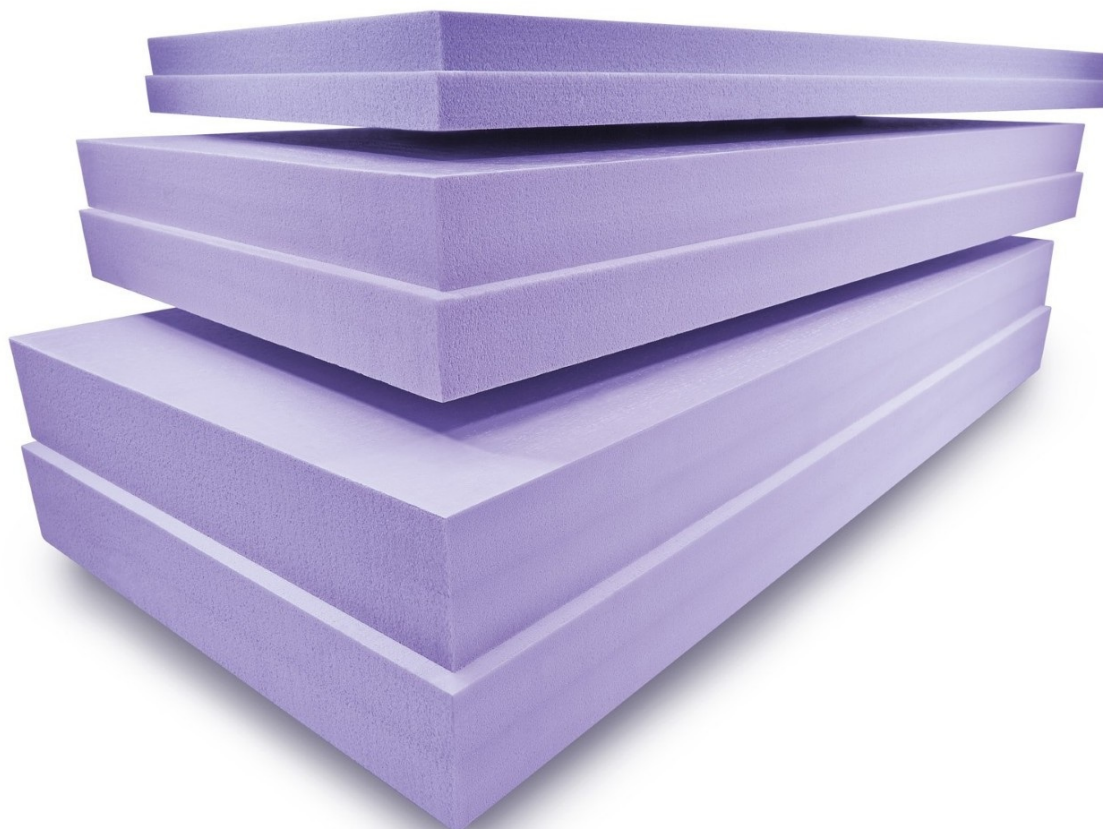


# Environmental product declaration

in accordance with ISO 14025 and EN 15804+A2

JACKODUR KF



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**BEWI**

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EPD-Global

**Owner of the declaration:**

BEWI ASA, Insulation and Construction

**Product:**

JACKODUR KF

**Declared unit:**

1 m<sup>3</sup>

**This declaration is based on Product Category Rules:**

CEN Standard EN 15804:2012+A2:2019 serves as core PCR.

NPCR 012:2022 Part B for Thermal insulation products

**Program operator:**

EPD-Global

**Declaration number:**

NEPD-15746-19714

**Issue date:**

29.05.2026

**Valid to:**

29.05.2031

**EPD software:**

LCAno EPD generator ID: 1541707

## General information

### Product

JACKODUR KF

### Program operator:

EPD-Global  
Post Box 5250 Majorstuen, 0303 Oslo, Norway  
Phone: +47 977 22 020  
web: [www.epd-global.com](http://www.epd-global.com)

### Declaration number:

NEPD-15746-19714

### This declaration is based on Product Category Rules:

CEN Standard EN 15804:2012+A2:2019 serves as core PCR.  
NPCR 012:2022 Part B for Thermal insulation products

### Statement of liability:

The owner of the declaration shall be liable for the underlying information and evidence. EPD-Global shall not be liable with respect to manufacturer information, life cycle assessment data and evidences.

