ENVIRONMENTAL PRODUCT DECLARATION

IN ACCORDANCE WITH
EN 15804+A2 & ISO 14025

FLOW MODULES OY

COMPONENT EPD

BATHROOM MODULE 3.0

Publisher:	Rakennustieto Oy
Registration number in RTS EPD:	RTS_401.0_25
Publishing date:	24.6.2025
Component EPD valid for product EPDs until:	24.6.2028
Reference products valid until:	24.6.2030

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GENERAL INFORMATION

Manufacturer information

Manufacturer	Flow Modules Oy
Address	Itämerentori 2, 00180 Helsinki
Website	https://www.flowmodules.com/

Product identification

Product name	Bathroom module 3.0
Declared unit	1 bathroom module Component declared units presented in section Component descriptions
Product components	• Standard products • Base slab: Hollow core slab • Base slab: Super slab • Base slab: Cast in situ • Base slab: PARMAflow • PARMAflow-beam • Water circulation floor heating in the module and/or apartment • Manifold cabinet and manifolds for water circulation floor heating • Ventilation unit: Vallox 99 MV • Ventilation unit: Vallox 51 MV • Ventilation unit: Swegon Casa W3/W4 • Vertical wall stiffeners and silicones • Horizontal wall stiffeners and silicones plus glue and steel parts on the edges of the base slab • Ceiling: Steel panel ceiling • Horizontal ceiling stiffeners for steel panel ceiling • Ceiling: Aluminum honeycomb panel • Wall panels, tiles, glue and grout • Floor tiles and grouts • Shower wall • Laundry cabinet • Flow Module's production
Place(s) of production	Hämeenlinna, Finland

Component EPD

In the Component-EPD, the recurring components of a product group or product variation are divided into independent EPD components. The life cycle environmental impact results of the components, life cycle scenarios, and the combination of components into product-level EPD results are assessed, documented, and verified as part of the EPD approval process.

The goal of the Component Environmental Product Declaration (EPD) is to increase the availability of accurate product-specific EPD information for use in the construction industry. Taking the product EPD to the component level allows for efficient creation of product-specific EPD information by using the component EPD information as a basis and scaling it up to the product level.

EPD information

Construction products EPDs may not be comparable if they do not comply with EN 15804 and if they are not compared in a building context.

EPD program operator	Rakennustietosäätiö RTS sr, Malminkatu 16 A 00100 Helsinki https://ymparisto.rakennustieto.fi/
EPD standards	This EPD is in accordance with EN 15804+A2 and ISO 14025 standards.
Product category rules	The CEN standard EN 15804 serves as the core PCR. RTS PCR 2020
EPD author	Jere Peltomäki, Anni Viitala, Granlund Oy, Malminkaari 21 00701 Helsinki
EPD verification	Independent verification of this EPD and data, according to ISO 14025
Verification date	20.05.2025
EPD verifier	Anni Oviir, LCA Support
RTS EPD number	RTS_401.0_25
Publishing date	24.6.2025
EPD valid until	24.6.2028 component part; 24.6.2030 reference product

Verified according to the requirements of EN 15804+A2 (product category rules) Independent verification of the declaration, according to EN ISO 14025:2010	
☒ External	☐ Internal
Third party verifier:  Anni Oviir, LCA Support - Rangi Maja OÜ, 20.5.2025, Tallinn Estonia	

PRODUCT INFORMATION

PRODUCT DESCRIPTION

General description:

The bathroom module is a pre-manufactured bathroom that is transported to a construction site. It includes all necessary elements such as a shower, toilet, sink, cabinets, and building technology. The bathroom module is installed on-site. Module 3.0 can be installed in any multi-story building frame. There are standard bathroom modules available that offer pre-designed options for various needs. Additionally, project-specific customized modules are available. Reference Service Life (RSL) was set at 50 years based on the EU directive 2024/1275 Annex III.

Commercial labels:

The products cover multiple product variations. The component EPD can be used to form results for any product of the factory.

Dimension	Description	Dimensions
Inner depth	Measurement from the door side wall to the back wall	1,20 - 3,75 m
Inner width	Measurement from side wall to side wall when looking from the door	1,20 - 3,75 m
Inner height	The inside height of the module	2,2 - 2,5 m

Reference product dimensions

Reference product	Dimensions		Declared unit	RSL
M sized module	Inner width	2,046 m	1 module	50 years
	Inner depth	2,098 m		
	Inner height	2,25 m		

COMPONENT DESCRIPTIONS

The EPD has been developed based on the principle of modularity, allowing for the creation of EPD results for any company's product using the main components included in the products. This EPD creating method provides high coverage and adaptability to different product variants. Component-EPD has been developed and accepted by Rakennustieto EPD Publication system. The studied product components and their descriptions are presented in following part. An essential step in the development of a Component EPD is to identify the recurring component parts in the products, which are evaluated as independent EPD components. The EPD components assigned to the product group and included in the work are described below.

In general, the modularity of components in the studied product is based on the following variables:

- The product's room height, as well as the depth and width of the space, change with the size of the module: When the dimensions of the product change, the surface area of the walls, floor and ceiling also changes
- The customer-specific variation in the floor and wall covering materials of the module
- The customer-specific variation in the equipment of the module

The declared units of components vary depending on the scale of the component. The component descriptions are presented in the following table.

Product Component	Component description	Declared unit	RSL	Weight per declared unit
Standard products	Includes items that come as standard in the bathroom module, such as standard sized steel parts, sound insulation, drainage parts, water fixtures and parts, switchboard and other electrical parts, door parts etc.; the selected standard furniture represents the worst-case scenario of the three available option that is the steel furniture. Other available options are laminate and fiberboard furniture.	1 unit	50	230,2 kg
Base slab: Hollow core slab	Includes items, such as concrete, reinforcement steel, waterproofing fabric and underfloor heating related to manufacturing a hollow core slab, one out of the four options for Base slab	1 m^2	50	372,4 kg
Base slab: Super slab	Includes items, such as concrete, reinforcement steel, waterproofing fabric and underfloor heating related to manufacturing a Base slab branded as Super slab, one out of the four options for the Base slab	1 m^2	50	217,5 kg
Base slab: Cast in situ	Includes items, such as concrete, reinforcement steel, waterproofing fabric and underfloor heating related to manufacturing an in situ cast Base slab, one out of the four options for the Base slab	1 m^2	50	570,9 kg
Base slab: PARMAflow	Includes items, such as concrete, reinforcement steel, waterproofing fabric and underfloor heating related to manufacturing a Base slab branded as PARMAflow, one out of the four options for the Base slab	1 m^2	50	625,1 kg
PARMAflow-beam	Includes items related to manufacturing a steel beam for PARMAflow Base slab	1 m	50	78,9 kg
Water circulation floor heating in the module and/or apartment	Includes valves, pipes and thermal insulation related to water circulating floor heating	1 unit	50	12,7 kg
Manifold cabinet and manifolds for water circulation floor heating	Includes steel cabinet, manifolds and installation items related to water circulating floor heating	1 unit	50	11,2 kg

Product Component	Component description	Declared unit	RSL	Weight per declared unit
Ventilation unit: Vallox 99 MV	Includes the Ventilation unit Vallox 99 MV and items related to its assembly to the bathroom module, one of the three options for ventilation unit	1 unit	50	69,7 kg
Ventilation unit: Vallox 51 MV	Includes the Ventilation unit Vallox 51 MV and items related to its assembly to the bathroom module, one of the three options for ventilation unit	1 unit	50	49,5 kg
Ventilation unit: Swegon Casa W3/W4	Includes the Ventilation unit Swegon casa and items related to its assembly to the bathroom module, one of the three options for ventilation unit	1 unit	50	53,8 kg
Vertical wall stiffeners and silicones	Includes vertical steel stiffeners for wall panels and silicones on the vertical corners of the bathroom module	1 m	50	17,7 kg
Horizontal wall stiffeners and silicones plus glue and steel parts on the edges of the base slab	Includes vertical steel stiffeners for wall panels, silicones on the horizontal edges of the bathroom module plus glue and steel parts running on the edges of the foundation slab	1 m	50	1,03 kg
Ceiling: Steel panel ceiling	Includes steel panels and necessary items for ceiling installation plus shrink wrap above the ceiling, one of the two ceiling options	1 m^2	50	8,5 kg
Horizontal ceiling stiffeners for steel panel ceiling	Includes steel stiffeners for steel panel ceiling	1 m	50	4,7 kg
Ceiling: Aluminum honeycomb panel	Includes aluminum honeycomb panels and necessary items for ceiling installation plus shrink wrap above the ceiling, one of the two ceiling options	1 m^2	50	12,3 kg
Wall panels, tiles, glue and grout	Includes steel wall panels along with wall tiles, wall tile glue and grout plus shrink wrap around the bathroom module (ceiling excluded)	1 m^2	50	28,0 kg
Floor tiles and grouts	Includes floor tiles and grout	1 m^2	50	18,1 kg
Shower wall	Includes glass and aluminium framing of the shower wall	1 unit	50	29,0 kg
Laundry cabinet	Includes a laundry cabinet, which can be opted in to the module	1 unit	50	15,8 kg
Flow Module's production	Includes factory-level inputs related to production of the modules	1 unit		massless in bathroom module

Reference product contents

The selected reference products were M module variants with different base slabs. The reference product inputs are presented below:

Product component	Unit	M module with Hollow core slab		M module with Superslab		M module with Cast in situ		M module with Parmaflow	
		Input	Weight %	Input	Weight %	Input	Weight %	Input	Weight %
Base slab: Hollow core slab	m^2	4,83	66,0 %						
Base slab: Super slab	m^2			4,83	53,2 %				
Base slab: PARMAflow	m^2							5,21	74,6 %
Base slab: Cast in situ	m^2					5,21	76,3 %		
PARMAflow-beam	m							2,32	4,2 %
Floor tiles and grouts	m^2	4,35	2,9 %	4,35	4,0 %	4,35	2,0 %	4,35	1,8 %
Wall panels, tiles, glue and grout	m^2	16,98	17,5 %	16,98	24,1 %	16,98	12,2 %	16,98	10,9 %
Horizontal wall stiffeners and silicones plus glue and steel parts on the edges of the base slab	m^2	7,80	0,3 %	7,80	0,4 %	8,14	0,2 %	8,14	0,2 %
Vertical wall stiffeners and silicones	m^2	2,28	1,5 %	2,28	2,0 %	2,28	1,0 %	2,28	0,9 %
Ceiling: Steel panel ceiling	m^2	4,45	1,4 %	4,45	1,9 %	4,45	1,0 %	4,45	0,9 %
Horizontal ceiling stiffeners for steel panel ceiling	m	2,09	0,4 %	2,09	0,5 %	2,09	0,3 %	2,09	0,2 %
Laundry cabinet	unit	1	0,6 %	1	0,8 %	1	0,4 %	1	0,4 %
Shower wall	unit	1	1,1 %	1	1,5 %	1	0,7 %	1	0,7 %
Standard products	unit	1	8,4 %	1	11,6 %	1	5,9 %	1	5,3 %
Flow Module's production	unit	1	0,0 %	1	0,0 %	1	0,0 %	1	0,0 %
Total weight of the module including production scraps	**kg**	**2817,86**		**1976,09**		**3897,18**		**4362,86**	

PRODUCT RAW MATERIAL COMPOSITION AND TECHNICAL INFORMATION

Main substances of the components are presented in tables below presenting raw materials of components per 1 declared unit.

MAIN MATERIALS OF STANDARD PRODUCTS COMPONENT

Raw materials	Weight-%	Renewable material content (%)	Non-renewable content (%)	Recycled material content (%)	Origin
Steel	47 %	0	100	11	EU
Plastics	17 %	0	100	0	EU
Glue	0 %	0	100	0	EU
Multi-material	2 %	0	100	0	EU
Rubber	0 %	0	100	0	EU
Ceramics	20 %	0	100	0	EU
Wood	13 %	100	0	0	EU

MAIN MATERIALS OF BASE SLAB: HOLLOW CORE SLAB COMPONENT

Raw materials	Weight-%	Renewable material content (%)	Non-renewable content (2%)	Recycled material content (%)	Origin
Steel	1 %	0	100	91	EU
Concrete	99 %	0	100	0	EU
Plastics	<0,5 %	0	100	0	EU
Multi-material	<0,5 %	0	100	0	EU

MAIN MATERIALS OF BASE SLAB: SUPER SLAB COMPONENT

Raw materials	Weight-%	Renewable material content (%)	Non-renewable content (%)	Recycled material content (%)	Origin
Steel	7 %	0	100	43	EU
Concrete	93 %	0	100	0	EU
Plastics	<0,5 %	0	100	0	EU
Multi-material	<0,5 %	0	100	0	EU

MAIN MATERIALS OF BASE SLAB: CAST IN STU COMPONENT

Raw materials	Weight-%	Renewable material content (%)	Non-renewable content (%)	Recycled material content (%)	Origin
Steel	2 %	0	100	84	EU
Concrete	97 %	0	100	0	EU
Plastics	<0,5 %	0	100	0	EU
Multi-material	<0,5 %	0	100	0	EU

MAIN MATERIALS OF BASE SLAB: PARMAFLOW COMPONENT

Raw materials	Weight-%	Renewable material content (%)	Non-renewable content (%)	Recycled material content (%)	Origin
Steel	2 %	0	100	83	EU
Concrete	98 %	0	100	0	EU
Plastics	<0,5 %	0	100	0	EU

MAIN MATERIALS OF PARMAFLOW-BEAM COMPONENT

Raw materials	Weight-%	Renewable material content (%)	Non-renewable content (%)	Recycled material content (%)	Origin
Steel	100 %	0	100	97	EU

MAIN MATERIALS OF WATER CIRCULATION FLOOR HEATING IN THE MODULE AND/OR APARTMENT COMPONENT

Raw materials	Weight-%	Renewable material content (%)	Non-renewable content (%)	Recycled material content (%)	Origin
Steel	44 %	0	100	4	EU
Concrete	0 %	0	100	0	EU
Plastics	31 %	0	100	0	EU
Glue	0 %	0	100	0	EU
Multi-material	18 %	0	100	0	EU
Rubber	7 %	0	100	0	EU

MAIN MATERIALS OF MANIFOLD CABINET AND MANIFOLDS FOR WATER CIRCULATION FLOOR HEATING COMPONENT

Raw materials	Weight-%	Renewable material content (%)	Non-renewable content (%)	Recycled material content (%)	Origin
Steel	68 %	0	100	10	EU
Concrete	0 %	0	100	0	EU
Plastics	32 %	0	100	0	EU

MAIN MATERIALS OF VENTILATION UNIT: VALLOX 99 MV COMPONENT

Raw materials	Weight-%	Renewable material content (%)	Non-renewable content (%)	Recycled material content (%)	Origin
Steel	10 %	0	100	7	EU
Electronics	89 %	0	100	0	EU
Copper	1 %	0	100	80	EU

MAIN MATERIALS OF VENTILATION UNIT: VALLOX 51 MV COMPONENT

Raw materials	Weight-%	Renewable material content (%)	Non-renewable content (%)	Recycled material content (%)	Origin
Steel	8 %	0	100	13	EU
Electronics	91 %	0	100	0	EU
Copper	1 %	0	100	80	EU

MAIN MATERIALS OF VENTILATION UNIT: SWEGON CASA W3/W4 COMPONENT

Raw materials	Weight-%	Renewable material content (%)	Non-renewable content (%)	Recycled material content (%)	Origin
Steel	15 %	0	100	11	EU
Electronics	83 %	0	100	0	EU
Copper	2 %	0	100	80	EU

MAIN MATERIALS OF VERTICAL WALL STIFFENERS AND SILICONES COMPONENT

Raw materials	Weight-%	Renewable material content (%)	Non-renewable content (%)	Recycled material content (%)	Origin
Steel	98 %	0	100	15	EU
Rubber	2 %	0	100	0	EU

MAIN MATERIALS OF HORIZONTAL WALL STIFFENERS AND SILICONES PLUS GLUE AND STEEL PARTS ON THE EDGES OF THE BASE SLAB COMPONENT

Raw materials	Weight-%	Renewable material content (%)	Non-renewable content (%)	Recycled material content (%)	Origin
Steel	40 %	0	100	15	EU
Plastics	43 %	0	100	0	EU
Rubber	17 %	0	100	0	EU

MAIN MATERIALS OF CEILING: STEEL PANEL CEILING COMPONENT

Raw materials	Weight-%	Renewable material content (%)	Non-renewable content (%)	Recycled material content (%)	Origin
Steel	91 %	0	100	2	EU
Concrete	0 %	0	100	0	EU
Plastics	9 %	0	100	0	EU

MAIN MATERIALS OF HORIZONTAL CEILING STIFFENERS FOR STEEL PANEL CEILING COMPONENT.

Raw materials	Weight-%	Renewable material content (%)	Non-renewable content (%)	Recycled material content (%)	Origin
Steel	100 %	0	100	3,5	EU

MAIN MATERIALS OF CEILING: ALUMINUM HONEYCOMB PANEL COMPONENT

Raw materials	Weight-%	Renewable material content (%)	Non-renewable content (%)	Recycled material content (%)	Origin
Steel	48 %	0	100	11	EU
Plastics	6 %	0	100	0	EU
Aluminium	46 %	0	100	0	EU

MAIN MATERIALS OF WALL PANELS, TILES, GLUE AND GROUT COMPONENT

Raw materials	Weight-%	Renewable material content (%)	Non-renewable content (%)	Recycled material content (%)	Origin
Steel	35 %	0	100	0	EU
Plastics	3 %	0	100	0	EU
Glue	4 %	0	100	0	EU
Ceramics	58 %	0	100	0	EU

MAIN MATERIALS OF FLOOR TILES AND GROUTS COMPONENT

Raw materials	Weight-%	Renewable material content (%)	Non-renewable content (%)	Recycled material content (%)	Origin
Ceramics	100 %	0	100	0	EU

MAIN MATERIALS OF SHOWER WALL COMPONENT

Raw materials	Weight-%	Renewable material content (%)	Non-renewable content (%)	Recycled material content (%)	Origin
Aluminium	10 %	0	100	0	EU
Ceramics	90 %	0	100	0	EU

MAIN MATERIALS OF LAUNDRY CABINET COMPONENT

Raw materials	Weight-%	Renewable material content (%)	Non-renewable content (%)	Recycled material content (%)	Origin
Steel	100 %	0	100	11	EU

PACKAGING MATERIAL COMPOSITION AND TECHNICAL INFORMATION

MAIN PACKAGING MATERIALS PER PRODUCT

The main packaging materials of the product are presented in the following table per 1 m^2 of bathroom module.

