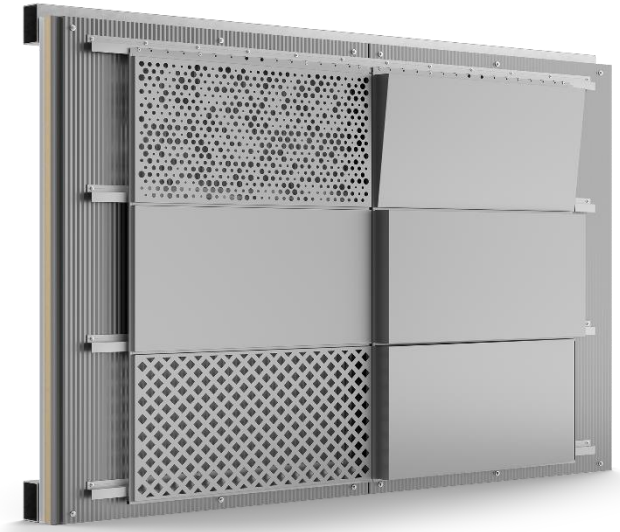


# ENVIRONMENTAL PRODUCT DECLARATION

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

Dri-Design
Architectural Façade Systems
Kingspan Sp. z o.o.



EPD HUB, HUB-1412
Publishing date 22 May 2024, last updated on 22 May 2024, valid until 22 May 2029.

Created with One Click LCA

# GENERAL INFORMATION

## MANUFACTURER

| | |
|---|---|
| Manufacturer | Kingspan Sp. z o.o. |
| Address | Przemyslowa 20 27-300 Lipsko, Poland |
| Contact details | info@kingspan.pl |
| Website | www.kingspan.com |

## EPD STANDARDS, SCOPE AND VERIFICATION

| | |
|---|---|
| Program operator | EPD Hub, hub@epdhub.com |
| Reference standard | EN 15804+A2:2019 and ISO 14025 |
| PCR | EPD Hub Core PCR version 1.1, 5 Dec 2023 |
| Sector | Construction product |
| Category of EPD | Third party verified EPD |
| Parent EPD number | - |
| Scope of the EPD | Cradle to gate with options, A4-A5, and modules C1-C4, D |
| EPD author | Marta Kubinska |
| EPD verification | Independent verification of this EPD and data, according to ISO 14025:<br>☐ Internal verification ☑ 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 | Dri-Design |
| Additional labels | - |
| Product reference | - |
| Place of production | Lublin, Poland |
| Period for data | calendar year 2023 |
| Averaging in EPD | No averaging |
| Variation in GWP-fossil for A1-A3 | % |

## ENVIRONMENTAL DATA SUMMARY

| | |
|---|---|
| **Declared unit** | 1 m2 |
| **Declared unit mass** | 7.12 kg |
| **GWP-fossil, A1-A3 (kgCO2e)** | 8,78E+01 |
| **GWP-total, A1-A3 (kgCO2e)** | 8,56E+01 |
| **Secondary material, inputs (%)** | 44.5 |
| **Secondary material, outputs (%)** | 0 |
| **Total energy use, A1-A3 (kWh)** | 401 |
| **Net fresh water use, A1-A3 (m3)** | 3.1 |

