| PCR                | EPD Hub Core PCR version 1.0, 1 Feb 2022  |
| Sector             | Construction product  |
| Category of EPD    | Third party verified EPD  |
| Scope of the EPD   | Cradle to gate with options A4-A5 and module C1-C4, D   |
| EPD author         | Mathias Walther   |
| EPD verification   | Independent verification of this EPD and data, according to ISO 14025:<br><input type="checkbox"/> Internal certification <input checked="" type="checkbox"/> External verification |
| EPD verifier       | Magaly González Vázquez, as an authorized verifier acting for EPD Hub Limited   |

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

|                                   |                                     |
|-----------------------------------|-------------------------------------|
| Product name                      | DAFA Universal cable & pipe collars |
| Place of production               | Denmark, Aarhus                     |
| Period for data                   | 2022                                |
| Averaging in EPD                  | No averaging                        |
| Variation in GWP-fossil for A1-A3 | N.A.                                |

### ENVIRONMENTAL DATA SUMMARY

|  |                  |
|--|------------------|
| <b>Declared unit</b>                           | 1 m <sup>2</sup> |
| <b>Declared unit mass</b>                      | 1.0355 kg        |
| <b>GWP-fossil, A1-A3 (kgCO<sub>2</sub>e)</b>   | 4,35E0           |
| <b>GWP-total, A1-A3 (kgCO<sub>2</sub>e)</b>    | 4,06E0           |
| <b>Secondary material, inputs (%)</b>          | 2.65             |
| <b>Secondary material, outputs (%)</b>         | 97.6             |
| <b>Total energy use, A1-A3 (kWh)</b>           | 25.8             |
| <b>Total water use, A1-A3 (m<sup>3</sup>e)</b> | 4,47E-2          |

# PRODUCT AND MANUFACTURER

## ABOUT THE MANUFACTURER

DAFA Building Solutions for the building industry with a focus on holistic and environmentally beneficial solutions. Products and systems that seal and make buildings long-lasting and more sustainable - both for renewal and new constructions.

## PRODUCT DESCRIPTION

DAFA Universal cable & pipe collars are used in buildings to seal around the cables, ceiling outlets, and pipe penetrations in the vapor barrier. The 1.2 mm thick EPDM membrane comes with patented pre-stamped markings, that are eventually removed in order to fit to different sizes of pipes and wires.

The product consists of a black, soft, and flexible EPDM membrane coated with a very strong acrylic adhesive tape. The adhesive has been specially developed for sealing and laminating PE and PP vapor barriers.

Further information can be found at <https://dafa-build.com/en>.

## PRODUCT RAW MATERIAL MAIN COMPOSITION

| Raw material category | Amount, mass- % | Material origin |
|-----------------------|-----------------|-----------------|
| Metals                | 0               |                 |
| Minerals              | 1.94            | EU              |
| Fossil materials      | 94.18           | EU              |
| Bio-based materials   | 3.88            | EU              |

## BIOGENIC CARBON CONTENT

Product's biogenic carbon content at the factory gate

|  |         |
|--|---------|
| Biogenic carbon content in product, kg C   | 0.0147  |
| Biogenic carbon content in packaging, kg C | 0.06436 |

## FUNCTIONAL UNIT AND SERVICE LIFE

|                               |                  |
|-------------------------------|------------------|
| Declared unit VP-011          | 1 m <sup>2</sup> |
| Mass per declared unit VP-012 | 1.0355 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 |          |           |
|---------------|-----------|---------------|----------------|----------|-----------|-------------|--------|-------------|---------------|------------------------|-----------------------|----------------------|-----------|------------------|----------|------------------------------|----------|-----------|
| A1            | A2        | A3            | A4             | A5       | B1        | B2          | B3     | B4          | B5            | B6                     | B7                    | C1                   | C2        | C3               | C4       | D                            |          |           |
| x             | x         | x             | x              | x        | MND       | MND         | MND    | MND         | MND           | MND                    | MND                   | x                    | x         | x                | x        | x                            |          |           |
| Raw materials | Transport | Manufacturing | Transport      | Assembly | Use       | Maintenance | Repair | Replacement | Refurbishment | Operational energy use | Operational water use | Deconstr./demolition | 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.