Packaging material	Weight %
Plastic wrapping	100
Total	3,37 kg

SUBSTANCES, REACH - VERY HIGH CONCERN

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

LIFE-CYCLE ASSESSMENT

Life-cycle assessment information

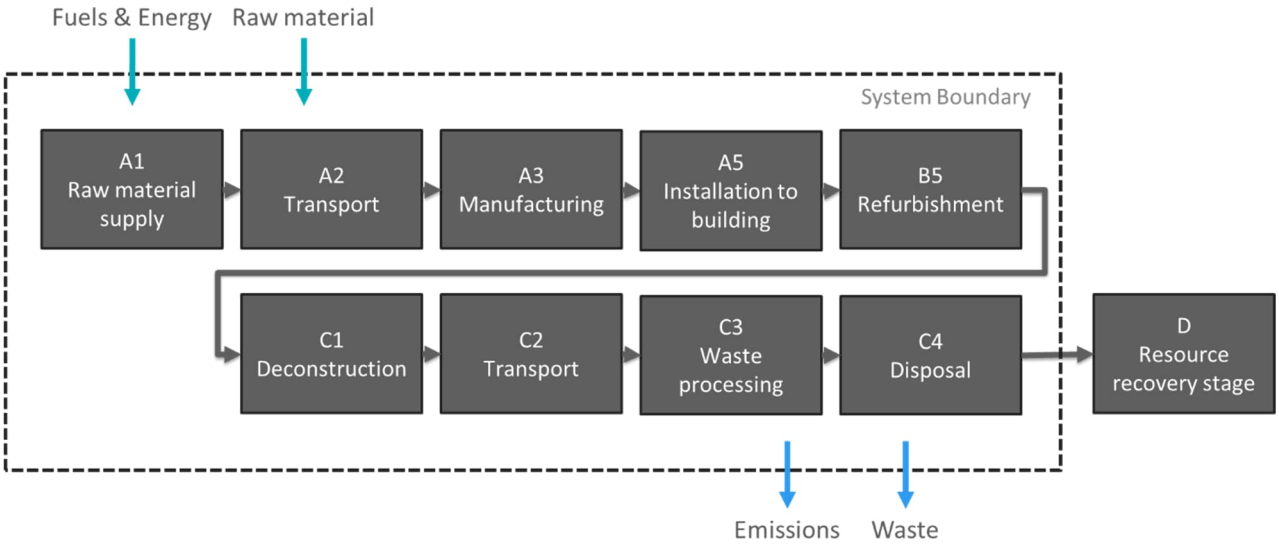
Period for data	1 year, 2023

Declared unit

Declared unit	1 bathroom module unit Declared units of components are presented in component descriptions

SYSTEM BOUNDARY

The studied system boundary was cradle to gate with options, modules C1–C4 and module D (A1–A3, B5, C1-C4 and D). The Studied system covers the following steps of life cycle according to EN 15804: **A1** Raw material supply, **A2** Transport, **A3** Manufacturing, **A5** Installation to building **B5** Refurbishment, **C1** Deconstruction, **C2** Transportation of end-of-life **C3** Waste processing and **C4** Disposal. Additionally, the benefits and loads beyond the system boundary are included to the stage **D**, which consists of product reuse, recycling and recovery. System boundary describing the system boundary and the input and output flows are shown below:



LCA System Boundary.

Studied system covers the following steps of life cycle according to EN 15804:

	Product Stage			Construction Process Stage		Use Stage							End-of-Life Stage				Benefits and loads beyond the system boundary		
	Raw material supply	Transport	Manufacturing	Transport to building	Installation to building	Use/applications	Maintenance	Repair	Replacement	Refurbishment	Operational energy use	Operational water use	Deconstruction/demolition	Transport	Waste processing	Disposal	Reuse	Recovery	Recycling
Stage	A1	A2	A3	A4	A5	B1	B2	B3	B4	B5	B6	B7	C1	C2	C3	C4	D	D	D
Included	X	X	X		X					X			X	X	X	X	X	X	X
Relevancy	R	R	R	NR	R	NR	NR	NR	NR	R	NR	NR	R	R	R	R	R	R	R

Mandatory
Mandatory as per the RTS PCR section 6.2.1 rules and terms
Optional modules based on scenarios

Life cycle stages according to the EN 15804. Stages studied in this assessment have been marked. R = Relevant NR= Not relevant.

The system boundary includes stage B5 for all components. Not all components have replacements during the 50-year period, which is why emissions are 0 for some of the components.

OMISSIONS OF LIFE CYCLE STAGES

The study does not omit any life cycle stages, processes or data needs that are mandatory according to EN 15804 and RTS PCR. The study excludes the following life cycle stages which are optional according to EN 15804 and RTS PCR:

- A4 Transport to building
- B1 Use
- B2 Maintenance
- B3 Repairs
- B4 Replacement
- B6 Operational energy use
- B7 Operational water use

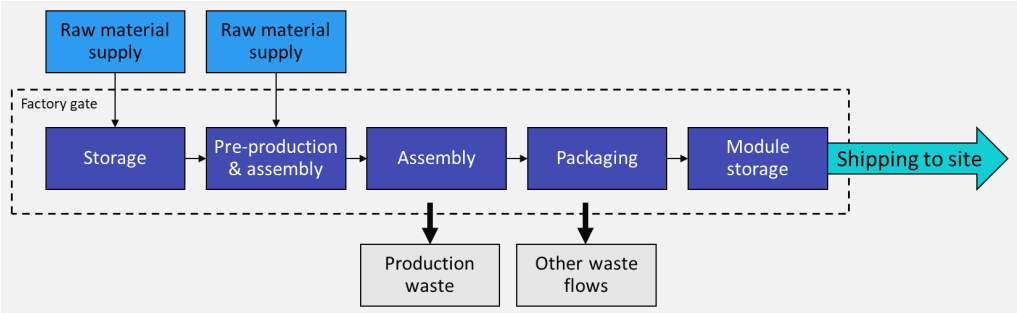
THE DETERMINATION OF END-OF-WASTE POINTS

In a Component-EPD, the system boundary is defined at the level of the product being studied. The system boundary applies to the EPD component level. Descriptions of End-of-Waste points that specify the system boundary are presented below.

- **A1 module**: The end of waste point of the recycled steel was assumed to be after the scrap collection, sorting and preparation. Processing of scrap steel in steel production was considered to be part of this life cycle and thus was included to the system boundaries.
- **A3 module**: The end of waste point of the production scraps is the point where it is processed to be ready to use in following life cycles. For example, for incinerated waste streams, it is the incineration of the materials, which results as energy that is then available for consumption in the following life cycle. For paper waste, it is ready to be used as secondary raw material after sorting.
- **A5 module**: The end of waste point of the production scraps is the point where it is processed to be ready to use in following life cycles. For example, for incinerated waste streams, it is the incineration of the materials, which results as energy that is then available for consumption in the following life cycle.
- **B5 module**: End of waste point of the materials consumed in refurbishment is the step when materials are collected and handled in the sorting plant. For metal-based materials, the end of waste point is when materials are sorted and pressed and available to be used to replace primary steel.
- **C3-C4 module**: End of waste point of the studied product is the step when materials are collected and handled in the sorting plant. For metal-based materials, the end of waste point is when materials are sorted and pressed and available to be used to replace primary steel.

DESCRIPTION OF THE PRODUCTION PROCESS

Production stage (A3) of Flow Modules' production sites cover the following manufacturing processes:



The production processes of Flow Modules.

Pre-production and assembly stages of module production include:

- Casting and tiling the base slab
- Cutting the metal sheets
- Tiling the walls
- Manufacturing the ceiling
- Manufacturing the walls
- Caulking the seams

Assembly stage includes:

- Installation of water fixtures
- Electrical installations
- Plumbing work
- Cleaning and finishing

CUT-OFF CRITERIA

This study follows the cut-off criteria stated in RTS PCR and EN 15804 standard. This study does not exclude any modules or processes which represent more than 1 % of the emissions of studied life cycle stage. The study does not exclude any hazardous materials or substances.

Excluded processes and the criteria for exclusion are given in following table. Machines and facilities (capital goods) required for and during production are excluded, as is transportation of employees.

Process excluded from study	Cut-off criteria	Quantified contribution from process
Individual components weighing less than 1 kg	No significant impact to the product total weight. No significant impact to the product environmental impact.	0,6 % of the total material weight of all studied components
A4 Transport to building	Not mandatory	
B1-B4, B6-B7 Use stage	Not mandatory	

ALLOCATION, ESTIMATES AND ASSUMPTIONS

Allocation rules used are made according to the ISO14044:2006. Allocation is avoided when possible and when necessary, allocation is made based on physical shares and also avoiding double calculations. Allocation is required if the production process produces more than one product and the flows of materials, energy and waste cannot be separately measured for the studied product. Allocation used in generic data sources follow the requirements of the EN 15804 -standard. It should be noticed that the allocation method 'Allocation, cut-off, EN15804' has been used for Ecoinvent 3.8 data, which complies with EN 15804.

Avoiding allocation could not be avoided for following inputs as the information was only measured on factory process level.

- Electricity: only measured on factory level.
- District heating: only measured on factory level.
- Production waste flows: only measured on factory level.
- Production water consumption: only measured on factory level
- Packaging materials: only measured on factory level.
- Ancillary materials: only measured on factory level.

The inputs were allocated to studied product based on production of bathroom module units per year.

According to EN 15804, flows leaving the system at the end-of-waste boundary of the product stage (A1-A3) are allocated as co-products. According to EN 15804, process that has a very low contribution to the overall revenue may be neglected in co-product allocation. Flow Modules does not receive any compensation from co-products. Co-product allocations are not carried out.

KEY ASSUMPTIONS

The scenarios included are currently in use and are representative for one of the most likely scenario alternatives.

C1-C4 End of life scenario: End-of-life scenario was assumed based on the common practices of construction products in Finland. The scenarios are assumed to represent the product's market area in Europe as well.

- **C1 Deconstruction/demolition**: During the demolition phase C1, the entire final product is dismantled, using the mass of the final product as the input data. The energy use (diesel usage) in the demolition stage is 1,30 kWh/t (Erlandsson, M. & Pettersson, D., 2015.)
- **C2 Transportation**: Transportation distance 75 km road driving by lorry. (SYKE 2021.)
- **C3-C4 Waste treatment and final disposal**: The EoL scenarios are based on the Finnish CO2data.fi. EoL scenarios were applied item-by-item based on the representative scenario.
- **Module D** covers the net benefits and loads arising from the reuse of products or the recycling or recovery of energy from end-of-waste state materials.
    - Energy recovery of waste polymers: Net energy production for electric energy was 3.93MJ/kg and for thermal energy it was 7.67MJ/kg.
    - Benefits from the recycling of steel, mineral waste, brass, copper, aluminium and glass were included in the assessment.
    - Loads from metals recycling in the following product system were included in the assessment.

VALIDATION OF DATA

The quality requirements for the life cycle assessment were set according to the EN ISO 14044 standard (4.2.3.6) and EN 15804 standard (6.3.7).

This LCA study follows the standard EN 15804:2012+A2:2019 and RTS PCR and no decisions are made based on the values. The study does not consider long-term emissions (i.e. over 100 years). Characterization factors CML-IA version 4.1 have been used throughout the study. Impact assessment characterization factors are aligned with EF 3.0.

The calculations were conducted using One Click LCA -tool which is a cloud-based LCA software in compliancy with EN 15804 standard.

PROCEDURED FOR COLLECTION PROCESS SPECIFIC DATA

Production specific data was collected directly from manufacturer's production plant. The data represents the production of the studied product at the plant from the materials transported to the facility and represents 1 year average. The data was examined prudently, and clarifications requested from factory representatives when any suspicious or unclear values were detected. The data represents year 2023, which was the latest year with full year data. All gathered data was used without excluding categories in advance following the system boundaries set in earlier chapters.

CRITERIA FOR CHOOSING THE GENERIC DATA

Generic data that was used for upstream and downstream processes represents complementary data from Ecoinvent 3.8 database.

The datasets were chosen to represent the studied system as closely as possible. When available supplier specific information was used for instance in form of EN 15804 EPDs or production profile of local energy supplier. When supplier specific information was not available the information sources were chosen based on their technical and geographical representativeness. Only when country specific or European data has not been available has global level data been used (concerns mainly data from Ecoinvent 3.8)

As up-to-date data as possible was chosen and no more than five-year-old for producer specific data and ten years for generic data was used.

ENVIRONMENTAL IMPACT DATA, COMPONENTS

STANDARD PRODUCTS, 1 UNIT

CORE ENVIRONMENTAL IMPACT INDICATORS – EN 15804+A2, PEF

Impact category	Unit	A1-A3	A5	B5	C1	C2	C3	C4	D
GWP – total	kg CO_2e	5,48E+02	0,00E+00	5,04E+02	9,90E-02	1,62E+00	1,71E+02	2,87E-01	-1,78E+02
GWP – fossil	kg CO_2e	6,04E+02	0,00E+00	5,02E+02	9,90E-02	1,62E+00	1,14E+02	2,87E-01	-1,78E+02
GWP – biogenic	kg CO_2e	-5,69E+01	0,00E+00	0,00E+00	0,00E+00	0,00E+00	5,69E+01	0,00E+00	-8,38E-03
GWP – LULUC	kg CO_2e	1,26E+00	0,00E+00	1,33E+00	9,85E-06	5,98E-04	2,73E-03	2,71E-04	-1,85E-01
Ozone depletion pot.	kg CFC_{-11}e	2,13E-05	0,00E+00	2,21E-05	2,12E-08	3,73E-07	4,48E-07	1,14E-07	-7,34E-06
Acidification potential	mol H^+e	3,67E+00	0,00E+00	3,70E+00	1,03E-03	6,86E-03	4,34E-02	2,70E-03	-1,43E+00
EP-freshwater[3)]	kg Pe	9,60E-02	0,00E+00	1,80E-01	3,28E-07	1,33E-05	1,12E-04	2,95E-06	-6,44E-03
EP-marine	kg Ne	5,41E-01	0,00E+00	4,37E-01	4,55E-04	2,04E-03	1,94E-02	9,45E-04	-9,57E-02
EP-terrestrial	mol Ne	6,98E+00	0,00E+00	6,00E+00	4,99E-03	2,25E-02	1,89E-01	1,04E-02	-2,12E+00
POCP (“smog”)	kg NMVOCe	1,80E+00	0,00E+00	1,36E+00	1,37E-03	7,20E-03	4,76E-02	3,02E-03	-8,46E-01
ADP-minerals & metals	kg Sbe	2,16E+03	0,00E+00	4,14E+03	5,02E-08	3,80E-06	7,14E-05	6,45E-07	-1,67E-02
ADP-fossil resources	MJ	6,99E+03	0,00E+00	2,38E+03	1,33E+00	2,43E+01	4,41E+01	7,72E+00	-2,18E+03
Water use[2)]	m^3e depr.	3,73E+02	0,00E+00	3,32E+02	3,58E-03	1,09E-01	6,86E+00	2,45E-02	5,82E+00

1)GWP = Global Warming Potential; EP = Eutrophication potential; POCP = Photochemical ozone formation; ADP = Abiotic depletion potential. 2) 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 experienced with the indicator. 3) Required characterisation method and data are in kg P-eq. Multiply by 3,07 to get PO_4e.

USE OF NATURAL RESOURCES

Impact category	Unit	A1-A3	A5	B5	C1	C2	C3	C4	D
Renew. PER as energy	MJ	1,19E+03	0,00E+00	1,26E+03	7,61E-03	2,74E-01	3,25E+00	6,69E-02	-4,31E+02
Renew. PER as material	MJ	5,81E+02	0,00E+00	0,00E+00	0,00E+00	0,00E+00	-5,79E+02	0,00E+00	0,00E+00
Total use of renew. PER	MJ	1,77E+03	0,00E+00	1,26E+03	7,61E-03	2,74E-01	-5,75E+02	6,69E-02	-4,31E+02
Non-re. PER as energy	MJ	6,01E+03	0,00E+00	5,64E+03	1,33E+00	2,43E+01	4,41E+01	7,72E+00	-2,18E+03
Non-re. PER as material	MJ	1,00E+03	0,00E+00	0,00E+00	0,00E+00	0,00E+00	-1,01E+03	0,00E+00	0,00E+00
Total use of non-ren. PER	MJ	7,02E+03	0,00E+00	5,64E+03	1,33E+00	2,43E+01	-9,69E+02	7,72E+00	-2,18E+03
Secondary materials	kg	1,15E+01	0,00E+00	2,88E+00	5,21E-04	6,76E-03	5,56E-02	1,65E-03	5,93E+01
Renew. secondary fuels	MJ	2,51E+01	0,00E+00	2,49E+01	1,70E-06	6,82E-05	2,75E-03	4,18E-05	-1,54E-02
Non-ren. secondary fuels	MJ	1,32E-02	0,00E+00	1,32E-02	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00
Use of net fresh water	m^3	7,32E+00	0,00E+00	7,74E+00	8,09E-05	3,15E-03	1,70E-01	8,30E-03	-3,78E+00

1)PER = primary energy resources; Non-ren = Non renewable

END OF LIFE – WASTE

Impact category	Unit	A1-A3	A5	B5	C1	C2	C3	C4	D
Hazardous waste	kg	1,25E+01	0,00E+00	8,76E+00	1,78E-03	3,23E-02	0,00E+00	2,82E-04	-6,54E+01
Non-hazardous waste	kg	3,15E+02	0,00E+00	3,55E+02	1,25E-02	5,30E-01	0,00E+00	5,20E+01	-5,58E+02
Radioactive waste	kg	1,50E-01	0,00E+00	2,38E-01	9,37E-06	1,63E-04	0,00E+00	1,46E-06	-1,04E-02

END OF LIFE – OUTPUT FLOWS

Impact category	Unit	A1-A3	A5	B5	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	0,00E+00	0,00E+00
Materials for recycling	kg	9,51E-01	0,00E+00	1,82E+01	0,00E+00	0,00E+00	9,30E+01	0,00E+00	0,00E+00
Materials for energy recovery	kg	2,53E+00	0,00E+00	5,92E+01	0,00E+00	0,00E+00	7,66E+01	0,00E+00	0,00E+00
Exported energy	MJ	4,84E+01	0,00E+00	4,84E+01	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00

BIOGENIC CARBON CONTENT

Biogenic carbon content	Unit (per declared unit)
Biogenic carbon content in product	0 kg
Biogenic carbon content in accompanying packaging	0 kg

NOTE 1 kg biogenic carbon is equivalent to 44/12 kg of CO_2

BASE SLAB: HOLLOW CORE SLAB, 1 M^2

CORE ENVIRONMENTAL IMPACT INDICATORS – EN 15804+A2, PEF

Impact category	Unit	A1-A3	A5	B5	C1	C2	C3	C4	D
GWP – total	kg CO_2e	4,68E+01	0,00E+00	2,88E-01	1,60E-01	2,63E+00	2,63E+00	1,04E+00	-5,30E+00
GWP – fossil	kg CO_2e	4,68E+01	0,00E+00	2,88E-01	1,60E-01	2,63E+00	2,63E+00	1,04E+00	-5,28E+00
GWP – biogenic	kg CO_2e	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	-9,23E-03
GWP – LULUC	kg CO_2e	4,78E-02	0,00E+00	1,29E-04	1,60E-05	9,67E-04	1,88E-04	1,89E-03	-5,75E-03
Ozone depletion pot.	kg CFC_{-11}e	2,46E-07	0,00E+00	4,62E-09	3,42E-08	6,02E-07	3,91E-07	2,92E-07	-6,64E-07
Acidification potential	mol H^+e	6,69E-02	0,00E+00	7,08E-04	1,66E-03	1,11E-02	1,91E-02	9,46E-03	-3,54E-02
EP-freshwater[3)]	kg Pe	1,01E-04	0,00E+00	4,31E-06	5,30E-07	2,15E-05	6,25E-06	8,63E-06	-1,97E-04
EP-marine	kg Ne	2,42E-02	0,00E+00	1,38E-04	7,37E-04	3,29E-03	8,47E-03	3,71E-03	-8,90E-03
EP-terrestrial	mol Ne	1,67E-01	0,00E+00	1,52E-03	8,07E-03	3,64E-02	9,27E-02	4,08E-02	-1,06E-01
POCP (“smog”)	kg NMVOCe	5,09E-02	0,00E+00	6,06E-04	2,21E-03	1,16E-02	2,55E-02	1,15E-02	-2,98E-02
ADP-minerals & metals	kg Sbe	2,15E-04	0,00E+00	8,32E-07	8,11E-08	6,15E-06	9,96E-07	1,95E-06	-4,33E-05
ADP-fossil resources	MJ	2,81E+02	0,00E+00	4,39E+00	2,15E+00	3,93E+01	2,46E+01	1,96E+01	-7,47E+01
Water use[2)]	m^3e depr.	4,12E+00	0,00E+00	6,87E-02	5,80E-03	1,76E-01	9,77E-02	6,91E-02	-4,91E+00

1)GWP = Global Warming Potential; EP = Eutrophication potential; POCP = Photochemical ozone formation; ADP = Abiotic depletion potential. 2) 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 experienced with the indicator. 3) Required characterisation method and data are in kg P-eq. Multiply by 3,07 to get PO_4e.