### Declared unit:

1 m<sup>3</sup> JACKODUR KF

### Declared unit with option:

A1, A2, A3, A4, A5, C1, C2, C3, C4, D

### Functional unit:

1 m<sup>2</sup> of JACKODUR KF with a thickness (34 mm) designed to provide a thermal resistance (R-value) = 1 m<sup>2</sup>K/W within an expected service life for insulation materials. To convert the environmental indicators to the functional unit, the values in the tables on pages 7 to 10 must be multiplied by 0.034.

### General information on verification of EPD from EPD tools:

Independent verification of data, other environmental information and the declaration according to ISO 14025:2010, § 8.1.3 and § 8.1.4. Verification of each EPD is made according to EPD-Global's guidelines for verification and approval requiring that tools are i) integrated into the company's environmental management system, ii) the procedures for use of the EPD tool are approved by EPD-Global, and iii) the process is reviewed annually by an independent third party verifier. See Appendix G of EPD-Global's General Programme Instructions for further information on EPD tools

### Verification of EPD tool:

Independent third party verification of the EPD tool, background data and test-EPD in accordance with EPD-Global's procedures and guidelines for verification and approval of EPD tools.

Third party verifier:

Elisabet Amat, GREENIZE projects

(no signature required)

### Owner of the declaration:

BEWI ASA, Insulation and Construction  
Contact person: Marc Storm Andersen  
Phone: +45 72157902  
e-mail: [marc.andersen@bewi.com](mailto:marc.andersen@bewi.com)

### Manufacturer:

BEWI Insulation Germany and Belgium  
Europe

### Place of production:

JACKON Insulation GmbH  
Ritzlebener Str.1  
39619 Arendsee, Germany

### Management system:

ISO 14001 og 9001 for all production sites

### Organisation no:

925437948

### Issue date:

29.05.2026

### Valid to:

29.05.2031

### Year of study:

2025

### Comparability:

EPD of construction products may not be comparable if they not comply with EN 15804:2012+A2:2019 and seen in a building context.

### Development and verification of EPD:

The declaration is created using EPD tool lca.tools ver EPD2022.03, developed by LCA.no. The EPD tool is integrated in the company's management system, and has been approved by EPD-Global. NEPD79

Developer of EPD: Mark Plate

Reviewer of company-specific input data and EPD: Martin Bendix

### Approved:

Håkon Hauan, CEO EPD-Global

## Product

### Product description:

#### Product description

JACKODUR KF is an extruded polystyrene foam (XPS) produced according to EN 13164 and available in board shape with a density range from 29 to 40 kg/m<sup>3</sup>, 32,1 kg/m<sup>3</sup> in average (measured). It has specifically low values of thermal conductivity. The boards can be delivered in compressive strength 300 or 500 or 700 kPa. To meet the need of various applications the boards are produced with different surfaces: with the extrusion skin, planed, grooved or with thermal embossing. JACKODUR KF boards are supplied with different edge treatments such as butt edge, ship-lap and tongue and groove. The EPD is related to an unlaminated product only; lamination and additional product treatment are not considered. For the placing on the market of the product in the European Union/European Free Trade Association (EU/EFTA) (with the exception of Switzerland) Regulation (EU) No. 305/2011 (CPR) applies. The product needs a declaration of performance taking into consideration EN 13164 Building insulation and the CE-marking.

#### Product application

The variety of the performance properties of JACKODUR KF make it suitable for use in a large number of applications such as: perimeter insulation, inverted roof insulation, insulation of pitched roofs, floor insulation including insulation of highly loaded industrial floors, insulation of thermal bridges for exterior walls, External Thermal Insulation Composite Systems (ETICS), insulation of cavity walls, agricultural building ceiling insulation, prefabricated elements e.g. building sandwich panels, insulation for building equipment and industrial installations (pipe sections, ...)