Manufacturing:

The manufacturing is located in Aarhus, Denmark. The tape and synthetic rubber (EPDM) are supplied to the site for assembly. The synthetic rubber is roll-slit into size and then die-cut to produce either a cable or pipe collar. The tape is then applied to the synthetic rubber manually. The distance to the manufacturing site is 1010 and 2478 km and is performed by lorry. There is no internal transport. Production losses are considered.

Packaging:

The collars are then packed in their dedicated cardboard boxes and placed on reusable pallet, which are also packed in PE plastic film. All packaging materials are recyclable or even reusable (pallets).

## 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.

The transportation distance is defined according to the PCR. The average distance of transportation from storage to the retailers' site is 180 km and the transportation method is assumed to be a lorry. The vehicle capacity utilization volume factor is assumed to be 1, meaning full load. In reality, it may vary but as the role of transportation emissions in total results is small, the variation in load is assumed to be negligible. Empty returns are not taken into account as it is assumed that the return trip is used by the transportation company to serve the needs of other clients. (Empty returns are considered in the ecoinvent database.)

Transportation does not cause losses as the product is packaged properly.

Environmental impacts from installation into the building considers the generation of waste packaging materials, the release of biogenic carbon dioxide from wood pallets, and the electricity consumption of power tools.

## PRODUCT USE AND MAINTENANCE (B1-B7)

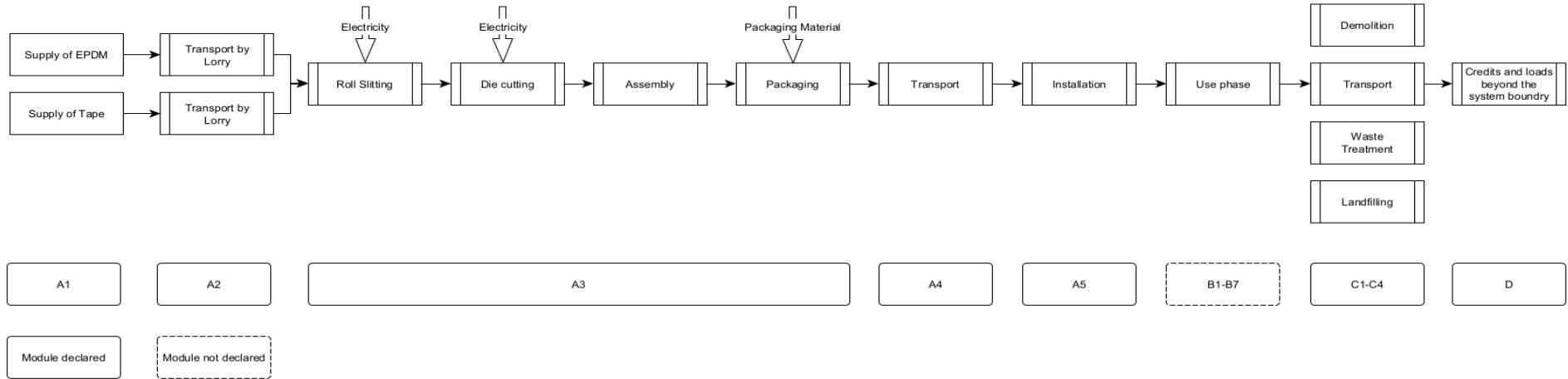
This EPD does not cover the use phase.

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

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

For C1 it has been assumed that the product can be uninstalled manually by using hand-cutting tools. The end-of-life waste scenario per input material has been chosen and for each raw material, 100% incineration has been modelled under the consideration of suitable loads and benefits. The transportation distance to treatment is assumed to be 50 km and the transportation method is assumed to be lorry (C2). Module C3 accounts for energy and resource inputs for sorting and treating these waste streams for recycling and incineration with energy recovery with efficiency greater than 60%. The energy recovered mitigates 85% of district heat, and 15% of electricity. Additionally, waste that is incinerated without energy recovery or landfilled is included in Module C4. Due to the material and energy recovery potential of parts in the end-of-life product and packaging, the energy recovered from incineration replaces electricity and heat production (D). The benefits and loads of incineration are included in Module D. All end-of-life product is assumed to be sent to the closest facilities.