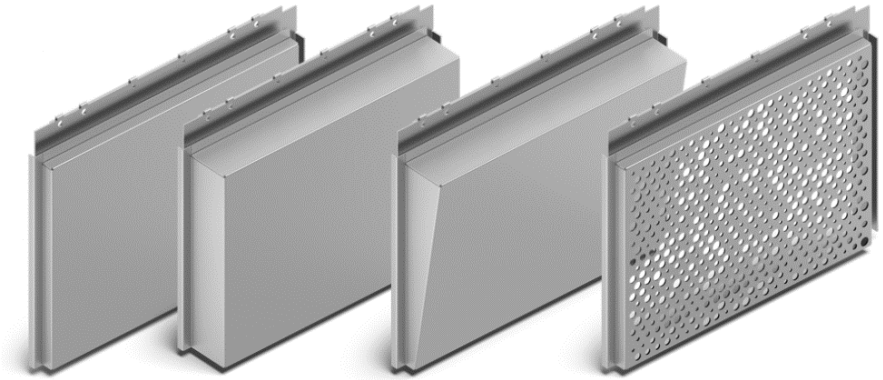
# PRODUCT AND MANUFACTURER

## ABOUT THE MANUFACTURER

Kingspan is a global leader in high-performance insulation and building envelopes. Our mission is to design, develop and offer innovative, sustainable and durable architectural facade solutions to meet the demand of architects and construction professionals across wide range of industries. We are committed to accelerating a net zero emissions future with the wellbeing of people and planet at its heart.

## PRODUCT DESCRIPTION

Dri-Design is an aluminium cassette based system dedicated for buildings with minimal as well as sophisticated façade design. The system combines quick and simple installation with durability and high technical performance. Thanks to different cassette types available (Flat, Shadow, Tapered) a 3D facade can be achieved.



This system is suitable for self-supporting metal applications such as ceilings, soffits, external cladding, and internal lining. It is a concealed fixed wall system that can be laid horizontally, making it appropriate for wall cladding on all types of buildings. Dri-Design allows for the creation of original cladding effects, whilst providing durable long-term performance.

Dri-Design cassettes are fabricated from a single piece of folded metal. They come in a range of dimensions and can be installed in either a stack or brick bond pattern, oriented vertically or horizontally. This flexibility allows for a wide variety of designs. In addition to the standard flat design, the cassettes are offered in two other profiles:

- Tapered: These cassettes can be angled in any direction with varying depths and degrees of slope.
- Shadow: These flat cassettes can project from the façade at different depths, creating textured three-dimensional effects.

Different cassette types can be interchanged without affecting the substrate, allowing for a unique surface design on any project, regardless of style or size.

All cassette options are available in an aluminium base material, with a wide range of powder coating colours and textured effects. All Dri-Design cassettes are A2-s1,d0, EN13501-1 compliant.

Further information can be found at www.kingspan.com.




## PRODUCT RAW MATERIAL MAIN COMPOSITION

| Raw material category | Amount, mass- % | Material origin |
|---|---|---|
| Metals | 97.7 | Turkey |
| Minerals | - | - |
| Fossil materials | 2.3 | EU |
| Bio-based materials | - | - |

## BIOGENIC CARBON CONTENT

Product's biogenic carbon content at the factory gate

| | |
|---|---|
| Biogenic carbon content in product, kg C | 0 |
| Biogenic carbon content in packaging, kg C | 1.06 |

## FUNCTIONAL UNIT AND SERVICE LIFE

| | |
|---|---|
| Declared unit | 1 $m^2$ |
| Mass per declared unit | 7.12 kg |
| Functional unit | - |
| Reference service life | 50 years |

## 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./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.

The product is made of 3103 aluminium alloy sheets, thickness 2 mm, sourced from Turkey. Aluminium is transported to the warehouse in Poland and then to the production site in Lublin, Poland, where material is cut and formed into its final shape. The product is powder coated off-site and the transport to the powder coaters has been included, as has the mass contribution of the coating powder to the overall product mass.

The manufacturing process requires electricity and fuels (LPG) for product movement and loading as well as natural gas for space heating. Electricity used in powder coating process has been included.

The loss of material is considered within this EPD and is assumed to be 10%. Forty percent of the scrap aluminium is reused as components in packaging materials (such as protection elements and distance plates), while the remaining sixty percent is collected and sent to a recycling company (a distance of 50km).

The finished product is stored in warehouse facilities prior to shipment to the customer. Product is transported to the customer on wooden pallets, protected with XLPE foam at the bottom and protective foils on top. The whole package is wrapped with stretch plastic foil.

## 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.

Average distance of transportation from production plant to building site is assumed to be 350 km and the transportation method is assumed to be lorry. Vehicle capacity utilization volume factor is assumed to be 100% which means full load. In reality, it may vary but as role of transportation emissions in total results is small, the variety in load is assumed to be negligible. Empty returns are not taken into account as it is assumed that return trip is used by the transportation company to serve the needs of other clients. Transportation does not cause losses as product are packaged properly.