### Product specification

| Materials                  | kg    | %      |
|----------------------------|-------|--------|
| Expansion gas              | 2.20  | 6.41   |
| Filler                     | 0.151 | 0.4403 |
| Flame retardant            | 0.353 | 1.03   |
| Fuels, fossil              | 0.523 | 1.53   |
| Plastic - Polystyrene (PS) | 20.06 | 58.48  |
| Plastic - Recycled         | 11.01 | 32.11  |
| Total                      | 34.29 | 100.00 |

| Packaging             | kg    | %      |
|-----------------------|-------|--------|
| Packaging - Plastic   | 0.361 | 100.00 |
| Total incl. packaging | 34.65 | 100.00 |

### Technical data:

Further technical information can be obtained on [www.jackon-insulation.com](http://www.jackon-insulation.com) and in the table below

| Name                                                    | Value     | Unit                | Norm       |
|---------------------------------------------------------|-----------|---------------------|------------|
| Gross density                                           | 29 - 40   | kg / m <sup>3</sup> | EN 1602    |
| Compressive strength                                    | 0.3 - 0.7 | N/mm <sup>2</sup>   | EN 826     |
| Tensile strength                                        | 0,1 - 0,4 | N/mm <sup>2</sup>   | EN 1607    |
| Reaction to fire                                        | E         | class               | EN 13501-1 |
| Dimensional stability at 70°C and 90% relative humidity | < 5       | %                   | EN 1605    |
| Deformation under 40 kPa load and 70°C                  | < 5       | %                   | EN 1605    |
| Compressive creep (50 years, deformation < 2%)          | 130       | sc kPa 3            | EN 1606    |
| Long term water absorption by total immersion           | 0,7       | Level i %           | EN 12087   |
| Long term water absorption by diffusion                 | WD(V) 3   | class               | EN 12088   |
| Freeze-thaw resistance                                  | FTCD1     | class               | EN 12091   |
| Water vapour diffusion resistance factor                | 250-80    |                     | EN 12086   |

### Market:

Europe

### Reference service life, product

A reference service life (RSL) according to ISO 15686 cannot be declared. The durability of JACKODUR KF is normally at least as long as the lifetime of the building in which it is used (more than 80 years).

### Reference service life, building or construction works

As in the construction where it is used

## LCA: Calculation rules

### Declared unit:

1 m<sup>3</sup> JACKODUR KF

### Cut-off criteria:

All major raw materials and all the essential energy is included. The production processes for raw materials and energy flows with very small amounts (less than 1%) are not included. These cut-off criteria do not apply for hazardous materials and substances.

< 0,5%

#### Allocation:

The allocation is made in accordance with the provisions of EN 15804+A2. Incoming energy and water and waste production in-house is allocated equally among all products through mass allocation. Effects of primary production of recycled materials is allocated to the main product in which the material was used. The recycling process and transportation of the material is allocated to this analysis.

#### Data quality:

Specific data for the product composition are provided by the manufacturer. The data represent the production of the declared product and were collected for EPD development in the year of study. Background data is based on EPDs according to EN 15804 and different LCA databases. The data quality of the raw materials in A1 is presented in the table below.

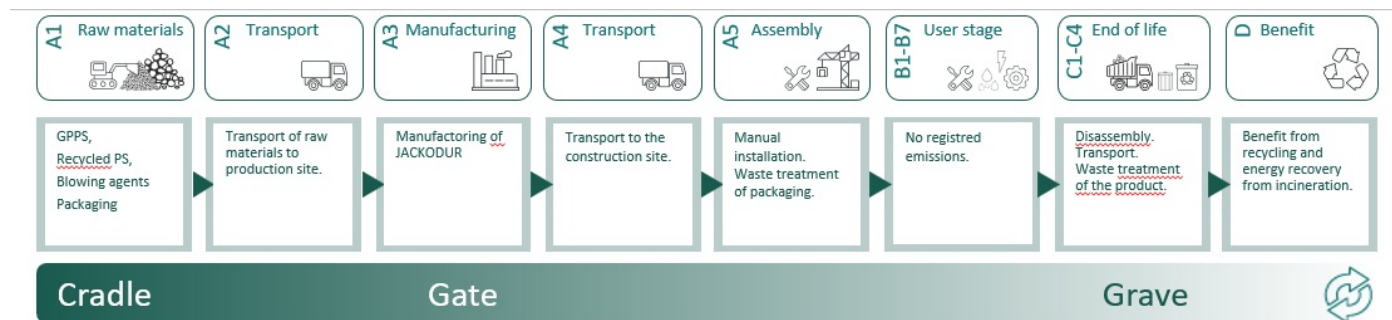
The two data sets on expansion gas belong to two different blowing agents.