# MANUFACTURING PROCESS



# 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.

## 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            | Not applicable              |
| Manufacturing energy and waste | Allocated by mass or volume |

## AVERAGES AND VARIABILITY

|                                   |                |
|-----------------------------------|----------------|
| Type of average                   | No averaging   |
| Averaging method                  | Not applicable |
| Variation in GWP-fossil for A1-A3 | N.A.           |

This EPD is product and factory specific and does not contain average calculations.

## 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 3.8 and One Click LCA databases were used as sources of environmental data.

# ENVIRONMENTAL IMPACT DATA

## 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   | 3,26E+00  | 7,48E-01 | 5,14E-02  | 4,06E+00  | 3,58E-02 | 3,01E-01 | MND | MND | MND | MND | MND | MND | MND | 0,00E+00 | 8,23E-03 | 2,46E+00 | 0,00E+00 | -2,21E+00 |
| GWP – fossil                        | kg CO <sub>2</sub> e   | 3,31E+00  | 7,48E-01 | 2,87E-01  | 4,35E+00  | 3,58E-02 | 6,45E-02 | MND | MND | MND | MND | MND | MND | MND | 0,00E+00 | 8,23E-03 | 2,41E+00 | 0,00E+00 | -2,21E+00 |
| GWP – biogenic                      | kg CO <sub>2</sub> e   | -5,39E-02 | 0,00E+00 | -2,36E-01 | -2,90E-01 | 0,00E+00 | 2,36E-01 | MND | MND | MND | MND | MND | MND | MND | 0,00E+00 | 0,00E+00 | 5,43E-02 | 0,00E+00 | 0,00E+00  |
| GWP – LULUC                         | kg CO <sub>2</sub> e   | 1,92E-03  | 2,99E-04 | 4,77E-04  | 2,70E-03  | 1,43E-05 | 2,96E-06 | MND | MND | MND | MND | MND | MND | MND | 0,00E+00 | 3,29E-06 | 2,04E-05 | 0,00E+00 | -8,63E-04 |
| Ozone depletion pot.                | kg CFC <sub>11</sub> e | 1,56E-06  | 1,73E-07 | 9,92E-09  | 1,75E-06  | 8,29E-09 | 6,99E-10 | MND | MND | MND | MND | MND | MND | MND | 0,00E+00 | 1,91E-09 | 5,28E-09 | 0,00E+00 | -1,12E-07 |
| Acidification potential             | mol H <sup>+</sup> e   | 2,28E-02  | 2,13E-03 | 4,57E-04  | 2,54E-02  | 1,02E-04 | 4,56E-05 | MND | MND | MND | MND | MND | MND | MND | 0,00E+00 | 2,34E-05 | 5,55E-04 | 0,00E+00 | -1,70E-02 |
| EP-freshwater <sup>2)</sup>         | kg Pe                  | 7,89E-05  | 5,34E-06 | 6,10E-06  | 9,04E-05  | 2,56E-07 | 9,21E-08 | MND | MND | MND | MND | MND | MND | MND | 0,00E+00 | 5,88E-08 | 6,31E-07 | 0,00E+00 | -1,13E-04 |
| EP-marine                           | kg Ne                  | 2,75E-03  | 4,24E-04 | 1,92E-04  | 3,37E-03  | 2,03E-05 | 1,90E-05 | MND | MND | MND | MND | MND | MND | MND | 0,00E+00 | 4,66E-06 | 2,59E-04 | 0,00E+00 | -2,08E-03 |
| EP-terrestrial                      | mol Ne                 | 3,03E-02  | 4,71E-03 | 1,44E-03  | 3,65E-02  | 2,25E-04 | 1,98E-04 | MND | MND | MND | MND | MND | MND | MND | 0,00E+00 | 5,18E-05 | 2,66E-03 | 0,00E+00 | -2,46E-02 |
| POCP ("smog") <sup>3)</sup>         | kg NMVOCe              | 1,32E-02  | 1,81E-03 | 3,88E-04  | 1,54E-02  | 8,66E-05 | 5,12E-05 | MND | MND | MND | MND | MND | MND | MND | 0,00E+00 | 1,99E-05 | 6,47E-04 | 0,00E+00 | -6,63E-03 |
| ADP-minerals & metals <sup>4)</sup> | kg Sbe                 | 4,34E-05  | 2,71E-06 | 5,67E-07  | 4,67E-05  | 1,29E-07 | 3,58E-08 | MND | MND | MND | MND | MND | MND | MND | 0,00E+00 | 2,98E-08 | 2,17E-07 | 0,00E+00 | -2,71E-06 |
| ADP-fossil resources                | MJ                     | 1,19E+02  | 1,11E+01 | 1,31E+00  | 1,31E+02  | 5,33E-01 | 6,25E-02 | MND | MND | MND | MND | MND | MND | MND | 0,00E+00 | 1,22E-01 | 4,47E-01 | 0,00E+00 | -2,25E+01 |
| Water use <sup>5)</sup>             | m <sup>3</sup> e depr. | 1,63E+00  | 5,21E-02 | 6,50E-02  | 1,74E+00  | 2,49E-03 | 1,14E-02 | MND | MND | MND | MND | MND | MND | MND | 0,00E+00 | 5,73E-04 | 9,52E-02 | 0,00E+00 | -4,34E-01 |