Installation using electric tools (drills) consumes 0.017 kWh for assembling 1m2 of the product. Conservative estimates have been made on packaging waste which is sent to landfill (a distance of 50km).

## PRODUCT USE AND MAINTENANCE (B1-B7)

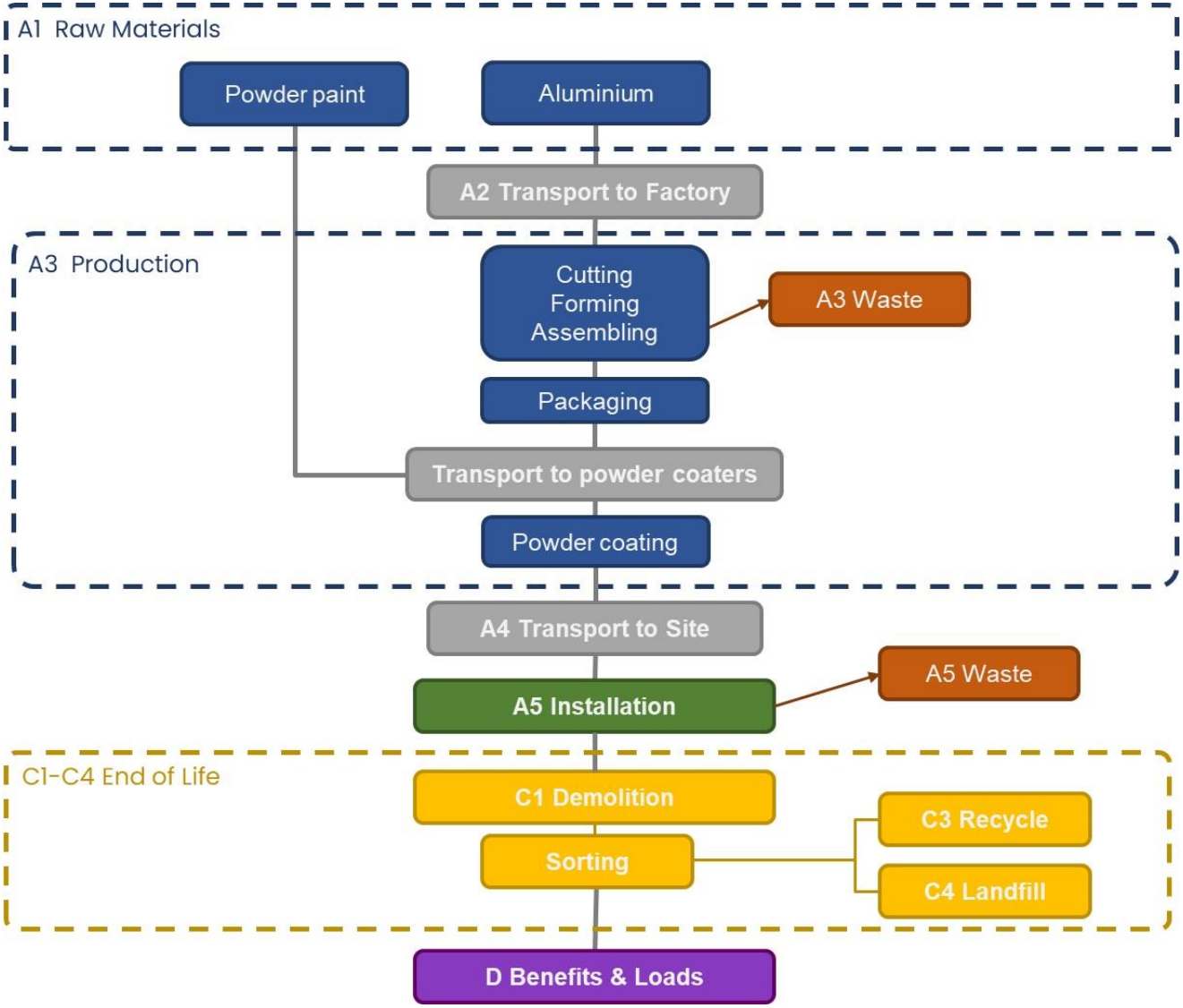
This EPD does not cover the use phase.
Air, soil, and water impacts during the use phase have not been studied.