USE OF NATURAL RESOURCES

Impact category	Unit	A1-A3	A5	B5	C1	C2	C3	C4	D
Renew. PER as energy	MJ	7,35E+01	0,00E+00	1,05E-01	1,23E-02	4,43E-01	1,46E-01	1,99E-01	-5,40E+00
Renew. PER as material	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
Total use of renew. PER	MJ	7,35E+01	0,00E+00	1,05E-01	1,23E-02	4,43E-01	1,46E-01	1,99E-01	-5,40E+00
Non-re. PER as energy	MJ	2,63E+02	0,00E+00	2,36E+00	2,15E+00	3,93E+01	2,46E+01	1,96E+01	-7,47E+01
Non-re. PER as material	MJ	2,94E+01	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	-2,94E+01	0,00E+00
Total use of non-ren. PER	MJ	2,92E+02	0,00E+00	2,36E+00	2,15E+00	3,93E+01	2,46E+01	-9,83E+00	-7,47E+01
Secondary materials	kg	1,44E+00	0,00E+00	2,86E-04	8,44E-04	1,09E-02	9,73E-03	6,13E-03	1,80E-01
Renew. secondary fuels	MJ	9,62E-03	0,00E+00	3,13E-06	2,75E-06	1,10E-04	3,60E-05	8,01E-05	-4,35E-04
Non-ren. secondary fuels	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
Use of net fresh water	m^3	1,28E-01	0,00E+00	1,81E-03	1,31E-04	5,09E-03	2,67E-03	1,25E-02	-1,20E-01

1)PER = primary energy resources; Non-ren = Non renewable

END OF LIFE – WASTE

Impact category	Unit	A1-A3	A5	B5	C1	C2	C3	C4	D
Hazardous waste	kg	1,42E-01	0,00E+00	8,30E-03	2,88E-03	5,22E-02	0,00E+00	2,59E-02	-4,28E-01
Non-hazardous waste	kg	1,50E+01	0,00E+00	2,28E-01	2,03E-02	8,57E-01	0,00E+00	3,44E-01	-8,84E+00
Radioactive waste	kg	5,51E-03	0,00E+00	3,02E-06	1,52E-05	2,63E-04	0,00E+00	1,33E-04	-4,18E-04

END OF LIFE – OUTPUT FLOWS

Impact category	Unit	A1-A3	A5	B5	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	0,00E+00	0,00E+00
Materials for recycling	kg	4,99E-02	0,00E+00	0,00E+00	0,00E+00	0,00E+00	2,98E+02	0,00E+00	0,00E+00
Materials for energy recovery	kg	1,10E-03	0,00E+00	5,34E-02	0,00E+00	0,00E+00	3,39E-01	0,00E+00	0,00E+00
Exported energy	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

BIOGENIC CARBON CONTENT

Biogenic carbon content	Unit (per declared unit)
Biogenic carbon content in product	0 kg
Biogenic carbon content in accompanying packaging	0 kg

NOTE 1 kg biogenic carbon is equivalent to 44/12 kg of CO_2

BASE SLAB: SUPER SLAB, 1 M²

CORE ENVIRONMENTAL IMPACT INDICATORS – EN 15804+A2, PEF

Impact category	Unit	A1-A3	A5	B5	C1	C2	C3	C4	D
GWP – total	kg CO_2e	5,75E+01	0,00E+00	2,88E-01	9,36E-02	1,53E+00	2,59E+00	5,88E-01	-1,67E+01
GWP – fossil	kg CO_2e	5,75E+01	0,00E+00	2,88E-01	9,36E-02	1,53E+00	2,59E+00	5,86E-01	-1,67E+01
GWP – biogenic	kg CO_2e	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	-7,76E-03
GWP – LULUC	kg CO_2e	1,61E-02	0,00E+00	1,29E-04	9,31E-06	5,65E-04	1,84E-04	1,04E-03	-5,80E-03
Ozone depletion pot.	kg CFC_{-11}e	4,78E-07	0,00E+00	4,62E-09	2,00E-08	3,52E-07	3,83E-07	1,64E-07	-9,00E-07
Acidification potential	mol H^+e	1,54E-01	0,00E+00	7,08E-04	9,73E-04	6,48E-03	1,87E-02	5,34E-03	-7,62E-02
EP-freshwater[3)]	kg Pe	6,44E-05	0,00E+00	4,31E-06	3,10E-07	1,25E-05	6,11E-06	4,80E-06	-6,75E-04
EP-marine	kg Ne	4,08E-02	0,00E+00	1,38E-04	4,31E-04	1,93E-03	8,28E-03	2,11E-03	-1,64E-02
EP-terrestrial	mol Ne	3,44E-01	0,00E+00	1,52E-03	4,72E-03	2,13E-02	9,07E-02	2,32E-02	-1,92E-01
POCP (“smog”)	kg NMVOCe	1,05E-01	0,00E+00	6,06E-04	1,30E-03	6,79E-03	2,48E-02	6,50E-03	-8,49E-02
ADP-minerals & metals	kg Sbe	2,24E-04	0,00E+00	8,32E-07	4,74E-08	3,58E-06	9,75E-07	1,08E-06	-2,86E-04
ADP-fossil resources	MJ	5,32E+02	0,00E+00	4,39E+00	1,26E+00	2,30E+01	2,40E+01	1,10E+01	-1,62E+02
Water use[2)]	m^3e depr.	7,18E+00	0,00E+00	6,87E-02	3,37E-03	1,03E-01	9,62E-02	3,87E-02	-5,20E+00

1)GWP = Global Warming Potential; EP = Eutrophication potential; POCP = Photochemical ozone formation; ADP = Abiotic depletion potential. 2) 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 experienced with the indicator. 3) Required characterisation method and data are in kg P-eq. Multiply by 3,07 to get PO_4e.

USE OF NATURAL RESOURCES

Impact category	Unit	A1-A3	A5	B5	C1	C2	C3	C4	D
Renew. PER as energy	MJ	4,60E+01	0,00E+00	1,05E-01	7,20E-03	2,59E-01	1,43E-01	1,11E-01	-1,35E+01
Renew. PER as material	MJ	3,08E-03	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00
Total use of renew. PER	MJ	4,60E+01	0,00E+00	1,05E-01	7,20E-03	2,59E-01	1,43E-01	1,11E-01	-1,35E+01
Non-re. PER as energy	MJ	2,38E+02	0,00E+00	2,36E+00	1,26E+00	2,30E+01	2,40E+01	1,10E+01	-1,62E+02
Non-re. PER as material	MJ	9,54E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	-2,01E+00	0,00E+00
Total use of non-ren. PER	MJ	2,46E+02	0,00E+00	2,36E+00	1,26E+00	2,30E+01	2,40E+01	9,00E+00	-1,62E+02
Secondary materials	kg	1,91E+00	0,00E+00	2,86E-04	4,93E-04	6,38E-03	9,50E-03	3,44E-03	7,99E+00
Renew. secondary fuels	MJ	2,02E+01	0,00E+00	3,13E-06	1,61E-06	6,44E-05	3,54E-05	4,43E-05	-1,50E-03
Non-ren. secondary fuels	MJ	4,74E+01	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00
Use of net fresh water	m^3	1,61E-01	0,00E+00	1,81E-03	7,64E-05	2,98E-03	2,65E-03	6,91E-03	-9,62E-02

1)PER = primary energy resources; Non-ren = Non renewable

END OF LIFE – WASTE

Impact category	Unit	A1-A3	A5	B5	C1	C2	C3	C4	D
Hazardous waste	kg	5,30E-02	0,00E+00	8,30E-03	1,68E-03	3,04E-02	0,00E+00	1,45E-02	-4,80E+00
Non-hazardous waste	kg	3,50E+00	0,00E+00	2,28E-01	1,18E-02	5,01E-01	0,00E+00	1,93E-01	-2,75E+01
Radioactive waste	kg	4,41E-02	0,00E+00	3,02E-06	8,86E-06	1,54E-04	0,00E+00	7,43E-05	-2,07E-04

END OF LIFE – OUTPUT FLOWS

Impact category	Unit	A1-A3	A5	B5	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	0,00E+00	0,00E+00
Materials for recycling	kg	4,99E-02	0,00E+00	0,00E+00	0,00E+00	0,00E+00	1,77E+02	0,00E+00	0,00E+00
Materials for energy recovery	kg	1,10E-03	0,00E+00	5,34E-02	0,00E+00	0,00E+00	3,39E-01	0,00E+00	0,00E+00
Exported energy	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

BIOGENIC CARBON CONTENT

Biogenic carbon content	Unit (per declared unit)
Biogenic carbon content in product	0 kg
Biogenic carbon content in accompanying packaging	0 kg

NOTE 1 kg biogenic carbon is equivalent to 44/12 kg of CO_2

BASE SLAB: CAST IN SITU, 1 M^2

CORE ENVIRONMENTAL IMPACT INDICATORS – EN 15804+A2, PEF

Impact category	Unit	A1-A3	A5	B5	C1	C2	C3	C4	D
GWP – total	kg CO_2e	7,95E+01	0,00E+00	2,88E-01	2,46E-01	4,01E+00	4,01E+00	1,58E+00	-1,05E+01
GWP – fossil	kg CO_2e	7,95E+01	0,00E+00	2,88E-01	2,46E-01	4,01E+00	4,01E+00	1,58E+00	-1,05E+01
GWP – biogenic	kg CO_2e	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	-1,40E-02
GWP – LULUC	kg CO_2e	7,42E-02	0,00E+00	1,29E-04	2,44E-05	1,48E-03	3,32E-04	2,86E-03	-8,55E-03
Ozone depletion pot.	kg CFC_{-11}e	6,67E-07	0,00E+00	4,61E-09	5,24E-08	9,24E-07	6,99E-07	4,44E-07	-1,10E-06
Acidification potential	mol H^+e	1,35E-01	0,00E+00	7,09E-04	2,55E-03	1,70E-02	3,40E-02	1,44E-02	-6,36E-02
EP-freshwater[3)]	kg Pe	1,44E-04	0,00E+00	4,32E-06	8,15E-07	3,28E-05	1,10E-05	1,31E-05	-4,03E-04
EP-marine	kg Ne	6,03E-02	0,00E+00	1,39E-04	1,13E-03	5,05E-03	1,51E-02	5,65E-03	-1,56E-02
EP-terrestrial	mol Ne	2,79E-01	0,00E+00	1,52E-03	1,24E-02	5,57E-02	1,65E-01	6,20E-02	-1,84E-01
POCP (“smog”)	kg NMVOCe	9,16E-02	0,00E+00	6,05E-04	3,40E-03	1,78E-02	4,55E-02	1,75E-02	-5,82E-02
ADP-minerals & metals	kg Sbe	2,25E-04	0,00E+00	8,32E-07	1,24E-07	9,41E-06	1,72E-06	2,96E-06	-1,18E-04
ADP-fossil resources	MJ	5,30E+02	0,00E+00	4,38E+00	3,30E+00	6,03E+01	4,40E+01	2,98E+01	-1,34E+02
Water use[2)]	m^3e depr.	7,99E+00	0,00E+00	6,88E-02	8,87E-03	2,71E-01	1,48E-01	1,05E-01	-7,86E+00

1)GWP = Global Warming Potential; EP = Eutrophication potential; POCP = Photochemical ozone formation; ADP = Abiotic depletion potential. 2) 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 experienced with the indicator. 3) Required characterisation method and data are in kg P-eq. Multiply by 3,07 to get PO_4e.

USE OF NATURAL RESOURCES

Impact category	Unit	A1-A3	A5	B5	C1	C2	C3	C4	D
Renew. PER as energy	MJ	1,25E+02	0,00E+00	1,05E-01	1,89E-02	6,80E-01	2,57E-01	3,02E-01	-9,49E+00
Renew. PER as material	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
Total use of renew. PER	MJ	1,25E+02	0,00E+00	1,05E-01	1,89E-02	6,80E-01	2,57E-01	3,02E-01	-9,49E+00
Non-re. PER as energy	MJ	5,03E+02	0,00E+00	2,36E+00	3,30E+00	6,03E+01	4,40E+01	2,98E+01	-1,34E+02
Non-re. PER as material	MJ	4,17E+01	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	-4,17E+01	0,00E+00
Total use of non-ren. PER	MJ	5,46E+02	0,00E+00	2,36E+00	3,30E+00	6,03E+01	4,40E+01	-1,19E+01	-1,34E+02
Secondary materials	kg	5,36E+00	0,00E+00	2,86E-04	1,29E-03	1,68E-02	1,73E-02	9,30E-03	1,86E+00
Renew. secondary fuels	MJ	1,39E-02	0,00E+00	3,13E-06	4,23E-06	1,69E-04	6,05E-05	1,21E-04	-9,09E-04
Non-ren. secondary fuels	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
Use of net fresh water	m^3	2,23E-01	0,00E+00	1,81E-03	2,00E-04	7,82E-03	3,78E-03	1,90E-02	-1,85E-01

1)PER = primary energy resources; Non-ren = Non renewable

END OF LIFE – WASTE

Impact category	Unit	A1-A3	A5	B5	C1	C2	C3	C4	D
Hazardous waste	kg	2,02E-01	0,00E+00	8,30E-03	4,42E-03	8,01E-02	0,00E+00	3,94E-02	-1,55E+00
Non-hazardous waste	kg	2,25E+01	0,00E+00	2,27E-01	3,11E-02	1,31E+00	0,00E+00	5,21E-01	-1,73E+01
Radioactive waste	kg	1,26E-02	0,00E+00	3,02E-06	2,32E-05	4,03E-04	0,00E+00	2,02E-04	-5,99E-04

END OF LIFE – OUTPUT FLOWS

Impact category	Unit	A1-A3	A5	B5	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	0,00E+00	0,00E+00
Materials for recycling	kg	1,94E-01	0,00E+00	0,00E+00	0,00E+00	0,00E+00	4,59E+02	0,00E+00	0,00E+00
Materials for energy recovery	kg	3,82E-03	0,00E+00	5,34E-02	0,00E+00	0,00E+00	3,19E-01	0,00E+00	0,00E+00
Exported energy	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

BIOGENIC CARBON CONTENT

Biogenic carbon content	Unit (per declared unit)
Biogenic carbon content in product	0 kg
Biogenic carbon content in accompanying packaging	0 kg

NOTE 1 kg biogenic carbon is equivalent to 44/12 kg of CO_2

BASE SLAB: PARMAFLOW, 1 M^2

CORE ENVIRONMENTAL IMPACT INDICATORS – EN 15804+A2, PEF

Impact category	Unit	A1-A3	A5	B5	C1	C2	C3	C4	D
GWP – total	kg CO_2e	8,64E+01	0,00E+00	2,88E-01	2,69E-01	4,40E+00	4,28E+00	1,74E+00	-1,15E+01
GWP – fossil	kg CO_2e	8,64E+01	0,00E+00	2,88E-01	2,69E-01	4,40E+00	4,28E+00	1,73E+00	-1,14E+01
GWP – biogenic	kg CO_2e	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	-1,56E-02
GWP – LULUC	kg CO_2e	8,09E-02	0,00E+00	1,29E-04	2,67E-05	1,62E-03	3,57E-04	3,13E-03	-9,28E-03
Ozone depletion pot.	kg CFC_{-11}e	6,92E-07	0,00E+00	4,61E-09	5,74E-08	1,01E-06	7,55E-07	4,86E-07	-1,20E-06
Acidification potential	mol H^+e	1,45E-01	0,00E+00	7,09E-04	2,79E-03	1,86E-02	3,69E-02	1,58E-02	-6,92E-02
EP-freshwater[3)]	kg Pe	1,56E-04	0,00E+00	4,32E-06	8,91E-07	3,61E-05	1,19E-05	1,43E-05	-4,38E-04
EP-marine	kg Ne	6,26E-02	0,00E+00	1,39E-04	1,24E-03	5,53E-03	1,63E-02	6,20E-03	-1,70E-02
EP-terrestrial	mol Ne	3,05E-01	0,00E+00	1,52E-03	1,36E-02	6,11E-02	1,79E-01	6,80E-02	-2,02E-01
POCP (“smog”)	kg NMVOCe	9,91E-02	0,00E+00	6,05E-04	3,73E-03	1,96E-02	4,92E-02	1,91E-02	-6,34E-02
ADP-minerals & metals	kg Sbe	2,27E-04	0,00E+00	8,32E-07	1,36E-07	1,03E-05	1,86E-06	3,25E-06	-1,28E-04
ADP-fossil resources	MJ	5,67E+02	0,00E+00	4,38E+00	3,61E+00	6,61E+01	4,76E+01	3,27E+01	-1,46E+02
Water use[2)]	m^3e depr.	8,63E+00	0,00E+00	6,88E-02	9,72E-03	2,96E-01	1,58E-01	1,15E-01	-8,61E+00

1)GWP = Global Warming Potential; EP = Eutrophication potential; POCP = Photochemical ozone formation; ADP = Abiotic depletion potential. 2) 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 experienced with the indicator. 3) Required characterisation method and data are in kg P-eq. Multiply by 3,07 to get PO_4e.

USE OF NATURAL RESOURCES

Impact category	Unit	A1-A3	A5	B5	C1	C2	C3	C4	D
Renew. PER as energy	MJ	1,34E+02	0,00E+00	1,05E-01	2,07E-02	7,45E-01	2,77E-01	3,30E-01	-1,03E+01
Renew. PER as material	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
Total use of renew. PER	MJ	1,34E+02	0,00E+00	1,05E-01	2,07E-02	7,45E-01	2,77E-01	3,30E-01	-1,03E+01
Non-re. PER as energy	MJ	5,30E+02	0,00E+00	2,36E+00	3,61E+00	6,61E+01	4,76E+01	3,27E+01	-1,46E+02
Non-re. PER as material	MJ	4,51E+01	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	-4,51E+01	0,00E+00
Total use of non-ren. PER	MJ	5,74E+02	0,00E+00	2,36E+00	3,61E+00	6,61E+01	4,76E+01	-1,24E+01	-1,46E+02
Secondary materials	kg	5,38E+00	0,00E+00	2,86E-04	1,42E-03	1,83E-02	1,87E-02	1,02E-02	2,00E+00
Renew. secondary fuels	MJ	1,51E-02	0,00E+00	3,13E-06	4,63E-06	1,85E-04	6,51E-05	1,33E-04	-9,89E-04
Non-ren. secondary fuels	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
Use of net fresh water	m^3	2,36E-01	0,00E+00	1,81E-03	2,19E-04	8,57E-03	4,00E-03	2,07E-02	-2,02E-01

1)PER = primary energy resources; Non-ren = Non renewable

END OF LIFE – WASTE

Impact category	Unit	A1-A3	A5	B5	C1	C2	C3	C4	D
Hazardous waste	kg	2,19E-01	0,00E+00	8,30E-03	4,84E-03	8,76E-02	0,00E+00	4,32E-02	-1,68E+00
Non-hazardous waste	kg	2,46E+01	0,00E+00	2,27E-01	3,40E-02	1,44E+00	0,00E+00	5,71E-01	-1,88E+01
Radioactive waste	kg	1,30E-02	0,00E+00	3,02E-06	2,55E-05	4,42E-04	0,00E+00	2,21E-04	-6,55E-04

END OF LIFE – OUTPUT FLOWS

Impact category	Unit	A1-A3	A5	B5	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	0,00E+00	0,00E+00
Materials for recycling	kg	1,94E-01	0,00E+00	0,00E+00	0,00E+00	0,00E+00	5,01E+02	0,00E+00	0,00E+00
Materials for energy recovery	kg	3,82E-03	0,00E+00	5,34E-02	0,00E+00	0,00E+00	3,19E-01	0,00E+00	0,00E+00
Exported energy	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

BIOGENIC CARBON CONTENT

Biogenic carbon content	Unit (per declared unit)
Biogenic carbon content in product	0 kg
Biogenic carbon content in accompanying packaging	0 kg

NOTE 1 kg biogenic carbon is equivalent to 44/12 kg of CO2

PARMAFLOW-BEAM, 1 M

CORE ENVIRONMENTAL IMPACT INDICATORS – EN 15804+A2, PEF

Impact category	Unit	A1-A3	A5	B5	C1	C2	C3	C4	D
GWP – total	kg CO_2e	8,45E+01	0,00E+00	0,00E+00	3,40E-02	5,56E-01	1,59E+00	8,32E-03	-3,71E+00
GWP – fossil	kg CO_2e	8,45E+01	0,00E+00	0,00E+00	3,40E-02	5,56E-01	1,59E+00	8,32E-03	-3,70E+00
GWP – biogenic	kg CO_2e	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	-1,02E-03
GWP – LULUC	kg CO_2e	7,41E-02	0,00E+00	0,00E+00	3,38E-06	2,05E-04	1,32E-03	7,84E-06	-7,03E-04
Ozone depletion pot.	kg CFC_{-11}e	8,58E-06	0,00E+00	0,00E+00	7,24E-09	1,28E-07	7,28E-08	3,36E-09	-1,46E-07
Acidification potential	mol H^+e	4,20E-01	0,00E+00	0,00E+00	3,53E-04	2,35E-03	7,33E-03	7,80E-05	-1,52E-02
EP-freshwater[3)]	kg Pe	6,03E-03	0,00E+00	0,00E+00	1,13E-07	4,57E-06	6,25E-05	8,71E-08	-1,54E-04
EP-marine	kg Ne	7,63E-02	0,00E+00	0,00E+00	1,56E-04	6,98E-04	2,80E-03	2,71E-05	-3,10E-03
EP-terrestrial	mol Ne	8,71E-01	0,00E+00	0,00E+00	1,71E-03	7,72E-03	1,86E-02	2,97E-04	-3,62E-02
POCP (“smog”)	kg NMVOCe	3,31E-01	0,00E+00	0,00E+00	4,70E-04	2,47E-03	5,22E-03	8,66E-05	-1,83E-02
ADP-minerals & metals	kg Sbe	8,84E-04	0,00E+00	0,00E+00	1,72E-08	1,30E-06	4,96E-05	1,91E-08	-6,94E-05
ADP-fossil resources	MJ	1,38E+03	0,00E+00	0,00E+00	4,57E-01	8,36E+00	1,18E+01	2,28E-01	-3,27E+01
Water use[2)]	m^3e depr.	5,34E+01	0,00E+00	0,00E+00	1,23E-03	3,73E-02	3,84E-01	7,24E-04	-7,07E-01

1)GWP = Global Warming Potential; EP = Eutrophication potential; POCP = Photochemical ozone formation; ADP = Abiotic depletion potential. 2) 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 experienced with the indicator. 3) Required characterisation method and data are in kg P-eq. Multiply by 3,07 to get PO_4e.