| Materials                  | Source                          | Data quality      | Year |
|----------------------------|---------------------------------|-------------------|------|
| Expansion gas              | ecoinvent 3.6                   | Database          | 2019 |
| Expansion gas              | ecoinvent 3.6                   | Database          | 2020 |
| Filler                     | ecoinvent 3.6                   | Database          | 2019 |
| Flame retardant            | Ecoinvent 3.6                   | Database          | 2019 |
| Fuels, fossil              | ecoinvent 3.6                   | Database          | 2019 |
| Packaging - Plastic        | ecoinvent 3.6                   | Database          | 2019 |
| Plastic - Polystyrene (PS) | Plastics Europe + ecoinvent 3.6 | European average. | 2020 |
| Plastic - Recycled         | Supplier                        | EPD               | 0    |

## System boundaries (X=included, MND=module not declared, MNR=module not relevant)

| Product stage |           |               | Construction installation stage |          | Use stage |             |        |             |               |                        |                       |  | End of life stage          |           |                  |          | Beyond the system boundaries        |
|---------------|-----------|---------------|---------------------------------|----------|-----------|-------------|--------|-------------|---------------|------------------------|-----------------------|--|----------------------------|-----------|------------------|----------|-------------------------------------|
| Raw materials | Transport | Manufacturing | Transport                       | Assembly | Use       | Maintenance | Repair | Replacement | Refurbishment | Operational energy use | Operational water use |  | De-construction demolition | Transport | Waste processing | Disposal | Reuse-Recovery- Recycling-potential |
| 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                                   |

### System boundary:



### Additional technical information:

The following information describe the scenarios in the different modules of the EPD.

#### Product & Construction installation stages (A1-A5)

- The product stage includes the acquisition of all raw materials, products and energy, transport to the production site, packaging, and waste processing up to the 'end-of-waste' state or final disposal.
- No solid waste is generated from the production of XPS products, as the cut off is immediately returned to production line (however, some solid waste is produced from the raw material packaging, e.g., PE-folio).
- The blowing agent content in the XPS products is highest right after production, after which it continues to decrease. The release of blowing agent is reported in module A3 since it relates to the production
- A2-A4 is based on a weighted average for BEWI Insulation Germany and Belgium production sites (JACKON Insulation GmbH in Mechau – Germany and JACKON Insulation nv in Olen - Belgium).
- For A4, a weighted average distance is calculated based on the distance from both production sites.

#### End of Life stage (C1-C4) includes:

- The XPS product is dismantled manually, thus, no environmental impacts are associated with module C1. The dismantled XPS product is transported 50 km to an incineration plant by a EURO 6 diesel truck.
- Incineration of the dismantled XPS is included in module C3. Energy credits related to energy recovery from the incineration is included in module D.

#### Re-use, recovery, and recycling potential (D) includes:

- Credits for energy recovery related to the incineration is included in module D.
- The packaging materials, LDPE foil reach the end-of-waste stage in module A5, and the benefits from recycling and incineration of the packaging materials are included in module D

## LCA: Scenarios and additional technical information

The following information describe the scenarios in the different modules of the EPD.