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 PO<sub>4</sub>e; 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.

## 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 <sup>6)</sup> | MJ   | 3,64E+00 | 1,62E-01 | 1,55E+00  | 5,35E+00 | 7,75E-03 | 2,15E-03  | MND | MND | MND | MND | MND | MND | MND | 0,00E+00 | 1,78E-03 | 1,75E-02  | 0,00E+00 | -8,35E+00 |
| Renew. PER as material             | MJ   | 5,63E-01 | 0,00E+00 | 2,06E+00  | 2,62E+00 | 0,00E+00 | -2,06E+00 | MND | MND | MND | MND | MND | MND | MND | 0,00E+00 | 0,00E+00 | -5,63E-01 | 0,00E+00 | 6,93E-01  |
| Total use of renew. PER            | MJ   | 4,20E+00 | 1,62E-01 | 3,60E+00  | 7,97E+00 | 7,75E-03 | -2,05E+00 | MND | MND | MND | MND | MND | MND | MND | 0,00E+00 | 1,78E-03 | -5,46E-01 | 0,00E+00 | -7,66E+00 |
| Non-re. PER as energy              | MJ   | 7,50E+01 | 1,11E+01 | 1,21E+00  | 8,73E+01 | 5,33E-01 | 6,25E-02  | MND | MND | MND | MND | MND | MND | MND | 0,00E+00 | 1,22E-01 | 4,47E-01  | 0,00E+00 | -2,25E+01 |
| Non-re. PER as material            | MJ   | 4,38E+01 | 0,00E+00 | -2,70E+00 | 4,11E+01 | 0,00E+00 | -1,01E-01 | MND | MND | MND | MND | MND | MND | MND | 0,00E+00 | 0,00E+00 | -4,10E+01 | 0,00E+00 | 2,19E-02  |
| Total use of non-re. PER           | MJ   | 1,19E+02 | 1,11E+01 | -1,49E+00 | 1,28E+02 | 5,33E-01 | -3,86E-02 | MND | MND | MND | MND | MND | MND | MND | 0,00E+00 | 1,22E-01 | -4,06E+01 | 0,00E+00 | -2,25E+01 |
| Secondary materials                | kg   | 2,74E-02 | 3,79E-03 | 5,76E-02  | 8,88E-02 | 1,81E-04 | 8,71E-05  | MND | MND | MND | MND | MND | MND | MND | 0,00E+00 | 4,17E-05 | 3,98E-04  | 0,00E+00 | 3,42E-02  |
| Renew. secondary fuels             | MJ   | 9,11E-03 | 4,17E-05 | 5,02E-02  | 5,94E-02 | 2,00E-06 | 6,55E-07  | MND | MND | MND | MND | MND | MND | MND | 0,00E+00 | 4,59E-07 | 1,40E-05  | 0,00E+00 | -1,45E-05 |