USE OF NATURAL RESOURCES

Impact category	Unit	A1-A3	A5	B5	C1	C2	C3	C4	D
Renew. PER as energy	MJ	1,47E+02	0,00E+00	0,00E+00	2,61E-03	9,40E-02	1,92E+00	1,98E-03	-2,82E+00
Renew. PER as material	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
Total use of renew. PER	MJ	1,47E+02	0,00E+00	0,00E+00	2,61E-03	9,40E-02	1,92E+00	1,98E-03	-2,82E+00
Non-re. PER as energy	MJ	1,38E+03	0,00E+00	0,00E+00	4,57E-01	8,36E+00	1,18E+01	2,28E-01	-3,27E+01
Non-re. PER as material	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
Total use of non-ren. PER	MJ	1,38E+03	0,00E+00	0,00E+00	4,57E-01	8,36E+00	1,18E+01	2,28E-01	-3,27E+01
Secondary materials	kg	7,67E+01	0,00E+00	0,00E+00	1,79E-04	2,32E-03	2,13E-02	4,78E-05	1,88E+00
Renew. secondary fuels	MJ	2,66E-05	0,00E+00	0,00E+00	5,86E-07	2,34E-05	1,72E-03	1,25E-06	-3,52E-04
Non-ren. secondary fuels	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
Use of net fresh water	m^3	8,06E-01	0,00E+00	0,00E+00	2,78E-05	1,08E-03	9,91E-03	2,50E-04	-9,31E-03

1)PER = primary energy resources; Non-ren = Non renewable

END OF LIFE – WASTE

Impact category	Unit	A1-A3	A5	B5	C1	C2	C3	C4	D
Hazardous waste	kg	1,83E+01	0,00E+00	0,00E+00	6,12E-04	1,11E-02	0,00E+00	0,00E+00	-1,28E+00
Non-hazardous waste	kg	2,77E+02	0,00E+00	0,00E+00	4,30E-03	1,82E-01	0,00E+00	1,58E+00	-6,16E+00
Radioactive waste	kg	6,51E-03	0,00E+00	0,00E+00	3,22E-06	5,60E-05	0,00E+00	0,00E+00	2,18E-06

END OF LIFE – OUTPUT FLOWS

Impact category	Unit	A1-A3	A5	B5	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	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	7,11E+01	0,00E+00	0,00E+00
Materials for energy recovery	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
Exported energy	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

BIOGENIC CARBON CONTENT

Biogenic carbon content	Unit (per declared unit)
Biogenic carbon content in product	0 kg
Biogenic carbon content in accompanying packaging	0 kg

NOTE 1 kg biogenic carbon is equivalent to 44/12 kg of CO_2

WATER CIRCULATION FLOOR HEATING IN THE MODULE AND/OR APARTMENT, 1 UNIT

CORE ENVIRONMENTAL IMPACT INDICATORS – EN 15804+A2, PEF

Impact category	Unit	A1-A3	A5	B5	C1	C2	C3	C4	D
GWP – total	kg CO_2e	4,45E+01	0,00E+00	0,00E+00	5,45E-03	8,91E-02	1,24E+01	4,93E-03	-2,17E+01
GWP – fossil	kg CO_2e	4,44E+01	0,00E+00	0,00E+00	5,44E-03	8,91E-02	1,24E+01	3,94E-03	-2,16E+01
GWP – biogenic	kg CO_2e	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	-4,81E-02
GWP – LULUC	kg CO_2e	6,36E-02	0,00E+00	0,00E+00	5,42E-07	3,29E-05	2,37E-04	1,89E-06	-3,37E-02
Ozone depletion pot.	kg CFC_{-11}e	2,05E-06	0,00E+00	0,00E+00	1,16E-09	2,05E-08	3,32E-08	4,32E-10	-1,06E-06
Acidification potential	mol H^+e	7,47E-01	0,00E+00	0,00E+00	5,66E-05	3,77E-04	3,35E-03	1,54E-05	-7,21E-01
EP-freshwater[3)]	kg Pe	3,19E-03	0,00E+00	0,00E+00	1,80E-08	7,29E-07	9,43E-06	3,05E-07	-3,41E-03
EP-marine	kg Ne	5,92E-02	0,00E+00	0,00E+00	2,50E-05	1,12E-04	1,46E-03	7,41E-05	-4,29E-02
EP-terrestrial	mol Ne	7,40E-01	0,00E+00	0,00E+00	2,75E-04	1,24E-03	1,41E-02	4,81E-05	-5,90E-01
POCP (“smog”)	kg NMVOCe	2,21E-01	0,00E+00	0,00E+00	7,55E-05	3,96E-04	3,51E-03	2,57E-05	-1,84E-01
ADP-minerals & metals	kg Sbe	7,30E+01	0,00E+00	0,00E+00	2,76E-09	2,09E-07	6,10E-06	5,35E-09	-1,66E-02
ADP-fossil resources	MJ	5,82E+02	0,00E+00	0,00E+00	7,33E-02	1,34E+00	3,32E+00	3,48E-02	-2,49E+02
Water use[2)]	m^3e depr.	1,73E+01	0,00E+00	0,00E+00	1,97E-04	5,99E-03	4,93E-01	2,34E-04	-1,08E+01

1)GWP = Global Warming Potential; EP = Eutrophication potential; POCP = Photochemical ozone formation; ADP = Abiotic depletion potential. 2) 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 experienced with the indicator. 3) Required characterisation method and data are in kg P-eq. Multiply by 3,07 to get PO_4e.

USE OF NATURAL RESOURCES

Impact category	Unit	A1-A3	A5	B5	C1	C2	C3	C4	D
Renew. PER as energy	MJ	8,73E+01	0,00E+00	0,00E+00	4,19E-04	1,51E-02	2,81E-01	9,94E-04	-4,95E+01
Renew. PER as material	MJ	1,72E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	-1,72E+00	0,00E+00
Total use of renew. PER	MJ	8,90E+01	0,00E+00	0,00E+00	4,19E-04	1,51E-02	2,81E-01	-1,72E+00	-4,95E+01
Non-re. PER as energy	MJ	4,81E+02	0,00E+00	0,00E+00	7,33E-02	1,34E+00	3,31E+00	3,48E-02	-2,49E+02
Non-re. PER as material	MJ	1,75E+02	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	-1,75E+02	0,00E+00
Total use of non-ren. PER	MJ	6,56E+02	0,00E+00	0,00E+00	7,33E-02	1,34E+00	3,31E+00	-1,75E+02	-2,49E+02
Secondary materials	kg	2,12E+00	0,00E+00	0,00E+00	2,87E-05	3,71E-04	4,11E-03	1,04E-05	6,53E+00
Renew. secondary fuels	MJ	4,54E-02	0,00E+00	0,00E+00	9,37E-08	3,75E-06	2,43E-04	2,90E-07	-3,07E-03
Non-ren. secondary fuels	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
Use of net fresh water	m^3	4,90E-01	0,00E+00	0,00E+00	4,45E-06	1,73E-04	1,86E-02	3,52E-05	-3,42E-01

1)PER = primary energy resources; Non-ren = Non renewable

END OF LIFE – WASTE

Impact category	Unit	A1-A3	A5	B5	C1	C2	C3	C4	D
Hazardous waste	kg	4,50E+00	0,00E+00	0,00E+00	9,80E-05	1,77E-03	0,00E+00	0,00E+00	-5,58E+00
Non-hazardous waste	kg	1,88E+02	0,00E+00	0,00E+00	6,89E-04	2,91E-02	0,00E+00	1,67E-01	-2,12E+02
Radioactive waste	kg	4,37E-03	0,00E+00	0,00E+00	5,16E-07	8,95E-06	0,00E+00	0,00E+00	-8,23E-04

END OF LIFE – OUTPUT FLOWS

Impact category	Unit	A1-A3	A5	B5	C1	C2	C3	C4	D
Components for re-use	kg	6,57E-02	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00
Materials for recycling	kg	1,09E-02	0,00E+00	0,00E+00	0,00E+00	0,00E+00	7,17E+00	0,00E+00	0,00E+00
Materials for energy recovery	kg	6,69E-02	0,00E+00	0,00E+00	0,00E+00	0,00E+00	4,87E+00	0,00E+00	0,00E+00
Exported energy	MJ	4,79E-01	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00

BIOGENIC CARBON CONTENT

Biogenic carbon content	Unit (per declared unit)
Biogenic carbon content in product	0 kg
Biogenic carbon content in accompanying packaging	0 kg

NOTE 1 kg biogenic carbon is equivalent to 44/12 kg of CO2

MANIFOLD CABINET AND MANIFOLDS FOR WATER CIRCULATION FLOOR HEATING, 1 UNIT

CORE ENVIRONMENTAL IMPACT INDICATORS – EN 15804+A2, PEF

Impact category	Unit	A1-A3	A5	B5	C1	C2	C3	C4	D
GWP – total	kg CO_2e	5,68E+01	0,00E+00	0,00E+00	4,81E-03	7,87E-02	8,67E+00	1,15E-03	-1,37E+01
GWP – fossil	kg CO_2e	5,67E+01	0,00E+00	0,00E+00	4,81E-03	7,86E-02	8,75E+00	1,15E-03	-1,36E+01
GWP – biogenic	kg CO_2e	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	-6,19E-03
GWP – LULUC	kg CO_2e	1,59E-02	0,00E+00	0,00E+00	4,78E-07	2,90E-05	2,01E-04	1,09E-06	-1,15E-02
Ozone depletion pot.	kg CFC_{-11}e	5,62E-07	0,00E+00	0,00E+00	1,03E-09	1,81E-08	2,59E-08	4,65E-10	-5,81E-07
Acidification potential	mol H^+e	2,40E-01	0,00E+00	0,00E+00	4,99E-05	3,33E-04	2,70E-03	1,08E-05	-6,41E-02
EP-freshwater[3)]	kg Pe	3,87E-04	0,00E+00	0,00E+00	1,59E-08	6,44E-07	8,33E-06	1,21E-08	-5,59E-04
EP-marine	kg Ne	5,74E-02	0,00E+00	0,00E+00	2,21E-05	9,89E-05	1,20E-03	3,74E-06	-1,13E-02
EP-terrestrial	mol Ne	3,84E-01	0,00E+00	0,00E+00	2,42E-04	1,09E-03	1,13E-02	4,12E-05	-1,34E-01
POCP (“smog”)	kg NMVOCe	1,26E-01	0,00E+00	0,00E+00	6,66E-05	3,49E-04	2,82E-03	1,20E-05	-6,13E-02
ADP-minerals & metals	kg Sbe	5,38E-04	0,00E+00	0,00E+00	2,44E-09	1,84E-07	5,60E-06	2,64E-09	-2,07E-04
ADP-fossil resources	MJ	7,43E+02	0,00E+00	0,00E+00	6,47E-02	1,18E+00	2,75E+00	3,15E-02	-1,43E+02
Water use[2)]	m^3e depr.	3,87E+01	0,00E+00	0,00E+00	1,74E-04	5,28E-03	3,78E-01	1,00E-04	-2,79E+00

1)GWP = Global Warming Potential; EP = Eutrophication potential; POCP = Photochemical ozone formation; ADP = Abiotic depletion potential. 2) 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 experienced with the indicator. 3) Required characterisation method and data are in kg P-eq. Multiply by 3,07 to get PO_4e.

USE OF NATURAL RESOURCES

Impact category	Unit	A1-A3	A5	B5	C1	C2	C3	C4	D
Renew. PER as energy	MJ	5,33E+01	0,00E+00	0,00E+00	3,70E-04	1,33E-02	2,49E-01	2,74E-04	-1,90E+01
Renew. PER as material	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
Total use of renew. PER	MJ	5,33E+01	0,00E+00	0,00E+00	3,70E-04	1,33E-02	2,49E-01	2,74E-04	-1,90E+01
Non-re. PER as energy	MJ	7,43E+02	0,00E+00	0,00E+00	6,47E-02	1,18E+00	2,74E+00	3,15E-02	-1,43E+02
Non-re. PER as material	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
Total use of non-ren. PER	MJ	7,43E+02	0,00E+00	0,00E+00	6,47E-02	1,18E+00	2,74E+00	3,15E-02	-1,43E+02
Secondary materials	kg	1,74E+00	0,00E+00	0,00E+00	2,53E-05	3,28E-04	3,49E-03	6,63E-06	5,70E+00
Renew. secondary fuels	MJ	5,06E-02	0,00E+00	0,00E+00	8,27E-08	3,31E-06	2,18E-04	1,73E-07	-1,03E-03
Non-ren. secondary fuels	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
Use of net fresh water	m^3	9,21E-01	0,00E+00	0,00E+00	3,93E-06	1,53E-04	1,37E-02	3,45E-05	-6,57E-02

1)PER = primary energy resources; Non-ren = Non renewable

END OF LIFE – WASTE

Impact category	Unit	A1-A3	A5	B5	C1	C2	C3	C4	D
Hazardous waste	kg	6,98E-01	0,00E+00	0,00E+00	8,65E-05	1,57E-03	0,00E+00	0,00E+00	-3,90E+00
Non-hazardous waste	kg	1,33E+01	0,00E+00	0,00E+00	6,08E-04	2,57E-02	0,00E+00	2,18E-01	-2,57E+01
Radioactive waste	kg	3,96E-03	0,00E+00	0,00E+00	4,55E-07	7,90E-06	0,00E+00	0,00E+00	-3,56E-04

END OF LIFE – OUTPUT FLOWS

Impact category	Unit	A1-A3	A5	B5	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	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	6,92E+00	0,00E+00	0,00E+00
Materials for energy recovery	kg	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	3,61E+00	0,00E+00	0,00E+00
Exported energy	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

BIOGENIC CARBON CONTENT

Biogenic carbon content	Unit (per declared unit)
Biogenic carbon content in product	0 kg
Biogenic carbon content in accompanying packaging	0 kg

NOTE 1 kg biogenic carbon is equivalent to 44/12 kg of CO2

VENTILATION UNIT: VALLOX 99 MV, 1 UNIT

CORE ENVIRONMENTAL IMPACT INDICATORS – EN 15804+A2, PEF

Impact category	Unit	A1-A3	A5	B5	C1	C2	C3	C4	D
GWP – total	kg CO_2e	3,30E+02	0,00E+00	3,51E+02	3,00E-02	4,91E-01	2,06E+01	1,05E-01	-2,51E+02
GWP – fossil	kg CO_2e	3,29E+02	0,00E+00	3,50E+02	3,00E-02	4,91E-01	2,06E+01	1,05E-01	-2,49E+02
GWP – biogenic	kg CO_2e	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	-5,04E-01
GWP – LULUC	kg CO_2e	1,32E+00	0,00E+00	1,32E+00	2,99E-06	1,81E-04	1,84E-03	1,06E-04	-1,97E+00
Ozone depletion pot.	kg CFC_{-11}e	2,01E-07	0,00E+00	3,06E-07	6,41E-09	1,13E-07	8,10E-08	3,21E-08	-1,52E-05
Acidification potential	mol H^+e	2,06E+00	0,00E+00	2,06E+00	3,12E-04	2,08E-03	6,96E-03	8,88E-04	-1,36E+00
EP-freshwater[3)]	kg Pe	1,46E-01	0,00E+00	1,46E-01	9,94E-08	4,02E-06	1,55E-05	1,62E-06	-1,18E-02
EP-marine	kg Ne	4,58E-01	0,00E+00	4,62E-01	1,38E-04	6,18E-04	2,96E-03	3,03E-04	-2,05E-01
EP-terrestrial	mol Ne	3,16E+00	0,00E+00	3,19E+00	1,51E-03	6,81E-03	2,99E-02	3,33E-03	-2,37E+00
POCP (“smog”)	kg NMVOCe	1,04E+00	0,00E+00	1,05E+00	4,16E-04	2,18E-03	1,08E-02	9,64E-04	-1,09E+00
ADP-minerals & metals	kg Sbe	2,11E-02	0,00E+00	2,11E-02	1,52E-08	1,15E-06	6,81E-06	3,51E-07	-6,56E-03
ADP-fossil resources	MJ	4,52E+03	0,00E+00	4,53E+03	4,04E-01	7,37E+00	7,71E+00	2,43E+00	-2,76E+03
Water use[2)]	m^3e depr.	3,61E+02	0,00E+00	3,62E+02	1,08E-03	3,30E-02	4,73E-01	1,41E-02	-1,93E+02

1)GWP = Global Warming Potential; EP = Eutrophication potential; POCP = Photochemical ozone formation; ADP = Abiotic depletion potential. 2) 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 experienced with the indicator. 3) Required characterisation method and data are in kg P-eq. Multiply by 3,07 to get PO_4e.