| Transport from production place to user (A4)                              | Capacity utilisation<br>(incl. return) % | Distance (km) | Fuel/Energy<br>Consumption | Unit  | Value<br>(Liter/tonne) |
|---------------------------------------------------------------------------|------------------------------------------|---------------|----------------------------|-------|------------------------|
| Truck, 16-32 tonnes, EURO 6 (kgkm)                                        | 36.7 %                                   | 1040.00       | 0.043                      | l/tkm | 44.72                  |
| Assembly (A5)                                                             | Unit                                     | Value         |                            |       |                        |
| Waste, packaging, plastic to average treatment - A5 (inkl transport) (kg) | kg                                       | 0.361         |                            |       |                        |
| De-construction demolition (C1)                                           | Unit                                     | Value         |                            |       |                        |
| Waste treatment, PS, Insulation, Germany (kg)                             | kg                                       | 32.10         |                            |       |                        |
| Transport to waste processing (C2)                                        | Capacity utilisation<br>(incl. return) % | Distance (km) | Fuel/Energy<br>Consumption | Unit  | Value<br>(Liter/tonne) |
| Truck, over 32 tonnes, EURO 6 (kgkm)                                      | 53.3 %                                   | 50.00         | 0.023                      | l/tkm | 1.15                   |
| Waste processing (C3)                                                     | Unit                                     | Value         |                            |       |                        |
| Waste, Polystyrene, incineration                                          | kg                                       | 28.89         |                            |       |                        |
| Recycling of PS                                                           | kg                                       | 3.21          |                            |       |                        |
| Disposal (C4)                                                             | Unit                                     | Value         |                            |       |                        |
| Landfilling of ashes from incineration of PS                              | kg                                       | 0.08667       |                            |       |                        |
| Waste, inert waste, to landfill (kg)                                      | kg                                       | 0.00          |                            |       |                        |
| Benefits and loads beyond the system boundaries (D)                       | Unit                                     | Value         |                            |       |                        |
| substitution of electricity (MJ)                                          | MJ                                       | 16.76         |                            |       |                        |
| Substitution of thermal energy (MJ)                                       | MJ                                       | 922.49        |                            |       |                        |
| Substitution of expandable polystyrene, EPS, granulate (kg)               | kg                                       | 3.21          |                            |       |                        |

## LCA: Results

The LCA results are presented below for the declared unit defined on page 2 of the EPD document.

| Environmental impact                                                              |                                  |                        |          |          |          |          |          |          |          |          |          |           |
|-----------------------------------------------------------------------------------|----------------------------------|------------------------|----------|----------|----------|----------|----------|----------|----------|----------|----------|-----------|
| Indicator                                                                         |                                  | Unit                   | A1       | A2       | A3       | A4       | A5       | C1       | C2       | C3       | C4       | D         |
|  | GWP-total                        | kg CO <sub>2</sub> -eq | 5.59E+01 | 2.88E+00 | 5.82E+00 | 2.64E+00 | 2.86E-02 | 0.00E+00 | 1.40E-01 | 9.21E+01 | 4.49E-03 | -1.73E+01 |
|  | GWP-fossil                       | kg CO <sub>2</sub> -eq | 5.57E+01 | 2.88E+00 | 5.77E+00 | 2.64E+00 | 2.86E-02 | 0.00E+00 | 1.40E-01 | 9.21E+01 | 4.49E-03 | -1.71E+01 |
|  | GWP-biogenic                     | kg CO <sub>2</sub> -eq | 1.79E-01 | 1.19E-03 | 4.08E-02 | 1.09E-03 | 3.95E-06 | 0.00E+00 | 5.99E-05 | 6.35E-04 | 2.38E-06 | -8.23E-02 |
|  | GWP-luluc                        | kg CO <sub>2</sub> -eq | 1.43E-02 | 1.02E-03 | 1.02E-02 | 9.38E-04 | 2.19E-06 | 0.00E+00 | 4.26E-05 | 1.01E-04 | 6.88E-07 | -1.83E-01 |
|  | ODP                              | kg CFC11-eq            | 1.55E-06 | 6.52E-07 | 8.85E-07 | 5.97E-07 | 1.72E-09 | 0.00E+00 | 3.37E-08 | 6.61E-08 | 4.82E-10 | -3.90E-01 |
|  | AP                               | mol H <sup>+</sup> -eq | 1.38E-01 | 8.27E-03 | 1.42E-02 | 7.58E-03 | 3.52E-05 | 0.00E+00 | 4.50E-04 | 1.10E-02 | 1.58E-05 | -8.31E-02 |
|  | EP-FreshWater                    | kg P -eq               | 8.81E-04 | 2.30E-05 | 1.44E-04 | 2.11E-05 | 5.88E-08 | 0.00E+00 | 1.11E-06 | 6.52E-06 | 6.06E-08 | -6.65E-04 |
|  | EP-Marine                        | kg N -eq               | 3.29E-02 | 1.64E-03 | 2.77E-03 | 1.50E-03 | 3.22E-05 | 0.00E+00 | 9.86E-05 | 5.27E-03 | 4.93E-06 | -2.04E-02 |
|  | EP-Terrestrial                   | mol N -eq              | 3.59E-01 | 1.83E-02 | 3.27E-02 | 1.68E-02 | 1.26E-04 | 0.00E+00 | 1.10E-03 | 5.64E-02 | 5.61E-05 | -2.19E-01 |
|  | POCP                             | kg NMVOC-eq            | 1.31E-01 | 7.01E-03 | 3.11E-01 | 6.42E-03 | 4.15E-05 | 0.00E+00 | 4.32E-04 | 1.35E-02 | 1.55E-05 | -7.81E-02 |
|  | ADP-minerals&metals <sup>1</sup> | kg Sb-eq               | 1.70E-04 | 7.95E-05 | 1.18E-04 | 7.28E-05 | 1.52E-07 | 0.00E+00 | 2.49E-06 | 2.85E-06 | 2.51E-08 | -3.38E-05 |
|  | ADP-fossil <sup>1</sup>          | MJ                     | 1.77E+03 | 4.35E+01 | 1.66E+02 | 3.99E+01 | 1.18E-01 | 0.00E+00 | 2.27E+00 | 5.64E+00 | 4.08E-02 | -3.38E+02 |
|  | WDP <sup>1</sup>                 | m <sup>3</sup>         | 5.56E+02 | 4.21E+01 | 4.75E+02 | 3.85E+01 | 4.17E-01 | 0.00E+00 | 1.74E+00 | 1.25E+01 | 4.23E-01 | -2.74E+02 |