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

It is assumed that at the end-of-life the product is demounted using electric tools, which consume 0.89 MWh for 1m$^2$ of the product. Then, 100% of the waste is collected and transported to the waste treatment. Transportation distance to treatment is assumed as 50 km and the transportation method is assumed to be lorry. Approximately 76% of aluminium is assumed to be recycled in accordance with market standards (C3). It is assumed that the remaining 24% of aluminium is taken to landfill for final disposal (C4).

The avoided production of primary aluminium is considered. Resulting potential benefits and loads for the metal recycling are declared in module D.

# 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 | Allocated by mass or volume |
| 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 | % |

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. The EPD Generator uses Ecoinvent v3.8, Plastics Europe, Federal LCA Commons and One Click LCA databases 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[1)] | kg $CO_2$e | 8,51E+01 | 2,06E+00 | -1,63E+00 | 8,56E+01 | 5,75E-01 | 4,07E+00 | MND | MND | MND | MND | MND | MND | MND | 6,26E+02 | 7,83E-02 | 8,97E-02 | 2,47E-02 | -4,86E+01 |
| GWP – fossil | kg $CO_2$e | 8,36E+01 | 2,06E+00 | 2,17E+00 | 8,78E+01 | 5,74E-01 | 2,72E-01 | MND | MND | MND | MND | MND | MND | MND | 6,25E+02 | 7,83E-02 | 8,96E-02 | 2,47E-02 | -4,73E+01 |
| GWP – biogenic | kg $CO_2$e | 0,00E+00 | 0,00E+00 | -3,80E+00 | -3,80E+00 | 0,00E+00 | 3,80E+00 | MND | MND | MND | MND | MND | MND | MND | 0,00E+00 | 0,00E+00 | 0,00E+00 | 0,00E+00 | -2,13E-01 |
| GWP – LULUC | kg $CO_2$e | 1,55E+00 | 7,87E-04 | 3,88E-03 | 1,55E+00 | 2,30E-04 | 4,31E-05 | MND | MND | MND | MND | MND | MND | MND | 3,53E-01 | 3,70E-05 | 1,02E-04 | 1,88E-05 | -1,11E+00 |
| Ozone depletion pot. | kg $CFC_{-11}$e | 9,79E-06 | 4,70E-07 | 1,31E-07 | 1,04E-05 | 1,33E-07 | 1,79E-08 | MND | MND | MND | MND | MND | MND | MND | 1,87E-05 | 1,77E-08 | 5,10E-09 | 5,80E-09 | -3,45E-06 |
| Acidification potential | mol $H^+$e | 6,19E-01 | 7,85E-03 | 7,71E-02 | 7,04E-01 | 1,63E-03 | 4,31E-04 | MND | MND | MND | MND | MND | MND | MND | 2,10E+00 | 2,22E-04 | 5,37E-04 | 1,55E-04 | -4,01E-01 |
| EP-freshwater[2)] | kg Pe | 3,19E-02 | 1,66E-05 | 1,34E-04 | 3,20E-02 | 4,10E-06 | 3,82E-05 | MND | MND | MND | MND | MND | MND | MND | 5,30E-02 | 6,41E-07 | 4,34E-06 | 3,82E-07 | -1,10E-03 |
| EP-marine | kg Ne | 7,42E-02 | 2,15E-03 | 2,61E-03 | 7,90E-02 | 3,25E-04 | 1,44E-03 | MND | MND | MND | MND | MND | MND | MND | 5,76E-01 | 4,24E-05 | 1,54E-04 | 5,06E-05 | -4,09E-02 |
| EP-terrestrial | mol Ne | 8,55E-01 | 2,38E-02 | 3,01E-02 | 9,09E-01 | 3,62E-03 | 1,03E-03 | MND | MND | MND | MND | MND | MND | MND | 6,58E+00 | 4,72E-04 | 1,30E-03 | 5,57E-04 | -5,06E-01 |
| POCP ("smog")[3)] | kg NMVOCe | 2,82E-01 | 7,85E-03 | 8,65E-03 | 2,98E-01 | 1,39E-03 | 1,46E-03 | MND | MND | MND | MND | MND | MND | MND | 1,66E+00 | 1,81E-04 | 3,52E-04 | 1,75E-04 | -1,66E-01 |
| ADP-minerals & metals[4)] | kg Sbe | 1,00E-03 | 5,65E-06 | 8,46E-06 | 1,02E-03 | 2,08E-06 | 5,06E-07 | MND | MND | MND | MND | MND | MND | MND | 8,31E-04 | 3,65E-07 | 3,88E-06 | 9,02E-08 | -9,53E-05 |
| ADP-fossil resources | MJ | 8,26E+02 | 3,07E+01 | 9,94E+00 | 8,67E+02 | 8,55E+00 | 1,19E+00 | MND | MND | MND | MND | MND | MND | MND | 9,78E+03 | 1,15E+00 | 8,79E-01 | 4,54E-01 | -4,33E+02 |