USE OF NATURAL RESOURCES

Impact category	Unit	A1-A3	A5	B5	C1	C2	C3	C4	D
Renew. PER as energy	MJ	5,19E+02	0,00E+00	5,20E+02	2,31E-03	8,30E-02	4,56E-01	4,18E-02	-6,50E+02
Renew. PER as material	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
Total use of renew. PER	MJ	5,19E+02	0,00E+00	5,20E+02	2,31E-03	8,30E-02	4,56E-01	4,18E-02	-6,50E+02
Non-re. PER as energy	MJ	4,49E+03	0,00E+00	4,50E+03	4,04E-01	7,37E+00	7,71E+00	2,43E+00	-2,76E+03
Non-re. PER as material	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
Total use of non-ren. PER	MJ	4,49E+03	0,00E+00	4,50E+03	4,04E-01	7,37E+00	7,71E+00	2,43E+00	-2,76E+03
Secondary materials	kg	9,24E+00	0,00E+00	9,25E+00	1,58E-04	2,05E-03	6,08E-03	8,68E-04	9,09E+01
Renew. secondary fuels	MJ	6,48E-03	0,00E+00	6,72E-03	5,16E-07	2,06E-05	2,09E-04	3,33E-05	-1,86E-02
Non-ren. secondary fuels	MJ	6,05E+01	0,00E+00	6,05E+01	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00
Use of net fresh water	m^3	1,61E+01	0,00E+00	1,62E+01	2,45E-05	9,55E-04	7,24E-03	2,62E-03	-4,01E+00

1)PER = primary energy resources; Non-ren = Non renewable

END OF LIFE – WASTE

Impact category	Unit	A1-A3	A5	B5	C1	C2	C3	C4	D
Hazardous waste	kg	8,69E-02	0,00E+00	2,97E-01	5,40E-04	9,77E-03	0,00E+00	0,00E+00	-7,61E+01
Non-hazardous waste	kg	6,20E+00	0,00E+00	2,27E+01	3,80E-03	1,61E-01	0,00E+00	1,01E+01	-5,15E+02
Radioactive waste	kg	7,48E-03	0,00E+00	7,52E-03	2,84E-06	4,93E-05	0,00E+00	0,00E+00	-8,34E-03

END OF LIFE – OUTPUT FLOWS

Impact category	Unit	A1-A3	A5	B5	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	0,00E+00	0,00E+00
Materials for recycling	kg	1,59E+01	0,00E+00	8,62E+01	0,00E+00	0,00E+00	7,02E+01	0,00E+00	0,00E+00
Materials for energy recovery	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
Exported energy	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

BIOGENIC CARBON CONTENT

Biogenic carbon content	Unit (per declared unit)
Biogenic carbon content in product	0 kg
Biogenic carbon content in accompanying packaging	0 kg

NOTE 1 kg biogenic carbon is equivalent to 44/12 kg of CO_2

VENTILATION UNIT: VALLOX 51 MV, 1 UNIT

CORE ENVIRONMENTAL IMPACT INDICATORS – EN 15804+A2, PEF

Impact category	Unit	A1-A3	A5	B5	C1	C2	C3	C4	D
GWP – total	kg CO_2e	2,77E+02	0,00E+00	2,92E+02	2,13E-02	3,49E-01	1,49E+01	5,35E-02	-2,03E+02
GWP – fossil	kg CO_2e	2,76E+02	0,00E+00	2,91E+02	2,13E-02	3,49E-01	1,49E+01	5,32E-02	-2,00E+02
GWP – biogenic	kg CO_2e	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	-4,71E-01
GWP – LULUC	kg CO_2e	1,22E+00	0,00E+00	1,22E+00	2,12E-06	1,29E-04	1,31E-03	5,39E-05	-1,95E+00
Ozone depletion pot.	kg CFC_{-11}e	4,93E-06	0,00E+00	4,99E-06	4,55E-09	8,02E-08	5,77E-08	1,63E-08	-1,32E-05
Acidification potential	mol H^+e	1,37E+00	0,00E+00	1,37E+00	2,21E-04	1,48E-03	4,95E-03	4,50E-04	-1,16E+00
EP-freshwater[3)]	kg Pe	9,27E-02	0,00E+00	9,27E-02	7,06E-08	2,85E-06	1,04E-05	8,22E-07	-9,70E-03
EP-marine	kg Ne	3,11E-01	0,00E+00	3,14E-01	9,80E-05	4,39E-04	2,11E-03	1,54E-04	-1,65E-01
EP-terrestrial	mol Ne	2,39E+00	0,00E+00	2,41E+00	1,07E-03	4,84E-03	2,14E-02	1,69E-03	-1,91E+00
POCP (“smog”)	kg NMVOCe	8,06E-01	0,00E+00	8,14E-01	2,95E-04	1,55E-03	7,77E-03	4,89E-04	-8,66E-01
ADP-minerals & metals	kg Sbe	1,21E-02	0,00E+00	1,21E-02	1,08E-08	8,17E-07	4,32E-06	1,78E-07	-5,78E-03
ADP-fossil resources	MJ	3,73E+03	0,00E+00	3,74E+03	2,87E-01	5,23E+00	5,44E+00	1,23E+00	-2,30E+03
Water use[2)]	m^3e depr.	-3,29E+02	0,00E+00	-3,28E+02	7,70E-04	2,34E-02	3,37E-01	7,12E-03	-1,82E+02

1)GWP = Global Warming Potential; EP = Eutrophication potential; POCP = Photochemical ozone formation; ADP = Abiotic depletion potential. 2) 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 experienced with the indicator. 3) Required characterisation method and data are in kg P-eq. Multiply by 3,07 to get PO_4e.

USE OF NATURAL RESOURCES

Impact category	Unit	A1-A3	A5	B5	C1	C2	C3	C4	D
Renew. PER as energy	MJ	4,94E+01	0,00E+00	4,97E+01	1,64E-03	5,90E-02	3,07E-01	2,12E-02	-6,02E+02
Renew. PER as material	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
Total use of renew. PER	MJ	4,94E+01	0,00E+00	4,97E+01	1,64E-03	5,90E-02	3,07E-01	2,12E-02	-6,02E+02
Non-re. PER as energy	MJ	3,79E+03	0,00E+00	3,80E+03	2,87E-01	5,23E+00	5,43E+00	1,23E+00	-2,30E+03
Non-re. PER as material	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
Total use of non-ren. PER	MJ	3,79E+03	0,00E+00	3,80E+03	2,87E-01	5,23E+00	5,43E+00	1,23E+00	-2,30E+03
Secondary materials	kg	3,95E+00	0,00E+00	3,95E+00	1,12E-04	1,45E-03	4,14E-03	4,40E-04	8,28E+01
Renew. secondary fuels	MJ	6,47E-03	0,00E+00	6,62E-03	3,67E-07	1,47E-05	1,30E-04	1,69E-05	-1,37E-02
Non-ren. secondary fuels	MJ	6,41E-03	0,00E+00	6,41E-03	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00
Use of net fresh water	m^3	3,35E+00	0,00E+00	3,36E+00	1,74E-05	6,78E-04	5,12E-03	1,33E-03	-3,77E+00

1)PER = primary energy resources; Non-ren = Non renewable

END OF LIFE – WASTE

Impact category	Unit	A1-A3	A5	B5	C1	C2	C3	C4	D
Hazardous waste	kg	8,36E-02	0,00E+00	2,33E-01	3,84E-04	6,94E-03	0,00E+00	0,00E+00	-5,75E+01
Non-hazardous waste	kg	4,68E+00	0,00E+00	1,44E+01	2,70E-03	1,14E-01	0,00E+00	5,16E+00	-4,28E+02
Radioactive waste	kg	4,35E-03	0,00E+00	4,37E-03	2,02E-06	3,50E-05	0,00E+00	0,00E+00	-7,66E-03

END OF LIFE – OUTPUT FLOWS

Impact category	Unit	A1-A3	A5	B5	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	0,00E+00	0,00E+00
Materials for recycling	kg	1,24E+00	0,00E+00	5,12E+01	0,00E+00	0,00E+00	5,00E+01	0,00E+00	0,00E+00
Materials for energy recovery	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
Exported energy	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

BIOGENIC CARBON CONTENT

Biogenic carbon content	Unit (per declared unit)
Biogenic carbon content in product	0 kg
Biogenic carbon content in accompanying packaging	0 kg

NOTE 1 kg biogenic carbon is equivalent to 44/12 kg of CO_2

VENTILATION UNIT: SWEGON CASA W3/W4, 1 UNIT

CORE ENVIRONMENTAL IMPACT INDICATORS – EN 15804+A2, PEF

Impact category	Unit	A1-A3	A5	B5	C1	C2	C3	C4	D
GWP – total	kg CO_2e	2,58E+02	0,00E+00	2,73E+02	2,31E-02	3,79E-01	1,49E+01	5,49E-02	-1,56E+02
GWP – fossil	kg CO_2e	2,58E+02	0,00E+00	2,73E+02	2,31E-02	3,78E-01	1,49E+01	5,46E-02	-1,54E+02
GWP – biogenic	kg CO_2e	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	-4,86E-01
GWP – LULUC	kg CO_2e	2,33E-01	0,00E+00	2,35E-01	2,30E-06	1,40E-04	1,38E-03	5,53E-05	-2,03E+00
Ozone depletion pot.	kg CFC_{-11}e	6,15E-06	0,00E+00	6,14E-06	4,94E-09	8,70E-08	6,15E-08	1,67E-08	-1,16E-05
Acidification potential	mol H^+e	1,01E+00	0,00E+00	1,02E+00	2,40E-04	1,60E-03	5,32E-03	4,62E-04	-1,07E+00
EP-freshwater[3)]	kg Pe	1,98E-01	0,00E+00	1,98E-01	7,66E-08	3,10E-06	1,37E-05	8,44E-07	-8,20E-03
EP-marine	kg Ne	2,23E-01	0,00E+00	2,25E-01	1,06E-04	4,76E-04	2,25E-03	1,58E-04	-1,28E-01
EP-terrestrial	mol Ne	1,97E+00	0,00E+00	1,99E+00	1,17E-03	5,25E-03	2,23E-02	1,73E-03	-1,50E+00
POCP (“smog”)	kg NMVOCe	5,82E-01	0,00E+00	5,89E-01	3,21E-04	1,68E-03	8,02E-03	5,01E-04	-6,38E-01
ADP-minerals & metals	kg Sbe	3,66E-03	0,00E+00	3,66E-03	1,17E-08	8,87E-07	6,96E-06	1,83E-07	-7,23E-03
ADP-fossil resources	MJ	3,51E+03	0,00E+00	3,51E+03	3,11E-01	5,68E+00	6,05E+00	1,26E+00	-1,91E+03
Water use[2)]	m^3e depr.	1,25E+02	0,00E+00	1,25E+02	8,36E-04	2,54E-02	3,57E-01	7,32E-03	-1,80E+02

1)GWP = Global Warming Potential; EP = Eutrophication potential; POCP = Photochemical ozone formation; ADP = Abiotic depletion potential. 2) 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 experienced with the indicator. 3) Required characterisation method and data are in kg P-eq. Multiply by 3,07 to get PO_4e.

USE OF NATURAL RESOURCES

Impact category	Unit	A1-A3	A5	B5	C1	C2	C3	C4	D
Renew. PER as energy	MJ	6,26E+02	0,00E+00	6,26E+02	1,78E-03	6,40E-02	4,08E-01	2,18E-02	-5,89E+02
Renew. PER as material	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
Total use of renew. PER	MJ	6,26E+02	0,00E+00	6,26E+02	1,78E-03	6,40E-02	4,08E-01	2,18E-02	-5,89E+02
Non-re. PER as energy	MJ	3,52E+03	0,00E+00	3,52E+03	3,11E-01	5,68E+00	6,05E+00	1,27E+00	-1,91E+03
Non-re. PER as material	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
Total use of non-ren. PER	MJ	3,52E+03	0,00E+00	3,52E+03	3,11E-01	5,68E+00	6,05E+00	1,27E+00	-1,91E+03
Secondary materials	kg	8,79E-01	0,00E+00	8,83E-01	1,22E-04	1,58E-03	5,26E-03	4,52E-04	5,26E+01
Renew. secondary fuels	MJ	1,13E-02	0,00E+00	1,15E-02	3,98E-07	1,59E-05	2,22E-04	1,73E-05	-9,44E-03
Non-ren. secondary fuels	MJ	1,12E-02	0,00E+00	1,12E-02	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00
Use of net fresh water	m^3	3,68E+00	0,00E+00	3,69E+00	1,89E-05	7,36E-04	5,63E-03	1,36E-03	-3,85E+00

1)PER = primary energy resources; Non-ren = Non renewable

END OF LIFE – WASTE

Impact category	Unit	A1-A3	A5	B5	C1	C2	C3	C4	D
Hazardous waste	kg	1,45E-01	0,00E+00	2,97E-01	4,16E-04	7,54E-03	0,00E+00	0,00E+00	-4,17E+01
Non-hazardous waste	kg	2,38E+01	0,00E+00	3,17E+01	2,93E-03	1,24E-01	0,00E+00	5,27E+00	-3,81E+02
Radioactive waste	kg	5,44E-02	0,00E+00	5,44E-02	2,19E-06	3,80E-05	0,00E+00	0,00E+00	-8,16E-03

END OF LIFE – OUTPUT FLOWS

Impact category	Unit	A1-A3	A5	B5	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	0,00E+00	0,00E+00
Materials for recycling	kg	1,34E+00	0,00E+00	5,12E+01	0,00E+00	0,00E+00	5,15E+01	0,00E+00	0,00E+00
Materials for energy recovery	kg	1,30E+00	0,00E+00	1,30E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00
Exported energy	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

BIOGENIC CARBON CONTENT

Biogenic carbon content	Unit (per declared unit)
Biogenic carbon content in product	0 kg
Biogenic carbon content in accompanying packaging	0 kg

NOTE 1 kg biogenic carbon is equivalent to 44/12 kg of CO2

VERTICAL WALL STIFFENERS AND SILICONES, 1 M

CORE ENVIRONMENTAL IMPACT INDICATORS – EN 15804+A2, PEF

Impact category	Unit	A1-A3	A5	B5	C1	C2	C3	C4	D
GWP – total	kg CO_2e	5,22E+01	0,00E+00	2,55E+00	7,63E-03	1,25E-01	3,50E-01	5,30E-03	-2,40E+01
GWP – fossil	kg CO_2e	5,22E+01	0,00E+00	2,55E+00	7,63E-03	1,25E-01	3,50E-01	5,30E-03	-2,40E+01
GWP – biogenic	kg CO_2e	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	-6,62E-03
GWP – LULUC	kg CO_2e	1,12E-02	0,00E+00	2,46E-03	7,58E-07	4,60E-05	2,91E-04	9,38E-06	-4,56E-03
Ozone depletion pot.	kg CFC_{-11}e	7,37E-07	0,00E+00	1,54E-09	1,63E-09	2,87E-08	1,60E-08	1,76E-09	-9,47E-07
Acidification potential	mol H^+e	1,30E-01	0,00E+00	7,94E-03	7,94E-05	5,26E-04	1,61E-03	4,78E-05	-9,86E-02
EP-freshwater[3)]	kg Pe	5,13E-05	0,00E+00	5,79E-06	2,53E-08	1,02E-06	1,38E-05	5,13E-08	-1,00E-03
EP-marine	kg Ne	2,88E-02	0,00E+00	1,81E-03	3,50E-05	1,57E-04	6,18E-04	1,76E-05	-2,01E-02
EP-terrestrial	mol Ne	3,03E-01	0,00E+00	1,95E-02	3,84E-04	1,73E-03	4,09E-03	1,93E-04	-2,35E-01
POCP (“smog”)	kg NMVOCe	1,01E-01	0,00E+00	6,18E-03	1,06E-04	5,52E-04	1,15E-03	5,52E-05	-1,18E-01
ADP-minerals & metals	kg Sbe	3,02E-04	0,00E+00	4,78E-05	3,86E-09	2,92E-07	1,09E-05	1,17E-08	-4,47E-04
ADP-fossil resources	MJ	5,74E+02	0,00E+00	4,03E+01	1,03E-01	1,87E+00	2,60E+00	1,19E-01	-2,12E+02
Water use[2)]	m^3e depr.	1,61E+01	0,00E+00	4,23E-01	2,75E-04	8,37E-03	8,46E-02	4,08E-04	-4,60E+00

1)GWP = Global Warming Potential; EP = Eutrophication potential; POCP = Photochemical ozone formation; ADP = Abiotic depletion potential. 2) 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 experienced with the indicator. 3) Required characterisation method and data are in kg P-eq. Multiply by 3,07 to get PO_4e.

USE OF NATURAL RESOURCES

Impact category	Unit	A1-A3	A5	B5	C1	C2	C3	C4	D
Renew. PER as energy	MJ	3,95E+01	0,00E+00	2,19E+01	5,87E-04	2,11E-02	4,23E-01	1,17E-03	-1,83E+01
Renew. PER as material	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
Total use of renew. PER	MJ	3,95E+01	0,00E+00	2,19E+01	5,87E-04	2,11E-02	4,23E-01	1,17E-03	-1,83E+01
Non-re. PER as energy	MJ	5,66E+02	0,00E+00	3,40E+01	1,03E-01	1,87E+00	2,60E+00	1,19E-01	-2,12E+02
Non-re. PER as material	MJ	5,30E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	-5,30E+00	0,00E+00
Total use of non-ren. PER	MJ	5,70E+02	0,00E+00	3,40E+01	1,03E-01	1,87E+00	2,60E+00	-5,17E+00	-2,12E+02
Secondary materials	kg	1,34E-02	0,00E+00	3,00E-05	4,01E-05	5,22E-04	4,69E-03	3,13E-05	1,22E+01
Renew. secondary fuels	MJ	1,35E-04	0,00E+00	3,97E-07	1,31E-07	5,26E-06	3,80E-04	5,83E-07	-2,28E-03
Non-ren. secondary fuels	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
Use of net fresh water	m^3	4,04E-01	0,00E+00	2,73E-02	6,23E-06	2,42E-04	2,19E-03	1,04E-04	-6,05E-02

1)PER = primary energy resources; Non-ren = Non renewable

END OF LIFE – WASTE

Impact category	Unit	A1-A3	A5	B5	C1	C2	C3	C4	D
Hazardous waste	kg	6,40E-02	0,00E+00	1,35E-04	1,37E-04	2,48E-03	0,00E+00	9,12E-05	-8,29E+00
Non-hazardous waste	kg	3,46E+00	0,00E+00	5,70E-01	9,64E-04	4,08E-02	0,00E+00	3,49E-01	-3,99E+01
Radioactive waste	kg	1,91E-03	0,00E+00	1,57E-03	7,23E-07	1,25E-05	0,00E+00	4,65E-07	1,42E-05

END OF LIFE – OUTPUT FLOWS

Impact category	Unit	A1-A3	A5	B5	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	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	1,57E+01	0,00E+00	0,00E+00
Materials for energy recovery	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
Exported energy	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

BIOGENIC CARBON CONTENT

Biogenic carbon content	Unit (per declared unit)
Biogenic carbon content in product	0 kg
Biogenic carbon content in accompanying packaging	0 kg

NOTE 1 kg biogenic carbon is equivalent to 44/12 kg of CO_2

HORIZONTAL WALL STIFFENERS AND SILICONES PLUS GLUE AND STEEL PARTS ON THE EDGES OF THE BASE SLAB, 1 M

CORE ENVIRONMENTAL IMPACT INDICATORS – EN 15804+A2, PEF

Impact category	Unit	A1-A3	A5	B5	C1	C2	C3	C4	D
GWP – total	kg CO_2e	4,95E+00	0,00E+00	4,76E+00	4,45E-04	7,27E-03	1,07E+00	2,10E-03	-1,61E+00
GWP – fossil	kg CO_2e	4,95E+00	0,00E+00	4,74E+00	4,45E-04	7,27E-03	1,08E+00	2,09E-03	-1,61E+00
GWP – biogenic	kg CO_2e	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	-3,42E-03
GWP – LULUC	kg CO_2e	3,74E-03	0,00E+00	3,50E-03	4,42E-08	2,68E-06	1,59E-05	4,59E-06	-2,91E-03
Ozone depletion pot.	kg CFC_{-11}e	4,40E-08	0,00E+00	7,06E-09	9,50E-11	1,67E-09	2,72E-09	6,20E-10	-8,13E-08
Acidification potential	mol H^+e	1,44E-02	0,00E+00	9,55E-03	4,61E-06	3,08E-05	2,85E-04	1,85E-05	-8,77E-03
EP-freshwater[3)]	kg Pe	1,37E-05	0,00E+00	1,24E-05	1,47E-09	5,95E-08	6,04E-07	1,96E-08	-7,08E-05
EP-marine	kg Ne	3,46E-03	0,00E+00	2,40E-03	2,04E-06	9,15E-06	1,29E-04	7,04E-06	-1,40E-03
EP-terrestrial	mol Ne	3,76E-02	0,00E+00	2,60E-02	2,24E-05	1,01E-04	1,28E-03	7,72E-05	-1,59E-02
POCP (“smog”)	kg NMVOCe	1,18E-02	0,00E+00	8,23E-03	6,17E-06	3,23E-05	3,14E-04	2,19E-05	-5,68E-03
ADP-minerals & metals	kg Sbe	3,81E-05	0,00E+00	3,22E-05	2,26E-10	1,70E-08	3,54E-07	4,51E-09	-1,27E-05
ADP-fossil resources	MJ	8,50E+01	0,00E+00	7,14E+01	5,97E-03	1,09E-01	2,60E-01	4,22E-02	-2,17E+01
Water use[2)]	m^3e depr.	1,23E+00	0,00E+00	8,96E-01	1,60E-05	4,88E-04	4,42E-02	1,51E-04	-4,88E-01

1)GWP = Global Warming Potential; EP = Eutrophication potential; POCP = Photochemical ozone formation; ADP = Abiotic depletion potential. 2) 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 experienced with the indicator. 3) Required characterisation method and data are in kg P-eq. Multiply by 3,07 to get PO_4e.