GWP-total = Global Warming Potential total; 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

"Reading example: 9.0 E-03 = 9.0\*10<sup>-3</sup> = 0.009"

1. The results of this environmental impact indicator shall be used with care as the uncertainties on these results are high or as there is limited experienced with the indicator

## Remarks to environmental impacts

## Additional environmental impact indicators

| Indicator                                                                                             | Unit              | A1       | A2       | A3       | A4       | A5       | C1       | C2       | C3       | C4       | D         |
|-------------------------------------------------------------------------------------------------------|-------------------|----------|----------|----------|----------|----------|----------|----------|----------|----------|-----------|
|  PM                  | Disease incidence | 8.82E-07 | 1.76E-07 | 9.05E-08 | 1.61E-07 | 6.34E-10 | 0.00E+00 | 1.28E-08 | 4.61E-08 | 1.96E-10 | -3.04E-06 |
|  IRP <sup>2</sup>    | kgBq U235 -eq     | 1.65E+00 | 1.90E-01 | 1.83E+00 | 1.74E-01 | 5.33E-04 | 0.00E+00 | 9.92E-03 | 9.44E-03 | 1.94E-04 | -4.18E-01 |
|  ETP-fw <sup>1</sup> | CTUe              | 8.14E+03 | 3.22E+01 | 9.85E+01 | 2.95E+01 | 1.13E-01 | 0.00E+00 | 1.66E+00 | 1.36E+01 | 7.50E-02 | -4.45E+02 |
|  HTP-c <sup>1</sup>  | CTUh              | 2.04E-08 | 0.00E+00 | 3.72E-09 | 0.00E+00 | 3.00E-12 | 0.00E+00 | 0.00E+00 | 3.87E-09 | 4.00E-12 | -9.16E-09 |
|  HTP-nc <sup>1</sup> | CTUh              | 8.56E-07 | 3.52E-08 | 8.67E-08 | 3.23E-08 | 1.06E-10 | 0.00E+00 | 1.61E-09 | 1.53E-07 | 1.38E-10 | -4.02E-07 |
|  SQP <sup>1</sup>    | dimensionless     | 9.82E+01 | 3.04E+01 | 5.66E+01 | 2.79E+01 | 2.06E-01 | 0.00E+00 | 2.60E+00 | 6.72E-01 | 1.13E-01 | -5.10E+02 |

PM = Particulate Matter emissions; IRP = Ionizing radiation – human health; ETP-fw = Eco toxicity – freshwater; HTP-c = Human toxicity – cancer effects; HTP-nc = Human toxicity – non cancer effects; SQP = Potential Soil Quality Index (dimensionless)