| Water use[5)] | $m^3$e depr. | 9,77E+01 | 1,38E-01 | 2,67E-01 | 9,81E+01 | 4,00E-02 | 6,84E-03 | MND | MND | MND | MND | MND | MND | MND | 1,22E+02 | 6,03E-03 | 2,60E-02 | 6,62E-02 | -3,90E+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 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 | Incidence | 7,35E-06 | 2,14E-07 | 2,57E-08 | 7,59E-06 | 4,63E-08 | 7,53E-09 | MND | MND | MND | MND | MND | MND | MND | 6,97E-06 | 5,35E-09 | 7,75E-09 | 5,57E-09 | -5,27E-06 |
| Ionizing radiation[6)] | kBq U235e | 4,61E+00 | 1,48E-01 | 2,35E-02 | 4,79E+00 | 4,49E-02 | 6,56E-03 | MND | MND | MND | MND | MND | MND | MND | 1,73E+02 | 6,23E-03 | 1,46E-02 | 2,03E-03 | -5,29E+00 |
| Ecotoxicity (freshwater) | CTUe | 2,40E+03 | 2,74E+01 | 2,22E+01 | 2,44E+03 | 7,13E+00 | 1,15E+02 | MND | MND | MND | MND | MND | MND | MND | 9,28E+03 | 1,00E+00 | 9,38E+00 | 9,13E+00 | -1,35E+03 |
| Human toxicity, cancer | CTUh | 2,17E-07 | 7,15E-10 | 3,45E-10 | 2,18E-07 | 2,19E-10 | 1,54E-10 | MND | MND | MND | MND | MND | MND | MND | 1,83E-07 | 3,45E-11 | 1,89E-10 | 4,35E-11 | -2,38E-08 |
| Human tox. non-cancer | CTUh | 3,18E-06 | 2,67E-08 | 1,46E-08 | 3,22E-06 | 6,98E-09 | 7,48E-09 | MND | MND | MND | MND | MND | MND | MND | 5,50E-06 | 9,38E-10 | 3,46E-09 | 8,41E-10 | -1,67E-06 |
| SQP[7)] | - | 7,24E+02 | 3,11E+01 | 3,53E+00 | 7,59E+02 | 6,07E+00 | 1,20E+00 | MND | MND | MND | MND | MND | MND | MND | 1,37E+03 | 6,94E-01 | 4,70E+00 | 6,63E-01 | -6,65E+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 | 5,33E+02 | 3,66E-01 | 4,73E+00 | 5,38E+02 | 1,24E-01 | 1,19E-01 | MND | MND | MND | MND | MND | MND | MND | 2,19E+02 | 1,98E-02 | 1,49E-01 | 8,42E-03 | -3,87E+02 |
| Renew. PER as material | MJ | 1,96E-04 | 0,00E+00 | 3,92E+01 | 3,92E+01 | 0,00E+00 | -3,92E+01 | MND | MND | MND | MND | MND | MND | MND | 0,00E+00 | 0,00E+00 | -1,49E-04 | -4,71E-05 | 0,00E+00 |
| Total use of renew. PER | MJ | 5,33E+02 | 3,66E-01 | 4,40E+01 | 5,77E+02 | 1,24E-01 | -3,91E+01 | MND | MND | MND | MND | MND | MND | MND | 2,19E+02 | 1,98E-02 | 1,49E-01 | 8,37E-03 | -3,87E+02 |
| Non-re. PER as energy | MJ | 8,48E+02 | 3,07E+01 | 2,58E+01 | 9,05E+02 | 8,55E+00 | 1,19E+00 | MND | MND | MND | MND | MND | MND | MND | 9,78E+03 | 1,15E+00 | 8,78E-01 | 4,54E-01 | -4,34E+02 |
| Non-re. PER as material | MJ | 8,04E-07 | 0,00E+00 | 8,72E-01 | 8,72E-01 | 0,00E+00 | -8,72E-01 | MND | MND | MND | MND | MND | MND | MND | 0,00E+00 | 0,00E+00 | -6,11E-07 | -1,93E-07 | 0,00E+00 |
| Total use of non-re. PER | MJ | 8,48E+02 | 3,07E+01 | 2,67E+01 | 9,06E+02 | 8,55E+00 | 3,16E-01 | MND | MND | MND | MND | MND | MND | MND | 9,78E+03 | 1,15E+00 | 8,78E-01 | 4,54E-01 | -4,34E+02 |
| Secondary materials | kg | 3,17E+00 | 9,12E-03 | 3,16E-01 | 3,49E+00 | 2,91E-03 | 6,12E-04 | MND | MND | MND | MND | MND | MND | MND | 4,34E-01 | 4,74E-04 | 1,64E-03 | 6,32E-04 | 4,90E+00 |
| Renew. secondary fuels | MJ | 1,30E-03 | 9,80E-05 | 5,81E-04 | 1,98E-03 | 3,20E-05 | 6,67E-06 | MND | MND | MND | MND | MND | MND | MND | 3,87E-03 | 5,47E-06 | 1,35E-04 | 1,36E-05 | -1,15E-03 |
| Non-ren. secondary fuels | MJ | 0,00E+00 | 0,00E+00 | 2,28E-05 | 2,28E-05 | 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 |
| Use of net fresh water | $m^3$ | 3,08E+00 | 3,93E-03 | 7,74E-03 | 3,10E+00 | 1,09E-03 | 1,81E-04 | MND | MND | MND | MND | MND | MND | MND | 2,98E+00 | 1,62E-04 | 7,01E-04 | -3,63E-04 | -1,05E+00 |