USE OF NATURAL RESOURCES

Impact category	Unit	A1-A3	A5	B5	C1	C2	C3	C4	D
Renew. PER as energy	MJ	1,64E+01	0,00E+00	1,60E+01	3,42E-05	1,23E-03	1,77E-02	4,49E-04	-3,78E+00
Renew. PER as material	MJ	2,63E-01	0,00E+00	0,00E+00	0,00E+00	0,00E+00	-2,63E-01	0,00E+00	0,00E+00
Total use of renew. PER	MJ	1,67E+01	0,00E+00	1,60E+01	3,42E-05	1,23E-03	-2,45E-01	4,49E-04	-3,78E+00
Non-re. PER as energy	MJ	7,15E+01	0,00E+00	5,78E+01	5,97E-03	1,09E-01	2,60E-01	4,22E-02	-2,17E+01
Non-re. PER as material	MJ	1,31E+01	0,00E+00	0,00E+00	0,00E+00	0,00E+00	-9,87E+00	-3,15E+00	0,00E+00
Total use of non-ren. PER	MJ	8,45E+01	0,00E+00	5,78E+01	5,97E-03	1,09E-01	-9,61E+00	-3,11E+00	-2,17E+01
Secondary materials	kg	8,40E-04	0,00E+00	2,09E-04	2,35E-06	3,02E-05	2,87E-04	1,25E-05	-4,26E-01
Renew. secondary fuels	MJ	6,13E-06	0,00E+00	6,60E-06	7,65E-09	3,06E-07	1,51E-05	1,90E-07	-1,21E-04
Non-ren. secondary fuels	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
Use of net fresh water	m^3	4,32E-02	0,00E+00	3,59E-02	3,63E-07	1,41E-05	1,63E-03	3,06E-05	-1,74E-02

1)PER = primary energy resources; Non-ren = Non renewable

END OF LIFE – WASTE

Impact category	Unit	A1-A3	A5	B5	C1	C2	C3	C4	D
Hazardous waste	kg	3,46E-03	0,00E+00	1,51E-04	8,00E-06	1,45E-04	0,00E+00	5,41E-05	-4,99E-01
Non-hazardous waste	kg	5,04E-01	0,00E+00	8,63E-01	5,63E-05	2,38E-03	0,00E+00	8,88E-03	-3,85E+00
Radioactive waste	kg	2,00E-03	0,00E+00	1,99E-03	4,20E-08	7,31E-07	0,00E+00	2,76E-07	-1,20E-04

END OF LIFE – OUTPUT FLOWS

Impact category	Unit	A1-A3	A5	B5	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	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	3,68E-01	0,00E+00	0,00E+00
Materials for energy recovery	kg	0,00E+00	0,00E+00	4,49E-01	0,00E+00	0,00E+00	4,49E-01	0,00E+00	0,00E+00
Exported energy	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

BIOGENIC CARBON CONTENT

Biogenic carbon content	Unit (per declared unit)
Biogenic carbon content in product	0 kg
Biogenic carbon content in accompanying packaging	0 kg

NOTE 1 kg biogenic carbon is equivalent to 44/12 kg of CO_2

CEILING: STEEL PANEL CEILING, 1 M^2

CORE ENVIRONMENTAL IMPACT INDICATORS – EN 15804+A2, PEF

Impact category	Unit	A1-A3	A5	B5	C1	C2	C3	C4	D
GWP – total	kg CO_2e	2,38E+01	1,79E+00	0,00E+00	2,96E-03	5,44E-02	1,55E-01	8,15E-04	-1,23E+01
GWP – fossil	kg CO_2e	2,38E+01	1,79E+00	0,00E+00	2,96E-03	5,44E-02	1,55E-01	8,13E-04	-1,22E+01
GWP – biogenic	kg CO_2e	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	-3,37E-03
GWP – LULUC	kg CO_2e	8,98E-03	1,71E-05	0,00E+00	2,96E-07	2,00E-05	1,29E-04	7,68E-07	-2,34E-03
Ozone depletion pot.	kg CFC_{-11}e	1,79E-07	5,14E-09	0,00E+00	6,36E-10	1,25E-08	7,12E-09	3,28E-10	-4,83E-07
Acidification potential	mol H^+e	7,28E-02	4,36E-04	0,00E+00	3,10E-05	2,29E-04	7,14E-04	7,64E-06	-5,03E-02
EP-freshwater[3)]	kg Pe	9,48E-05	5,12E-07	0,00E+00	9,86E-09	4,45E-07	6,11E-06	8,51E-09	-5,10E-04
EP-marine	kg Ne	1,77E-02	1,99E-04	0,00E+00	1,37E-05	6,83E-05	2,74E-04	2,65E-06	-1,03E-02
EP-terrestrial	mol Ne	1,91E-01	2,05E-03	0,00E+00	1,50E-04	7,55E-04	1,81E-03	2,92E-05	-1,20E-01
POCP (“smog”)	kg NMVOCe	5,77E-02	5,03E-04	0,00E+00	4,13E-05	2,40E-04	5,12E-04	8,47E-06	-6,04E-02
ADP-minerals & metals	kg Sbe	1,15E-03	1,74E-07	0,00E+00	1,51E-09	1,27E-07	4,85E-06	1,87E-09	-2,29E-04
ADP-fossil resources	MJ	3,23E+02	4,11E-01	0,00E+00	4,00E-02	8,15E-01	1,15E+00	2,23E-02	-1,08E+02
Water use[2)]	m^{3}e depr.	3,95E+00	7,10E-02	0,00E+00	1,08E-04	3,66E-03	3,75E-02	7,08E-05	-2,34E+00

1)GWP = Global Warming Potential; EP = Eutrophication potential; POCP = Photochemical ozone formation; ADP = Abiotic depletion potential. 2) 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 experienced with the indicator. 3) Required characterisation method and data are in kg P-eq. Multiply by 3,07 to get PO_4e.

USE OF NATURAL RESOURCES

Impact category	Unit	A1-A3	A5	B5	C1	C2	C3	C4	D
Renew. PER as energy	MJ	1,73E+01	1,39E-02	0,00E+00	2,29E-04	9,19E-03	1,88E-01	1,94E-04	-9,32E+00
Renew. PER as material	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
Total use of renew. PER	MJ	1,73E+01	1,39E-02	0,00E+00	2,29E-04	9,19E-03	1,88E-01	1,94E-04	-9,32E+00
Non-re. PER as energy	MJ	2,52E+02	4,11E-01	0,00E+00	4,00E-02	8,15E-01	1,15E+00	2,23E-02	-1,08E+02
Non-re. PER as material	MJ	3,19E+01	-3,19E+01	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00
Total use of non-ren. PER	MJ	2,85E+02	-3,14E+01	0,00E+00	4,00E-02	8,15E-01	1,15E+00	2,23E-02	-1,08E+02
Secondary materials	kg	1,80E-01	3,17E-04	0,00E+00	1,57E-05	2,27E-04	2,08E-03	4,69E-06	6,22E+00
Renew. secondary fuels	MJ	2,40E-02	1,06E-05	0,00E+00	5,12E-08	2,29E-06	1,68E-04	1,22E-07	-1,16E-03
Non-ren. secondary fuels	MJ	2,08E-08	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00
Use of net fresh water	m^3	5,17E-02	2,65E-03	0,00E+00	2,43E-06	1,06E-04	9,70E-04	2,45E-05	-3,08E-02

1)PER = primary energy resources; Non-ren = Non renewable

END OF LIFE – WASTE

Impact category	Unit	A1-A3	A5	B5	C1	C2	C3	C4	D
Hazardous waste	kg	5,46E-01	1,05E-04	0,00E+00	5,35E-05	1,08E-03	0,00E+00	0,00E+00	-4,22E+00
Non-hazardous waste	kg	3,50E+00	7,52E-01	0,00E+00	3,77E-04	1,78E-02	0,00E+00	1,54E-01	-2,04E+01
Radioactive waste	kg	4,47E-03	5,30E-07	0,00E+00	2,81E-07	5,46E-06	0,00E+00	0,00E+00	7,21E-06

END OF LIFE – OUTPUT FLOWS

Impact category	Unit	A1-A3	A5	B5	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	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	6,94E+00	0,00E+00	0,00E+00
Materials for energy recovery	kg	0,00E+00	7,50E-01	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00
Exported energy	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

BIOGENIC CARBON CONTENT

Biogenic carbon content	Unit (per declared unit)
Biogenic carbon content in product	0 kg
Biogenic carbon content in accompanying packaging	0 kg

NOTE 1 kg biogenic carbon is equivalent to 44/12 kg of CO2

HORIZONTAL CEILING STIFFENERS FOR STEEL PANEL CEILING, 1 M

CORE ENVIRONMENTAL IMPACT INDICATORS – EN 15804+A2, PEF

Impact category	Unit	A1-A3	A5	B5	C1	C2	C3	C4	D
GWP – total	kg CO_2e	1,32E+01	0,00E+00	0,00E+00	2,03E-03	3,33E-02	9,50E-02	4,99E-04	-7,39E+00
GWP – fossil	kg CO_2e	1,32E+01	0,00E+00	0,00E+00	2,03E-03	3,32E-02	9,50E-02	4,99E-04	-7,39E+00
GWP – biogenic	kg CO_2e	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	-2,03E-03
GWP – LULUC	kg CO_2e	7,15E-03	0,00E+00	0,00E+00	2,02E-07	1,23E-05	7,87E-05	4,70E-07	-1,40E-03
Ozone depletion pot.	kg CFC_{-11}e	6,76E-08	0,00E+00	0,00E+00	4,35E-10	7,63E-09	4,35E-09	2,01E-10	-2,90E-07
Acidification potential	mol H^+e	2,79E-02	0,00E+00	0,00E+00	2,11E-05	1,41E-04	4,37E-04	4,68E-06	-3,02E-02
EP-freshwater[3)]	kg Pe	7,24E-05	0,00E+00	0,00E+00	6,71E-09	2,72E-07	3,74E-06	5,23E-09	-3,07E-04
EP-marine	kg Ne	6,57E-03	0,00E+00	0,00E+00	9,35E-06	4,18E-05	1,67E-04	1,62E-06	-6,19E-03
EP-terrestrial	mol Ne	6,91E-02	0,00E+00	0,00E+00	1,03E-04	4,61E-04	1,11E-03	1,78E-05	-7,19E-02
POCP (“smog”)	kg NMVOCe	2,09E-02	0,00E+00	0,00E+00	2,82E-05	1,48E-04	3,13E-04	5,18E-06	-3,64E-02
ADP-minerals & metals	kg Sbe	2,26E-04	0,00E+00	0,00E+00	1,03E-09	7,77E-08	2,97E-06	1,14E-09	-1,38E-04
ADP-fossil resources	MJ	9,06E+01	0,00E+00	0,00E+00	2,73E-02	4,99E-01	7,05E-01	1,36E-02	-6,52E+01
Water use[2)]	m^3e depr.	1,71E+00	0,00E+00	0,00E+00	7,34E-05	2,24E-03	2,30E-02	4,33E-05	-1,41E+00

1)GWP = Global Warming Potential; EP = Eutrophication potential; POCP = Photochemical ozone formation; ADP = Abiotic depletion potential. 2) 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 experienced with the indicator. 3) Required characterisation method and data are in kg P-eq. Multiply by 3,07 to get PO_4e.

USE OF NATURAL RESOURCES

Impact category	Unit	A1-A3	A5	B5	C1	C2	C3	C4	D
Renew. PER as energy	MJ	8,44E+00	0,00E+00	0,00E+00	1,56E-04	5,61E-03	1,15E-01	1,18E-04	-5,61E+00
Renew. PER as material	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
Total use of renew. PER	MJ	8,44E+00	0,00E+00	0,00E+00	1,56E-04	5,61E-03	1,15E-01	1,18E-04	-5,61E+00
Non-re. PER as energy	MJ	9,16E+01	0,00E+00	0,00E+00	2,73E-02	4,99E-01	7,05E-01	1,36E-02	-6,52E+01
Non-re. PER as material	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
Total use of non-ren. PER	MJ	9,16E+01	0,00E+00	0,00E+00	2,73E-02	4,99E-01	7,05E-01	1,36E-02	-6,52E+01
Secondary materials	kg	1,67E-01	0,00E+00	0,00E+00	1,07E-05	1,39E-04	1,27E-03	2,87E-06	3,74E+00
Renew. secondary fuels	MJ	1,49E-06	0,00E+00	0,00E+00	3,50E-08	1,40E-06	1,03E-04	7,48E-08	-7,00E-04
Non-ren. secondary fuels	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
Use of net fresh water	m^3	2,80E-02	0,00E+00	0,00E+00	1,66E-06	6,47E-05	5,95E-04	1,49E-05	-1,86E-02

1)PER = primary energy resources; Non-ren = Non renewable

END OF LIFE – WASTE

Impact category	Unit	A1-A3	A5	B5	C1	C2	C3	C4	D
Hazardous waste	kg	1,06E-01	0,00E+00	0,00E+00	3,66E-05	6,62E-04	0,00E+00	0,00E+00	-2,55E+00
Non-hazardous waste	kg	3,12E-01	0,00E+00	0,00E+00	2,57E-04	1,09E-02	0,00E+00	9,45E-02	-1,22E+01
Radioactive waste	kg	1,40E-03	0,00E+00	0,00E+00	1,92E-07	3,34E-06	0,00E+00	0,00E+00	4,34E-06

END OF LIFE – OUTPUT FLOWS

Impact category	Unit	A1-A3	A5	B5	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	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	4,25E+00	0,00E+00	0,00E+00
Materials for energy recovery	kg	3,54E-02	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00
Exported energy	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

BIOGENIC CARBON CONTENT

Biogenic carbon content	Unit (per declared unit)
Biogenic carbon content in product	0 kg
Biogenic carbon content in accompanying packaging	0 kg

NOTE 1 kg biogenic carbon is equivalent to 44/12 kg of CO_2

CEILING: ALUMINIUM HONEYCOMB PANEL, 1 M^2

CORE ENVIRONMENTAL IMPACT INDICATORS – EN 15804+A2, PEF

Impact category	Unit	A1-A3	A5	B5	C1	C2	C3	C4	D
GWP – total	kg CO_2e	5,82E+01	1,79E+00	0,00E+00	4,96E-03	8,11E-02	1,23E-01	1,81E-03	-4,34E+01
GWP – fossil	kg CO_2e	5,77E+01	1,79E+00	0,00E+00	4,96E-03	8,11E-02	2,38E-01	1,80E-03	-4,22E+01
GWP – biogenic	kg CO_2e	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	-2,00E-01
GWP – LULUC	kg CO_2e	4,83E-01	1,71E-05	0,00E+00	4,94E-07	2,99E-05	1,99E-04	1,70E-06	-8,72E-01
Ozone depletion pot.	kg CFC_{-11}e	5,68E-06	5,14E-09	0,00E+00	1,06E-09	1,86E-08	1,10E-08	7,30E-10	-4,04E-06
Acidification potential	mol H^+e	2,99E-01	4,36E-04	0,00E+00	5,14E-05	3,44E-04	1,10E-03	1,70E-05	-2,63E-01
EP-freshwater[3)]	kg Pe	8,74E-05	5,12E-07	0,00E+00	1,64E-08	6,65E-07	9,41E-06	1,89E-08	-2,17E-03
EP-marine	kg Ne	5,41E-02	1,99E-04	0,00E+00	2,29E-05	1,02E-04	4,22E-04	5,88E-06	-3,17E-02
EP-terrestrial	mol Ne	5,82E-01	2,05E-03	0,00E+00	2,49E-04	1,13E-03	2,81E-03	6,47E-05	-3,55E-01
POCP (“smog”)	kg NMVOCe	1,71E-01	5,03E-04	0,00E+00	6,87E-05	3,59E-04	7,88E-04	1,88E-05	-1,46E-01
ADP-minerals & metals	kg Sbe	2,34E-04	1,74E-07	0,00E+00	2,52E-09	1,90E-07	7,48E-06	4,16E-09	-2,45E-04
ADP-fossil resources	MJ	4,45E+02	4,11E-01	0,00E+00	6,67E-02	1,22E+00	1,78E+00	4,94E-02	-6,04E+02
Water use[2)]	m^{3}e depr.	1,53E+01	7,10E-02	0,00E+00	1,79E-04	5,46E-03	5,80E-02	1,57E-04	-7,30E+01

1)GWP = Global Warming Potential; EP = Eutrophication potential; POCP = Photochemical ozone formation; ADP = Abiotic depletion potential. 2) 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 experienced with the indicator. 3) Required characterisation method and data are in kg P-eq. Multiply by 3,07 to get PO_4e.

USE OF NATURAL RESOURCES

Impact category	Unit	A1-A3	A5	B5	C1	C2	C3	C4	D
Renew. PER as energy	MJ	1,31E+02	1,39E-02	0,00E+00	3,82E-04	1,37E-02	2,90E-01	4,29E-04	-2,29E+02
Renew. PER as material	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
Total use of renew. PER	MJ	1,31E+02	1,39E-02	0,00E+00	3,82E-04	1,37E-02	2,90E-01	4,29E-04	-2,29E+02
Non-re. PER as energy	MJ	6,27E+02	4,11E-01	0,00E+00	6,67E-02	1,22E+00	1,77E+00	4,94E-02	-6,04E+02
Non-re. PER as material	MJ	3,19E+01	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00
Total use of non-ren. PER	MJ	6,58E+02	4,11E-01	0,00E+00	6,67E-02	1,22E+00	1,77E+00	4,94E-02	-6,04E+02
Secondary materials	kg	1,54E-01	3,17E-04	0,00E+00	2,61E-05	3,39E-04	3,19E-03	1,04E-05	1,02E+01
Renew. secondary fuels	MJ	2,40E-02	1,06E-05	0,00E+00	8,54E-08	3,41E-06	2,61E-04	2,72E-07	-1,74E-03
Non-ren. secondary fuels	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
Use of net fresh water	m^3	3,71E-01	2,65E-03	0,00E+00	4,04E-06	1,58E-04	1,50E-03	5,41E-05	-1,57E+00

1)PER = primary energy resources; Non-ren = Non renewable

END OF LIFE – WASTE

Impact category	Unit	A1-A3	A5	B5	C1	C2	C3	C4	D
Hazardous waste	kg	6,49E+00	1,05E-04	0,00E+00	8,92E-05	1,61E-03	0,00E+00	0,00E+00	-1,04E+01
Non-hazardous waste	kg	7,12E+01	7,52E-01	0,00E+00	6,27E-04	2,65E-02	0,00E+00	3,44E-01	-9,64E+01
Radioactive waste	kg	2,45E-03	5,30E-07	0,00E+00	4,69E-07	8,15E-06	0,00E+00	0,00E+00	-3,37E-03

END OF LIFE – OUTPUT FLOWS

Impact category	Unit	A1-A3	B5	C1	C2	C3	C4	D
Components for re-use	kg	4,47E-02	0,00E+00	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	1,07E+01	0,00E+00	0,00E+00
Materials for energy recovery	kg	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00
Exported energy	MJ	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00

BIOGENIC CARBON CONTENT

Biogenic carbon content	Unit (per declared unit)
Biogenic carbon content in product	0 kg
Biogenic carbon content in accompanying packaging	0 kg

NOTE 1 kg biogenic carbon is equivalent to 44/12 kg of CO_2

WALL PANELS, TILES, GLUE AND GROUT, 1 M²

CORE ENVIRONMENTAL IMPACT INDICATORS – EN 15804+A2, PEF

Impact category	Unit	A1-A3	A5	B5	C1	C2	C3	C4	D
GWP – total	kg CO_2e	4,17E+01	1,88E+00	9,42E+00	1,17E-02	1,92E-01	2,47E-01	3,20E-02	-1,64E+01
GWP – fossil	kg CO_2e	4,17E+01	1,88E+00	9,42E+00	1,17E-02	1,91E-01	2,46E-01	3,19E-02	-1,64E+01
GWP – biogenic	kg CO_2e	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	-5,25E-03
GWP – LULUC	kg CO_2e	1,99E-02	1,80E-05	6,65E-03	1,17E-06	7,07E-05	1,69E-04	6,95E-05	-3,49E-03
Ozone depletion pot.	kg CFC_{-11}e	1,57E-06	5,38E-09	8,71E-07	2,50E-09	4,40E-08	1,95E-08	9,48E-09	-6,89E-07
Acidification potential	mol H^+e	2,03E-01	4,56E-04	3,33E-02	1,22E-04	8,13E-04	1,42E-03	2,82E-04	-6,83E-02
EP-freshwater[3)]	kg Pe	1,38E-04	5,37E-07	2,15E-05	3,88E-08	1,57E-06	7,95E-06	2,98E-07	-6,77E-04
EP-marine	kg Ne	4,51E-02	2,09E-04	3,70E-03	5,39E-05	2,41E-04	5,72E-04	1,07E-04	-1,42E-02
EP-terrestrial	mol Ne	4,94E-01	2,15E-03	4,03E-02	5,89E-04	2,66E-03	4,77E-03	1,17E-03	-1,65E-01
POCP (“smog”)	kg NMVOCe	1,52E-01	5,28E-04	2,66E-02	1,63E-04	8,48E-04	1,32E-03	3,33E-04	-8,13E-02
ADP-minerals & metals	kg Sbe	1,96E-03	1,82E-07	2,34E-04	5,95E-09	4,49E-07	6,18E-06	6,89E-08	-3,01E-04
ADP-fossil resources	MJ	6,42E+02	4,32E-01	2,08E+02	1,58E-01	2,88E+00	2,13E+00	6,42E-01	-1,47E+02
Water use[2)]	m^3e depr.	5,38E+00	7,48E-02	1,46E+00	4,23E-04	1,29E-02	4,96E-02	2,31E-03	-3,52E+00

1)GWP = Global Warming Potential; EP = Eutrophication potential; POCP = Photochemical ozone formation; ADP = Abiotic depletion potential. 2) 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 experienced with the indicator. 3) Required characterisation method and data are in kg P-eq. Multiply by 3,07 to get PO_4e.