"Reading example: 9.0 E-03 =  $9.0 \times 10^{-3}$  = 0.009"

1. The results of this environmental impact indicator shall be used with care as the uncertainties on these results are high or as there is limited experienced with the indicator
2. 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.

| Resource use                                                                            |                |          |          |          |          |          |          |          |          |          |           |  |
|-----------------------------------------------------------------------------------------|----------------|----------|----------|----------|----------|----------|----------|----------|----------|----------|-----------|--|
| Indicator                                                                               | Unit           | A1       | A2       | A3       | A4       | A5       | C1       | C2       | C3       | C4       | D         |  |
|  PERE  | MJ             | 1.51E+01 | 6.23E-01 | 9.33E+01 | 5.71E-01 | 2.98E-03 | 0.00E+00 | 2.86E-02 | 1.62E-01 | 2.38E-03 | -4.23E+02 |  |
|  PERM  | MJ             | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00  |  |
|  PERT  | MJ             | 1.51E+01 | 6.23E-01 | 9.33E+01 | 5.71E-01 | 2.98E-03 | 0.00E+00 | 2.86E-02 | 1.62E-01 | 2.38E-03 | -4.23E+02 |  |
|  PENRE | MJ             | 1.07E+03 | 4.35E+01 | 1.66E+02 | 3.99E+01 | 1.18E-01 | 0.00E+00 | 2.27E+00 | 5.64E+00 | 4.08E-02 | -3.38E+02 |  |
|  PENRM | MJ             | 8.03E+02 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00  |  |
|  PENRT | MJ             | 1.87E+03 | 4.35E+01 | 1.66E+02 | 3.99E+01 | 1.18E-01 | 0.00E+00 | 2.27E+00 | 5.64E+00 | 4.08E-02 | -3.38E+02 |  |
|  SM    | kg             | 1.10E+01 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00  |  |
|  RSF   | MJ             | 5.39E-01 | 2.23E-02 | 5.55E-01 | 2.04E-02 | 7.81E-05 | 0.00E+00 | 9.99E-04 | 4.53E-03 | 5.92E-05 | -4.25E-02 |  |
|  NRSF  | MJ             | 3.72E-01 | 7.96E-02 | 3.90E+00 | 7.30E-02 | 2.04E-04 | 0.00E+00 | 3.35E-03 | 0.00E+00 | 9.42E-03 | -2.79E+01 |  |
|  FW    | m <sup>3</sup> | 1.21E+00 | 4.65E-03 | 6.80E-02 | 4.26E-03 | 6.23E-05 | 0.00E+00 | 2.58E-04 | 1.60E-02 | 3.75E-05 | -3.94E-01 |  |

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 materials; RSF = Use of renewable secondary fuels; NRSF = Use of non-renewable secondary fuels; FW = Net use of fresh water

"Reading example: 9.0 E-03 =  $9.0 \cdot 10^{-3}$  = 0.009"

**End of life - Waste**

| Indicator                                                                         |      | Unit | A1       | A2       | A3       | A4       | A5       | C1       | C2       | C3       | C4       | D         |
|-----------------------------------------------------------------------------------|------|------|----------|----------|----------|----------|----------|----------|----------|----------|----------|-----------|
|  | HWD  | kg   | 8.96E-02 | 2.24E-03 | 5.79E-02 | 2.06E-03 | 0.00E+00 | 0.00E+00 | 1.24E-04 | 0.00E+00 | 7.45E-02 | -5.81E-03 |
|  | NHWD | kg   | 5.00E+00 | 2.12E+00 | 9.58E-01 | 1.94E+00 | 3.61E-01 | 0.00E+00 | 1.97E-01 | 0.00E+00 | 3.69E-02 | -1.63E+00 |
|  | RWD  | kg   | 7.37E-04 | 2.96E-04 | 1.56E-03 | 2.71E-04 | 0.00E+00 | 0.00E+00 | 1.55E-05 | 0.00E+00 | 2.46E-07 | -3.67E-04 |

HWD = Hazardous waste disposed; NHWD = Non-hazardous waste disposed; RWD = Radioactive waste disposed

"Reading example: 9.0 E-03 =  $9.0 \times 10^{-3}$  = 0.009"