|                          |                |          |          |          |          |          |          |     |     |     |     |     |     |     |     |          |          |          |          |           |
|--------------------------|----------------|----------|----------|----------|----------|----------|----------|-----|-----|-----|-----|-----|-----|-----|-----|----------|----------|----------|----------|-----------|
| Non-ren. secondary fuels | MJ             | 0,00E+00 | 0,00E+00 | 0,00E+00 | 0,00E+00 | 0,00E+00 | 0,00E+00 | MND | MND | MND | MND | MND | MND | MND | MND | 0,00E+00 | 0,00E+00 | 0,00E+00 | 0,00E+00 | 0,00E+00  |
| Use of net fresh water   | m <sup>3</sup> | 4,14E-02 | 1,42E-03 | 1,90E-03 | 4,47E-02 | 6,79E-05 | 6,96E-05 | MND | MND | MND | MND | MND | MND | MND | MND | 0,00E+00 | 1,56E-05 | 3,55E-03 | 0,00E+00 | -2,68E-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   | 1,33E-01 | 1,27E-02 | 5,47E-03 | 1,51E-01 | 6,06E-04 | 1,61E-04 | MND | MND | MND | MND | MND | MND | MND | 0,00E+00 | 1,39E-04 | 0,00E+00 | 0,00E+00 | -1,85E-01 |
| Non-hazardous waste | kg   | 3,69E+00 | 2,25E-01 | 2,15E-01 | 4,13E+00 | 1,08E-02 | 1,57E-01 | MND | MND | MND | MND | MND | MND | MND | 0,00E+00 | 2,48E-03 | 1,01E+00 | 0,00E+00 | -7,70E+00 |
| Radioactive waste   | kg   | 7,06E-04 | 7,66E-05 | 4,43E-06 | 7,87E-04 | 3,67E-06 | 1,96E-07 | MND | MND | MND | MND | MND | MND | MND | 0,00E+00 | 8,43E-07 | 0,00E+00 | 0,00E+00 | -6,96E-05 |

### 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   | 0,00E+00 | 0,00E+00 | 0,00E+00 | 0,00E+00 | 0,00E+00 | 0,00E+00 | MND | MND | MND | MND | MND | MND | MND | 0,00E+00 | 0,00E+00 | 0,00E+00 | 0,00E+00 | 0,00E+00 |
| Materials for recycling  | kg   | 0,00E+00 | 0,00E+00 | 0,00E+00 | 0,00E+00 | 0,00E+00 | 5,34E-02 | MND | MND | MND | MND | MND | MND | MND | 0,00E+00 | 0,00E+00 | 0,00E+00 | 0,00E+00 | 0,00E+00 |
| Materials for energy rec | kg   | 0,00E+00 | 0,00E+00 | 0,00E+00 | 0,00E+00 | 0,00E+00 | 0,00E+00 | MND | MND | MND | MND | MND | MND | MND | 0,00E+00 | 0,00E+00 | 0,00E+00 | 0,00E+00 | 0,00E+00 |
| Exported energy          | MJ   | 0,00E+00 | 0,00E+00 | 1,60E+00 | 1,60E+00 | 0,00E+00 | 2,33E+00 | MND | MND | MND | MND | MND | MND | MND | 0,00E+00 | 0,00E+00 | 2,81E+01 | 0,00E+00 | 0,00E+00 |