*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 | 4,31E-01 | 4,04E-02 | 1,00E-01 | 5,72E-01 | 9,72E-03 | 1,65E-03 | MND | MND | MND | MND | MND | MND | MND | 7,24E+01 | 1,50E-03 | 9,35E-03 | 0,00E+00 | -1,64E+01 |
| Non-hazardous waste | kg | 5,02E+00 | 6,68E-01 | 4,19E+00 | 9,88E+00 | 1,73E-01 | 2,77E+00 | MND | MND | MND | MND | MND | MND | MND | 2,13E+03 | 2,72E-02 | 2,83E-01 | 1,76E+00 | -5,59E+01 |
| Radioactive waste | kg | 6,72E-05 | 2,06E-04 | 1,36E-05 | 2,87E-04 | 5,88E-05 | 6,87E-06 | MND | MND | MND | MND | MND | MND | MND | 4,64E-02 | 7,86E-06 | 5,17E-06 | 0,00E+00 | -2,17E-03 |

## 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 | 3,13E-01 | 3,13E-01 | 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 | 5,51E+00 | 0,00E+00 | 4,80E-01 | 5,99E+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 energy rec | kg | 0,00E+00 | 0,00E+00 | 9,54E-09 | 9,54E-09 | 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 | 4,61E-04 | 4,61E-04 | 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 |

# 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
22.05.2024