**End of life - Output flow**

| Indicator                                                                         |     | Unit | A1       | A2       | A3       | A4       | A5       | C1       | C2       | C3       | C4       | D        |
|-----------------------------------------------------------------------------------|-----|------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|
|  | CRU | kg   | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 |
|  | MFR | kg   | 1.17E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 1.84E-01 | 0.00E+00 | 0.00E+00 | 3.21E+00 | 0.00E+00 | 0.00E+00 |
|  | MER | kg   | 2.60E-01 | 0.00E+00 | 2.02E-01 | 0.00E+00 | 1.81E-05 | 0.00E+00 | 0.00E+00 | 2.89E+01 | 0.00E+00 | 0.00E+00 |
|  | EEE | MJ   | 4.00E-01 | 0.00E+00 | 1.20E-01 | 0.00E+00 | 2.77E-05 | 0.00E+00 | 0.00E+00 | 5.09E+01 | 0.00E+00 | 0.00E+00 |
|  | EET | MJ   | 6.05E+00 | 0.00E+00 | 1.82E+00 | 0.00E+00 | 4.20E-04 | 0.00E+00 | 0.00E+00 | 7.70E+02 | 0.00E+00 | 0.00E+00 |

CRU = Components for re-use; MFR = Materials for recycling; MER = Materials for energy recovery; EEE = Exported energy electrical; EET = Exported energy thermal

"Reading example: 9.0 E-03 =  $9.0 \times 10^{-3}$  = 0.009"

**Biogenic Carbon Content**

| Indicator                                         | Unit | At the factory gate |
|---------------------------------------------------|------|---------------------|
| Biogenic carbon content in product                | kg C | 0.00E+00            |
| Biogenic carbon content in accompanying packaging | kg C | 0.00E+00            |

Note: 1 kg biogenic carbon is equivalent to 44/12 kg CO<sub>2</sub>

## Additional requirements

### Greenhouse gas emissions from the use of electricity in the manufacturing phase

National production mix from import, low voltage (production of transmission lines, in addition to direct emissions and losses in grid) of applied electricity for the manufacturing process (A3).

| Electricity mix                                                                               | Source        | Amount | Unit                      |
|-----------------------------------------------------------------------------------------------|---------------|--------|---------------------------|
| Electricity, belgium (kWh)                                                                    | ecoinvent 3.6 | 248.03 | g CO <sub>2</sub> -eq/kWh |
| Electricity, with Guarantee of origin, 01.01.2025 - 31.12.2025 - BEWI Arendsee, Germany (kWh) | ecoinvent 3.6 | 29.24  | g CO <sub>2</sub> -eq/kWh |

### Dangerous substances

The product contains no substances given by the REACH Candidate list.

### Indoor environment

JACKODUR KF can be used indoor however they are generally not exposed to the indoor air but covered by a finishing element or system.

The VOC emission testing meets the requirements of the AgBB/DIBt method.

The tested products all comply with the requirements of DIBt and AgBB for the use in the indoor environment.

The tested products also all achieved the A+ rating of the French VOC labelling scheme.

## Additional Environmental Information

| Additional environmental impact indicators required in NPCR Part A for construction products |                        |          |          |          |          |          |          |          |          |          |           |
|----------------------------------------------------------------------------------------------|------------------------|----------|----------|----------|----------|----------|----------|----------|----------|----------|-----------|
| Indicator                                                                                    | Unit                   | A1       | A2       | A3       | A4       | A5       | C1       | C2       | C3       | C4       | D         |
| GWPIOBC                                                                                      | kg CO <sub>2</sub> -eq | 5.59E+01 | 2.88E+00 | 5.82E+00 | 2.64E+00 | 2.86E-02 | 0.00E+00 | 1.40E-01 | 9.21E+01 | 4.66E-03 | -1.72E+01 |

GWP-IOBC: Global warming potential calculated according to the principle of instantaneous oxidation. In order to increase the transparency of biogenic carbon contribution to climate impact, the indicator GWP-IOBC is required as it declares climate impacts calculated according to the principle of instantaneous oxidation. GWP-IOBC is also referred to as GWP-GHG in context to Swedish public procurement legislation.

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