### ENVIRONMENTAL IMPACTS – EN 15804+A1, CML / ISO 21930

| Impact category      | Unit                               | A1       | A2       | A3       | A1-A3    | A4       | A5       | B1  | B2  | B3  | B4  | B5  | B6  | B7  | C1       | C2       | C3       | C4       | D         |
|----------------------|------------------------------------|----------|----------|----------|----------|----------|----------|-----|-----|-----|-----|-----|-----|-----|----------|----------|----------|----------|-----------|
| Global Warming Pot.  | kg CO <sub>2</sub> e               | 3,52E+00 | 3,50E-01 | 2,89E-01 | 4,16E+00 | 3,55E-02 | 6,55E-02 | MND | MND | MND | MND | MND | MND | MND | 0,00E+00 | 8,16E-03 | 2,40E+00 | 0,00E+00 | -2,16E+00 |
| Ozone depletion Pot. | kg CFC-11e                         | 8,44E-07 | 6,48E-08 | 8,45E-09 | 9,17E-07 | 6,57E-09 | 5,80E-10 | MND | MND | MND | MND | MND | MND | MND | 0,00E+00 | 1,51E-09 | 4,75E-09 | 0,00E+00 | -9,11E-08 |
| Acidification        | kg SO <sub>2</sub> e               | 1,68E-02 | 8,23E-04 | 3,32E-04 | 1,79E-02 | 8,34E-05 | 3,33E-05 | MND | MND | MND | MND | MND | MND | MND | 0,00E+00 | 1,92E-05 | 3,95E-04 | 0,00E+00 | -1,44E-02 |
| Eutrophication       | kg PO <sub>4</sub> <sup>3</sup> e  | 3,66E-03 | 1,77E-04 | 2,64E-04 | 4,10E-03 | 1,80E-05 | 3,85E-05 | MND | MND | MND | MND | MND | MND | MND | 0,00E+00 | 4,14E-06 | 2,86E-04 | 0,00E+00 | -3,82E-03 |
| POCP ("smog")        | kg C <sub>2</sub> H <sub>4</sub> e | 8,44E-04 | 4,16E-05 | 2,84E-05 | 9,14E-04 | 4,21E-06 | 1,85E-06 | MND | MND | MND | MND | MND | MND | MND | 0,00E+00 | 9,69E-07 | 8,55E-06 | 0,00E+00 | -6,27E-04 |
| ADP-elements         | kg Sbe                             | 4,61E-05 | 1,25E-06 | 5,07E-07 | 4,79E-05 | 1,26E-07 | 3,37E-08 | MND | MND | MND | MND | MND | MND | MND | 0,00E+00 | 2,91E-08 | 1,69E-07 | 0,00E+00 | -2,71E-06 |
| ADP-fossil           | MJ                                 | 3,57E+01 | 5,25E+00 | 1,30E+00 | 4,23E+01 | 5,33E-01 | 6,25E-02 | MND | MND | MND | MND | MND | MND | MND | 0,00E+00 | 1,22E-01 | 4,47E-01 | 0,00E+00 | -2,25E+01 |

## VERIFICATION STATEMENT

### VERIFICATION PROCESS FOR THIS EPD

This EPD has been verified in accordance with ISO 14025 by an independent, third-party verifier by reviewing results, documents and compliancy with reference standard, ISO 14025 and ISO 14040/14044, following the process and checklists of the program operator for:

- This Environmental Product Declaration
- The Life-Cycle Assessment used in this EPD
- The digital background data for this EPD

Why does verification transparency matter? Read more online  
This EPD has been generated by One Click LCA EPD generator, which has been verified and approved by the EPD Hub.

### THIRD-PARTY VERIFICATION STATEMENT

I hereby confirm that, following detailed examination, I have not established any relevant deviations by the studied Environmental Product Declaration (EPD), its LCA and project report, in terms of the data collected and used in the LCA calculations, the way the LCA-based calculations have been carried out, the presentation of environmental data in the EPD, and other additional environmental information, as present with respect to the procedural and methodological requirements in ISO 14025:2010 and reference standard.

I confirm that the company-specific data has been examined as regards plausibility and consistency; the declaration owner is responsible for its factual integrity and legal compliance.

I confirm that I have sufficient knowledge and experience of construction products, this specific product category, the construction industry, relevant standards, and the geographical area of the EPD to carry out this verification.

I confirm my independence in my role as verifier; I have not been involved in the execution of the LCA or in the development of the declaration and have no conflicts of interest regarding this verification.

Magaly González Vázquez, as an authorized verifier acting for EPD Hub Limited  
29.09.2023