USE OF NATURAL RESOURCES

Impact category	Unit	A1-A3	A5	B5	C1	C2	C3	C4	D
Renew. PER as energy	MJ	3,49E+01	1,45E-02	9,36E+00	9,01E-04	3,24E-02	2,43E-01	6,83E-03	-1,25E+01
Renew. PER as material	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
Total use of renew. PER	MJ	3,49E+01	1,45E-02	9,36E+00	9,01E-04	3,24E-02	2,43E-01	6,83E-03	-1,25E+01
Non-re. PER as energy	MJ	6,01E+02	4,32E-01	1,97E+02	1,58E-01	2,88E+00	2,12E+00	6,48E-01	-1,47E+02
Non-re. PER as material	MJ	3,34E+01	-3,34E+01	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00
Total use of non-ren. PER	MJ	6,30E+02	-3,30E+01	1,97E+02	1,58E-01	2,88E+00	2,12E+00	6,48E-01	-1,47E+02
Secondary materials	kg	2,85E-01	3,33E-04	9,89E-04	6,18E-05	8,01E-04	2,90E-03	1,91E-04	8,07E+00
Renew. secondary fuels	MJ	2,53E-02	1,11E-05	8,89E-06	2,01E-07	8,07E-06	2,15E-04	2,90E-06	-1,55E-03
Non-ren. secondary fuels	MJ	3,20E-08	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00
Use of net fresh water	m^3	1,57E-01	2,78E-03	9,60E-02	9,54E-06	3,73E-04	1,28E-03	4,73E-04	-5,15E-02

1)PER = primary energy resources; Non-ren = Non renewable

END OF LIFE – WASTE

Impact category	Unit	A1-A3	A5	B5	C1	C2	C3	C4	D
Hazardous waste	kg	1,97E+00	1,10E-04	1,15E+00	2,11E-04	3,82E-03	0,00E+00	8,13E-04	-5,52E+00
Non-hazardous waste	kg	4,57E+00	7,89E-01	2,50E-01	1,48E-03	6,24E-02	0,00E+00	2,07E-01	-2,71E+01
Radioactive waste	kg	9,60E-03	5,56E-07	2,57E-03	1,11E-06	1,93E-05	0,00E+00	4,14E-06	-2,84E-05

END OF LIFE – OUTPUT FLOWS

Impact category	Unit	A1-A3	A5	B5	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	0,00E+00	0,00E+00
Materials for recycling	kg	0,00E+00	0,00E+00	1,47E+01	0,00E+00	0,00E+00	2,36E+01	0,00E+00	0,00E+00
Materials for energy recovery	kg	0,00E+00	7,89E-01	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00
Exported energy	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

BIOGENIC CARBON CONTENT

Biogenic carbon content	Unit (per declared unit)
Biogenic carbon content in product	0 kg
Biogenic carbon content in accompanying packaging	0 kg

NOTE 1 kg biogenic carbon is equivalent to 44/12 kg of CO_2

FLOOR TILES AND GROUTS, 1 M²

CORE ENVIRONMENTAL IMPACT INDICATORS – EN 15804+A2, PEF

Impact category	Unit	A1-A3	A5	B5	C1	C2	C3	C4	D
GWP – total	kg CO_2e	1,60E+01	0,00E+00	1,09E+01	7,77E-03	1,27E-01	5,38E-02	2,12E-02	-5,03E-01
GWP – fossil	kg CO_2e	1,59E+01	0,00E+00	1,09E+01	7,77E-03	1,27E-01	5,38E-02	2,12E-02	-5,01E-01
GWP – biogenic	kg CO_2e	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	-9,65E-04
GWP – LULUC	kg CO_2e	2,28E-02	0,00E+00	2,09E-02	7,75E-07	4,69E-05	5,36E-06	4,69E-05	-5,13E-04
Ozone depletion pot.	kg CFC_{-11}e	2,04E-06	0,00E+00	8,80E-07	1,66E-09	2,92E-08	1,15E-08	6,23E-09	-6,96E-08
Acidification potential	mol H^+e	6,11E-02	0,00E+00	3,63E-02	8,07E-05	5,38E-04	5,59E-04	1,87E-04	-3,49E-03
EP-freshwater[3)]	kg Pe	2,62E-03	0,00E+00	2,60E-03	2,57E-08	1,04E-06	1,78E-07	1,97E-07	-1,85E-05
EP-marine	kg Ne	1,51E-02	0,00E+00	8,07E-03	3,59E-05	1,60E-04	2,46E-04	7,13E-05	-9,15E-04
EP-terrestrial	mol Ne	1,59E-01	0,00E+00	8,09E-02	3,93E-04	1,77E-03	2,71E-03	7,79E-04	-1,08E-02
POCP (“smog”)	kg NMVOCe	4,69E-02	0,00E+00	2,27E-02	1,08E-04	5,65E-04	7,45E-04	2,21E-04	-2,97E-03
ADP-minerals & metals	kg Sbe	2,94E-05	0,00E+00	1,75E-05	3,93E-09	2,99E-07	2,71E-08	4,55E-08	-3,86E-06
ADP-fossil resources	MJ	2,32E+02	0,00E+00	1,56E+02	1,05E-01	1,91E+00	7,22E-01	4,23E-01	-7,29E+00
Water use[2)]	m^3e depr.	2,64E+00	0,00E+00	2,30E+00	2,80E-04	8,55E-03	1,94E-03	1,52E-03	-5,24E-01

1)GWP = Global Warming Potential; EP = Eutrophication potential; POCP = Photochemical ozone formation; ADP = Abiotic depletion potential. 2) 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 experienced with the indicator. 3) Required characterisation method and data are in kg P-eq. Multiply by 3,07 to get PO_4e.

USE OF NATURAL RESOURCES

Impact category	Unit	A1-A3	A5	B5	C1	C2	C3	C4	D
Renew. PER as energy	MJ	1,22E+01	0,00E+00	1,13E+01	5,98E-04	2,15E-02	4,14E-03	4,53E-03	-4,32E-01
Renew. PER as material	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
Total use of renew. PER	MJ	1,22E+01	0,00E+00	1,13E+01	5,98E-04	2,15E-02	4,14E-03	4,53E-03	-4,32E-01
Non-re. PER as energy	MJ	2,28E+02	0,00E+00	1,52E+02	1,05E-01	1,91E+00	7,22E-01	4,23E-01	-7,29E+00
Non-re. PER as material	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
Total use of non-ren. PER	MJ	2,28E+02	0,00E+00	1,52E+02	1,05E-01	1,91E+00	7,22E-01	4,23E-01	-7,29E+00
Secondary materials	kg	2,21E-02	0,00E+00	9,81E-04	4,09E-05	5,31E-04	2,83E-04	1,27E-04	-5,79E-03
Renew. secondary fuels	MJ	2,18E-04	0,00E+00	8,30E-06	1,34E-07	5,36E-06	9,24E-07	1,88E-06	-4,34E-05
Non-ren. secondary fuels	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
Use of net fresh water	m^3	6,09E-02	0,00E+00	5,15E-02	6,34E-06	2,48E-04	4,39E-05	3,03E-04	-1,27E-02

1)PER = primary energy resources; Non-ren = Non renewable

END OF LIFE – WASTE

Impact category	Unit	A1-A3	A5	B5	C1	C2	C3	C4	D
Hazardous waste	kg	1,06E-01	0,00E+00	6,07E-03	1,40E-04	2,53E-03	0,00E+00	5,59E-04	-2,97E-02
Non-hazardous waste	kg	1,90E+00	0,00E+00	2,57E-01	9,84E-04	4,16E-02	0,00E+00	7,24E-03	-8,07E-01
Radioactive waste	kg	1,57E-03	0,00E+00	1,06E-03	7,36E-07	1,28E-05	0,00E+00	2,85E-06	-4,16E-05

END OF LIFE – OUTPUT FLOWS

Impact category	Unit	A1-A3	A5	B5	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	0,00E+00	0,00E+00
Materials for recycling	kg	0,00E+00	0,00E+00	1,63E+01	0,00E+00	0,00E+00	1,63E+01	0,00E+00	0,00E+00
Materials for energy recovery	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
Exported energy	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

BIOGENIC CARBON CONTENT

Biogenic carbon content	Unit (per declared unit)
Biogenic carbon content in product	0 kg
Biogenic carbon content in accompanying packaging	0 kg

NOTE 1 kg biogenic carbon is equivalent to 44/12 kg of CO_2

SHOWER WALL, 1 UNIT

CORE ENVIRONMENTAL IMPACT INDICATORS – EN 15804+A2, PEF

Impact category	Unit	A1-A3	A5	B5	C1	C2	C3	C4	D
GWP – total	kg CO_2e	6,92E+01	0,00E+00	6,86E+01	1,32E-02	2,04E-01	6,20E-01	9,68E-02	-4,40E+01
GWP – fossil	kg CO_2e	6,92E+01	0,00E+00	6,85E+01	1,32E-02	2,04E-01	6,16E-01	9,66E-02	-4,28E+01
GWP – biogenic	kg CO_2e	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	-2,36E-01
GWP – LULUC	kg CO_2e	2,40E-02	0,00E+00	2,40E-02	1,32E-06	7,53E-05	3,60E-04	9,12E-05	-9,51E-01
Ozone depletion pot.	kg CFC_{-11}e	3,80E-06	0,00E+00	3,56E-06	2,83E-09	4,70E-08	3,20E-08	3,91E-08	-4,41E-06
Acidification potential	mol H^+e	4,34E-01	0,00E+00	4,32E-01	1,38E-04	8,64E-04	2,39E-03	9,09E-04	-2,75E-01
EP-freshwater[3)]	kg Pe	6,40E-04	0,00E+00	6,45E-04	4,39E-08	1,67E-06	1,52E-05	1,01E-06	-2,32E-03
EP-marine	kg Ne	7,49E-02	0,00E+00	7,38E-02	6,09E-05	2,57E-04	3,10E-04	3,15E-04	-3,19E-02
EP-terrestrial	mol Ne	8,64E-01	0,00E+00	8,53E-01	6,68E-04	2,83E-03	3,67E-03	3,46E-03	-3,54E-01
POCP (“smog”)	kg NMVOCe	2,18E-01	0,00E+00	2,14E-01	1,84E-04	9,06E-04	1,07E-03	1,01E-03	-1,29E-01
ADP-minerals & metals	kg Sbe	5,70E-04	0,00E+00	5,95E-04	6,71E-09	4,78E-07	2,82E-05	2,22E-07	-1,11E-04
ADP-fossil resources	MJ	8,97E+02	0,00E+00	8,84E+02	1,78E-01	3,07E+00	4,41E+00	2,65E+00	-6,60E+02
Water use[2)]	m^3e depr.	1,58E+01	0,00E+00	1,59E+01	4,79E-04	1,37E-02	9,99E-02	8,41E-03	-8,08E+01

1)GWP = Global Warming Potential; EP = Eutrophication potential; POCP = Photochemical ozone formation; ADP = Abiotic depletion potential. 2) 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 experienced with the indicator. 3) Required characterisation method and data are in kg P-eq. Multiply by 3,07 to get PO_4e.

USE OF NATURAL RESOURCES

Impact category	Unit	A1-A3	A5	B5	C1	C2	C3	C4	D
Renew. PER as energy	MJ	1,87E+02	0,00E+00	1,87E+02	1,02E-03	3,45E-02	5,93E-01	2,30E-02	-2,54E+02
Renew. PER as material	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
Total use of renew. PER	MJ	1,87E+02	0,00E+00	1,87E+02	1,02E-03	3,45E-02	5,93E-01	2,30E-02	-2,54E+02
Non-re. PER as energy	MJ	8,98E+02	0,00E+00	8,84E+02	1,78E-01	3,07E+00	4,41E+00	2,65E+00	-6,60E+02
Non-re. PER as material	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
Total use of non-ren. PER	MJ	8,98E+02	0,00E+00	8,84E+02	1,78E-01	3,07E+00	4,41E+00	2,65E+00	-6,60E+02
Secondary materials	kg	5,77E-02	0,00E+00	5,53E-02	6,97E-05	8,51E-04	2,64E-03	5,57E-04	-2,21E+01
Renew. secondary fuels	MJ	1,75E-02	0,00E+00	1,75E-02	2,28E-07	8,59E-06	9,42E-05	1,45E-05	-2,16E-03
Non-ren. secondary fuels	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
Use of net fresh water	m^3	4,75E-01	0,00E+00	4,78E-01	1,08E-05	3,97E-04	3,21E-03	2,90E-03	-1,79E+00

1)PER = primary energy resources; Non-ren = Non renewable

END OF LIFE – WASTE

Impact category	Unit	A1-A3	A5	B5	C1	C2	C3	C4	D
Hazardous waste	kg	5,46E-01	0,00E+00	5,79E-01	2,38E-04	4,07E-03	0,00E+00	0,00E+00	-1,26E+01
Non-hazardous waste	kg	2,47E+01	0,00E+00	4,54E+01	1,68E-03	6,68E-02	0,00E+00	1,84E+01	-1,05E+02
Radioactive waste	kg	3,61E-02	0,00E+00	3,60E-02	1,25E-06	2,05E-05	0,00E+00	0,00E+00	-4,18E-03

END OF LIFE – OUTPUT FLOWS

Impact category	Unit	A1-A3	A5	B5	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	0,00E+00	0,00E+00
Materials for recycling	kg	0,00E+00	0,00E+00	1,07E+01	0,00E+00	0,00E+00	1,07E+01	0,00E+00	0,00E+00
Materials for energy recovery	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
Exported energy	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

BIOGENIC CARBON CONTENT

Biogenic carbon content	Unit (per declared unit)
Biogenic carbon content in product	0 kg
Biogenic carbon content in accompanying packaging	0 kg

NOTE 1 kg biogenic carbon is equivalent to 44/12 kg of CO2

LAUNDRY CABINET, 1 UNIT

CORE ENVIRONMENTAL IMPACT INDICATORS – EN 15804+A2, PEF

Impact category	Unit	A1-A3	A5	B5	C1	C2	C3	C4	D
GWP – total	kg CO_2e	4,24E+01	0,00E+00	4,23E+01	6,62E-03	1,11E-01	3,18E-01	1,67E-03	-2,28E+01
GWP – fossil	kg CO_2e	4,24E+01	0,00E+00	4,23E+01	6,62E-03	1,11E-01	3,18E-01	1,66E-03	-2,27E+01
GWP – biogenic	kg CO_2e	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	-6,26E-03
GWP – LULUC	kg CO_2e	8,05E-03	0,00E+00	8,18E-03	6,59E-07	4,10E-05	2,64E-04	1,57E-06	-4,92E-03
Ozone depletion pot.	kg CFC_{-11}e	1,12E-07	0,00E+00	4,02E-08	1,41E-09	2,56E-08	1,46E-08	6,73E-10	-8,95E-07
Acidification potential	mol H^+e	9,88E-02	0,00E+00	9,87E-02	6,88E-05	4,71E-04	1,46E-03	1,56E-05	-9,22E-02
EP-freshwater[3)]	kg Pe	2,28E-05	0,00E+00	3,22E-05	2,19E-08	9,10E-07	1,25E-05	1,74E-08	-9,47E-04
EP-marine	kg Ne	2,46E-02	0,00E+00	2,47E-02	3,04E-05	1,40E-04	5,60E-04	5,42E-06	-1,97E-02
EP-terrestrial	mol Ne	2,60E-01	0,00E+00	2,58E-01	3,34E-04	1,54E-03	3,72E-03	5,96E-05	-2,22E-01
POCP (“smog”)	kg NMVOCe	8,39E-02	0,00E+00	8,34E-02	9,18E-05	4,94E-04	1,05E-03	1,73E-05	-1,12E-01
ADP-minerals & metals	kg Sbe	3,03E-04	0,00E+00	3,12E-04	3,36E-09	2,61E-07	9,93E-06	3,82E-09	-4,25E-04
ADP-fossil resources	MJ	4,60E+02	0,00E+00	4,57E+02	8,91E-02	1,67E+00	2,36E+00	4,56E-02	-2,00E+02
Water use[2)]	m^3e depr.	1,11E+01	0,00E+00	1,12E+01	2,39E-04	7,47E-03	7,68E-02	1,45E-04	-4,33E+00

1)GWP = Global Warming Potential; EP = Eutrophication potential; POCP = Photochemical ozone formation; ADP = Abiotic depletion potential. 2) 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 experienced with the indicator. 3) Required characterisation method and data are in kg P-eq. Multiply by 3,07 to get PO_4e.

USE OF NATURAL RESOURCES

Impact category	Unit	A1-A3	A5	B5	C1	C2	C3	C4	D
Renew. PER as energy	MJ	8,20E-02	0,00E+00	4,02E-01	5,09E-04	1,88E-02	3,84E-01	3,96E-04	-1,73E+01
Renew. PER as material	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
Total use of renew. PER	MJ	8,20E-02	0,00E+00	4,02E-01	5,09E-04	1,88E-02	3,84E-01	3,96E-04	-1,73E+01
Non-re. PER as energy	MJ	7,28E+00	0,00E+00	4,03E+00	8,91E-02	1,67E+00	2,36E+00	4,56E-02	-2,01E+02
Non-re. PER as material	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
Total use of non-ren. PER	MJ	7,28E+00	0,00E+00	4,03E+00	8,91E-02	1,67E+00	2,36E+00	4,56E-02	-2,01E+02
Secondary materials	kg	2,02E-03	0,00E+00	4,72E-03	3,49E-05	4,64E-04	4,25E-03	9,59E-06	1,15E+01
Renew. secondary fuels	MJ	2,04E-05	0,00E+00	3,50E-04	1,14E-07	4,68E-06	3,45E-04	2,50E-07	-1,49E-03
Non-ren. secondary fuels	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
Use of net fresh water	m^3	9,43E-04	0,00E+00	2,24E-03	5,41E-06	2,16E-04	1,99E-03	4,99E-05	-5,63E-02

1)PER = primary energy resources; Non-ren = Non renewable

END OF LIFE – WASTE

Impact category	Unit	A1-A3	A5	B5	C1	C2	C3	C4	D
Hazardous waste	kg	9,66E-03	0,00E+00	3,30E-02	1,19E-04	2,21E-03	0,00E+00	0,00E+00	-7,88E+00
Non-hazardous waste	kg	1,59E-01	0,00E+00	1,34E+00	8,38E-04	3,64E-02	0,00E+00	3,16E-01	-3,77E+01
Radioactive waste	kg	4,87E-05	0,00E+00	2,47E-05	6,27E-07	1,12E-05	0,00E+00	0,00E+00	1,29E-05

END OF LIFE – OUTPUT FLOWS

Impact category	Unit	A1-A3	A5	B5	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	0,00E+00	0,00E+00
Materials for recycling	kg	0,00E+00	0,00E+00	1,42E+01	0,00E+00	0,00E+00	1,42E+01	0,00E+00	0,00E+00
Materials for energy recovery	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
Exported energy	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

BIOGENIC CARBON CONTENT

Biogenic carbon content	Unit (per declared unit)
Biogenic carbon content in product	0 kg
Biogenic carbon content in accompanying packaging	0 kg

NOTE 1 kg biogenic carbon is equivalent to 44/12 kg of CO2

FLOW MODULES PRODUCTION, 1 UNIT

CORE ENVIRONMENTAL IMPACT INDICATORS – EN 15804+A2, PEF

Impact category	Unit	A1-A3	A5	B5	C1	C2	C3	C4	D
GWP – total	kg CO_2e	8,48E+02	MNR	MNR	MNR	MNR	MNR	MNR	MNR
GWP – fossil	kg CO_2e	8,47E+02	MNR	MNR	MNR	MNR	MNR	MNR	MNR
GWP – biogenic	kg CO_2e	0,00E+00	MNR	MNR	MNR	MNR	MNR	MNR	MNR
GWP – LULUC	kg CO_2e	8,85E-01	MNR	MNR	MNR	MNR	MNR	MNR	MNR
Ozone depletion pot.	kg CFC_{-11}e	5,52E-05	MNR	MNR	MNR	MNR	MNR	MNR	MNR
Acidification potential	mol H^+e	7,02E+00	MNR	MNR	MNR	MNR	MNR	MNR	MNR
EP-freshwater[3)]	kg Pe	1,92E-02	MNR	MNR	MNR	MNR	MNR	MNR	MNR
EP-marine	kg Ne	1,78E+00	MNR	MNR	MNR	MNR	MNR	MNR	MNR
EP-terrestrial	mol Ne	1,98E+01	MNR	MNR	MNR	MNR	MNR	MNR	MNR
POCP (“smog”)	kg NMVOCe	5,26E+00	MNR	MNR	MNR	MNR	MNR	MNR	MNR
ADP-minerals & metals	kg Sbe	1,96E-03	MNR	MNR	MNR	MNR	MNR	MNR	MNR
ADP-fossil resources	MJ	1,20E+04	MNR	MNR	MNR	MNR	MNR	MNR	MNR
Water use[2)]	m^3e depr.	4,05E+02	MNR	MNR	MNR	MNR	MNR	MNR	MNR

1)GWP = Global Warming Potential; EP = Eutrophication potential; POCP = Photochemical ozone formation; ADP = Abiotic depletion potential. 2) 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 experienced with the indicator. 3) Required characterisation method and data are in kg P-eq. Multiply by 3,07 to get PO_4e.

USE OF NATURAL RESOURCES

Impact category	Unit	A1-A3	A5	B5	C1	C2	C3	C4	D
Renew. PER as energy	MJ	2,32E+04	MNR	MNR	MNR	MNR	MNR	MNR	MNR
Renew. PER as material	MJ	0,00E+00	MNR	MNR	MNR	MNR	MNR	MNR	MNR
Total use of renew. PER	MJ	2,32E+04	MNR	MNR	MNR	MNR	MNR	MNR	MNR
Non-re. PER as energy	MJ	1,20E+04	MNR	MNR	MNR	MNR	MNR	MNR	MNR
Non-re. PER as material	MJ	0,00E+00	MNR	MNR	MNR	MNR	MNR	MNR	MNR
Total use of non-ren. PER	MJ	1,20E+04	MNR	MNR	MNR	MNR	MNR	MNR	MNR
Secondary materials	kg	1,58E+00	MNR	MNR	MNR	MNR	MNR	MNR	MNR
Renew. secondary fuels	MJ	2,84E+02	MNR	MNR	MNR	MNR	MNR	MNR	MNR
Non-ren. secondary fuels	MJ	0,00E+00	MNR	MNR	MNR	MNR	MNR	MNR	MNR
Use of net fresh water	m^3	7,42E+00	MNR	MNR	MNR	MNR	MNR	MNR	MNR

1)PER = primary energy resources; Non-ren = Non renewable

END OF LIFE – WASTE

Impact category	Unit	A1-A3	A5	B5	C1	C2	C3	C4	D
Hazardous waste	kg	4,51E+01	MNR	MNR	MNR	MNR	MNR	MNR	MNR
Non-hazardous waste	kg	1,36E+03	MNR	MNR	MNR	MNR	MNR	MNR	MNR
Radioactive waste	kg	5,74E-02	MNR	MNR	MNR	MNR	MNR	MNR	MNR

END OF LIFE – OUTPUT FLOWS

Impact category	Unit	A1-A3	A5	B5	C1	C2	C3	C4	D
Components for re-use	kg	0,00E+00	MNR	MNR	MNR	MNR	MNR	MNR	MNR
Materials for recycling	kg	1,99E+02	MNR	MNR	MNR	MNR	MNR	MNR	MNR
Materials for energy recovery	kg	7,00E+01	MNR	MNR	MNR	MNR	MNR	MNR	MNR
Exported energy	MJ	0,00E+00	MNR	MNR	MNR	MNR	MNR	MNR	MNR

BIOGENIC CARBON CONTENT

Biogenic carbon content	Unit (per declared unit)
Biogenic carbon content in product	0 kg
Biogenic carbon content in accompanying packaging	0 kg

NOTE 1 kg biogenic carbon is equivalent to 44/12 kg of CO2

SCENARIO DOCUMENTATION

MANUFACTURING ENERGY SCENARIO DOCUMENTATION

Electricity data represents the Finnish residual mix as there was no way of determining the actual production mix since the electricity distributor was unable to provide it. The energy mix for district heating is based on Loimua Energy's (2023) information, which is based on data from klpaastolaskuri.fi.

Energy type	Object	GWP value	% share	Data quality	Representativeness
Electricity	Electricity data quality and CO2 emission kg CO2 eq. / kWh	0,68 kgCO2e / kWh	100 %	Electricity, Finland, residual mix, OneClickLCA, EN15804+A2, Finland, 2022	The dataset represents the Finnish residual mix from year 2022 based on AIB 2022
District Heating	District heating data quality and CO2 emission kg CO2 eq. / kWh	0,057 kgCO2e / kWh	81,8 % 2,0 % 2,0 % 8,8 % 4,4 % 0,8 % 0,2 %	Heat production, softwood chips from forest, at furnace 300kW (Reference product: heat, district or industrial, other than natural gas), World Heat production, wood chips from post-consumer wood, at furnace 300kW (Reference product: heat, district or industrial, other than natural gas), Europe Heat production, untreated waste wood, at furnace 1000-5000 kW (Reference product: heat, district or industrial, other than natural gas), World Heat and power co-generation, hard coal (Reference product: heat, district or industrial, other than natural gas), Finland Heat production, natural gas, at boiler modulating >100kW (Reference product: heat, district or industrial, natural gas), Finland Heat production, air-water heat pump 10kW (Reference product: heat, air-water heat pump 10kW), Finland Heat production, light fuel oil, at industrial furnace 1MW (Reference product: heat, district or industrial, other than natural gas), Finland EN15804+A2, 2021, Ecoinvent 3.8	The datasets represent well the Finnish average for the presented technologies.

END-OF-LIFE SCENARIO FOR PRODUCT COMPONENTS

The end-of-life description of studied products are presented in the following table per declared unit.

		Standard products	Base slab: Hollow core slab	Base slab: Super slab	Base slab: Cast in situ	Base slab: PARMAflow
Process flow						
Collection process specified by type	kg collected separately					
	kg collected with mixed construction waste	230,2	372,4	217,5	570,9	625,1
Recovery system specified by type	kg for reuse	6,8	0,0	0,0	0,0	0,0
	kg for recycling	94,3	298,2	176,5	458,8	502,3
	kg for energy recovery	76,6	0,3	0,3	0,3	0,3
Disposal specified by type	kg material for final deposition	52,5	73,9	40,7	111,7	122,5
Assumptions for scenario development	units as appropriate	Waste materials are transported 75 km by truck to recycling facility with a truck capacity utilization of 45%				

		PARMAflow-beam	Water circulation floor heating in the module and/or apartment	Manifold cabinet and manifolds for water circulation floor heating	Ventilation unit: Vallox 99 MV	Ventilation unit: Vallox 51 MV
Process flow						
Collection process specified by type	kg collected separately					
	kg collected with mixed construction waste	78,9	12,7	11,2	69,7	49,5
Recovery system specified by type	kg for reuse	6,3	0,4	0,4	0,0	0,0
	kg for recycling	71,0	7,2	6,9	56,1	41,8
	kg for energy recovery	0,0	4,9	3,6	3,5	2,5
Disposal specified by type	kg material for final deposition	1,6	0,2	0,2	10,1	5,2
Assumptions for scenario development	units as appropriate	Waste materials are transported 75 km by truck to recycling facility with a truck capacity utilization of 45%				

		Ventilation unit: Swegon Casa W3/W4	Vertical wall stiffeners and silicones	Horizontal wall stiffeners and silicones plus glue and steel parts on the edges of the base slab	Ceiling: Steel panel ceiling	Horizontal ceiling stiffeners for steel panel ceiling
Process flow						
Collection process specified by type	kg collected separately					
	kg collected with mixed construction waste	53,8	17,7	1,0	8,5	4,7
Recovery system specified by type	kg for reuse	0,6	1,4	0,0	0,6	0,4
	kg for recycling	46,3	15,7	0,4	6,9	4,3
	kg for energy recovery	2,25	0,0	0,4	0,8	0,0
Disposal specified by type	kg material for final deposition	5,3	0,6	0,2	0,2	0,1
Assumptions for scenario development	units as appropriate	Waste materials are transported 75 km by truck to recycling facility with a truck capacity utilization of 45%				

		Ceiling: Aluminum honeycomb panel	Wall panels, tiles, glue and grout	Floor tiles and grouts	Shower wall	Laundry cabinet
Process flow						
Collection process specified by type	kg collected separately					
	kg collected with mixed construction waste	12,3	28,0	18,1	29,0	15,8
Recovery system specified by type	kg for reuse	0,5	0,8	0,0	0,0	1,3
	kg for recycling	10,7	23,6	16,3	10,7	14,2
	kg for energy recovery	0,8	0,8	0,0	0,0	0,0
Disposal specified by type	kg material for final deposition	0,3	2,8	1,8	18,4	0,3
Assumptions for scenario development	units as appropriate	Waste materials are transported 75 km by truck to recycling facility with a truck capacity utilization of 45%				

REFERENCES

ANNEX 1. COMPONENT EPD RESULTS BY RTS PCR REQUIREMENTS

ANNEX 2. REFERENCE PRODUCT RESULTS

EPD Background report

ISO 14025:2010 Environmental labels and declarations – Type III environmental declarations. Principles and procedures.

ISO 14040:2006 Environmental management. Life cycle assessment. Principles and frameworks.

ISO 14044:2006 Environmental management. Life cycle assessment. Requirements and guidelines.

EN 15804:2012+A2:2021 Sustainability in construction works – Environmental product declarations – Core rules for the product category of construction products.

The Building Information Foundation RTS (RTS EPD Product Category Rules). Rakennustietosäätiö RTS sr (RTS EPD PCR menetelmäohje 15804:2019, 26.8.2020)

The Finnish RTS EPD programme RTS EPD Guideline, 18.2.2021

Ecoinvent database v3.8, System model: Allocation, cut-off, EN15804 (2021)

One Click LCA Pre-Verified EPD Generator - Ecoinvent v3.8

Emissions database for construction, Finnish Environmental Institute, 2023. Available at: https://co2data.fi/

EU Directive 2024/1275. Available at: https://eur-lex.europa.eu/legal-content/EN/TXT/?uri=OJ:L_202401275

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ANNEX 1. EPD RESULTS BY RTS PCR REQUIREMENTS

COMPONENTS:

BASE SLAB: HOLLOW CORE SLAB

KEY INFORMATION TABLE (RTS) – KEY INFORMATION PER KG OF PRODUCT

Impact category	Unit	A1-A3	A5	B5	C1	C2	C3	C4	D
GWP – total	kg CO_2e/kg	1,26E-01	0,00E+00	7,73E-04	4,30E-04	7,06E-03	7,06E-03	2,80E-03	-1,42E-02
ADP-minerals & metals	kg Sbe/kg	5,78E-07	0,00E+00	2,23E-09	2,18E-10	1,65E-08	2,67E-09	5,24E-09	-1,16E-07
ADP-fossil	MJ/kg	7,56E-01	0,00E+00	1,18E-02	5,78E-03	1,06E-01	6,61E-02	5,27E-02	-2,01E-01
Water use	m^3e depr./kg	1,11E-02	0,00E+00	1,85E-04	1,56E-05	4,73E-04	2,62E-04	1,86E-04	-1,32E-02
Secondary materials	kg/kg	3,86E-03	0,00E+00	7,67E-07	2,27E-06	2,93E-05	2,61E-05	1,65E-05	4,85E-04
Biog. C in product	kgC/kg	0,00E+00	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Biog. C in packaging	kgC/kg	0,00E+00	N/A	N/A	N/A	N/A	N/A	N/A	N/A

BASE SLAB: SUPER SLAB

KEY INFORMATION TABLE (RTS) – KEY INFORMATION PER KG OF PRODUCT

Impact category	Unit	A1-A3	A5	B5	C1	C2	C3	C4	D
GWP – total	kg CO_2e/kg	2,65E-01	0,00E+00	1,32E-03	4,30E-04	7,04E-03	1,19E-02	2,70E-03	-7,67E-02
ADP-minerals & metals	kg Sbe/kg	1,03E-06	0,00E+00	3,83E-09	2,18E-10	1,65E-08	4,48E-09	4,97E-09	-1,31E-06
ADP-fossil	MJ/kg	2,45E+00	0,00E+00	2,02E-02	5,79E-03	1,06E-01	1,10E-01	5,05E-02	-7,43E-01
Water use	m^3e depr./kg	3,30E-02	0,00E+00	3,16E-04	1,55E-05	4,73E-04	4,42E-04	1,78E-04	-2,39E-02
Secondary materials	kg/kg	8,76E-03	0,00E+00	1,31E-06	2,26E-06	2,93E-05	4,37E-05	1,58E-05	3,67E-02
Biog. C in product	kgC/kg	0,00E+00	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Biog. C in packaging	kgC/kg	0,00E+00	N/A	N/A	N/A	N/A	N/A	N/A	N/A

BASE SLAB: PARMAFLOW

KEY INFORMATION TABLE (RTS) – KEY INFORMATION PER KG OF PRODUCT

Impact category	Unit	A1-A3	A5	B5	C1	C2	C3	C4	D
GWP – total	kg CO_2e/kg	1,38E-01	0,00E+00	4,61E-04	4,30E-04	7,04E-03	6,85E-03	2,78E-03	-1,83E-02
ADP-minerals & metals	kg Sbe/kg	3,63E-07	0,00E+00	1,33E-09	2,18E-10	1,65E-08	2,97E-09	5,19E-09	-2,04E-07
ADP-fossil	MJ/kg	9,07E-01	0,00E+00	7,01E-03	5,78E-03	1,06E-01	7,62E-02	5,22E-02	-2,33E-01
Water use	m^3e depr./kg	1,38E-02	0,00E+00	1,10E-04	1,55E-05	4,73E-04	2,52E-04	1,84E-04	-1,38E-02
Secondary materials	kg/kg	8,60E-03	0,00E+00	4,58E-07	2,26E-06	2,93E-05	2,99E-05	1,63E-05	3,20E-03
Biog. C in product	kgC/kg	0,00E+00	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Biog. C in packaging	kgC/kg	0,00E+00	N/A	N/A	N/A	N/A	N/A	N/A	N/A

BASE SLAB: CAST IN SITU

KEY INFORMATION TABLE (RTS) – KEY INFORMATION PER KG OF PRODUCT

Impact category	Unit	A1-A3	A5	B5	C1	C2	C3	C4	D
GWP – total	kg CO_2e/kg	1,39E-01	0,00E+00	5,05E-04	4,31E-04	7,03E-03	7,03E-03	2,78E-03	-1,85E-02
ADP-minerals & metals	kg Sbe/kg	3,94E-07	0,00E+00	1,46E-09	2,18E-10	1,65E-08	3,02E-09	5,18E-09	-2,06E-07
ADP-fossil	MJ/kg	9,29E-01	0,00E+00	7,67E-03	5,79E-03	1,06E-01	7,71E-02	5,22E-02	-2,34E-01
Water use	m^3e depr./kg	1,40E-02	0,00E+00	1,20E-04	1,55E-05	4,74E-04	2,59E-04	1,84E-04	-1,38E-02
Secondary materials	kg/kg	9,39E-03	0,00E+00	5,01E-07	2,26E-06	2,93E-05	3,03E-05	1,63E-05	3,26E-03
Biog. C in product	kgC/kg	0,00E+00	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Biog. C in packaging	kgC/kg	0,00E+00	N/A	N/A	N/A	N/A	N/A	N/A	N/A

PARMAFLOW-BEAM

KEY INFORMATION TABLE (RTS) – KEY INFORMATION PER KG OF PRODUCT

Impact category	Unit	A1-A3	A5	B5	C1	C2	C3	C4	D
GWP – total	kg CO_2e/kg	1,07E+00	0,00E+00	0,00E+00	4,30E-04	7,04E-03	2,01E-02	1,05E-04	-4,70E-02
ADP-minerals & metals	kg Sbe/kg	1,12E-05	0,00E+00	0,00E+00	2,18E-10	1,65E-08	6,28E-07	2,42E-10	-8,79E-07
ADP-fossil	MJ/kg	1,75E+01	0,00E+00	0,00E+00	5,79E-03	1,06E-01	1,49E-01	2,89E-03	-4,14E-01
Water use	m^3e depr./kg	6,77E-01	0,00E+00	0,00E+00	1,56E-05	4,73E-04	4,87E-03	9,17E-06	-8,95E-03
Secondary materials	kg/kg	9,72E-01	0,00E+00	0,00E+00	2,27E-06	2,94E-05	2,69E-04	6,06E-07	2,38E-02
Biog. C in product	kgC/kg	0,00E+00	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Biog. C in packaging	kgC/kg	0,00E+00	N/A	N/A	N/A	N/A	N/A	N/A	N/A

WATER CIRCULATION FLOOR HEATING IN THE MODULE AND/OR APARTMENT

KEY INFORMATION TABLE (RTS) – KEY INFORMATION PER KG OF PRODUCT

Impact category	Unit	A1-A3	A5	B5	C1	C2	C3	C4	D
GWP – total	kg CO_2e/kg	3,52E+00	0,00E+00	0,00E+00	4,31E-04	7,04E-03	9,80E-01	3,90E-04	-1,71E+00
ADP-minerals & metals	kg Sbe/kg	5,77E+00	0,00E+00	0,00E+00	2,18E-10	1,65E-08	4,82E-07	4,23E-10	-1,31E-03
ADP-fossil	MJ/kg	4,60E+01	0,00E+00	0,00E+00	5,79E-03	1,06E-01	2,62E-01	2,75E-03	-1,97E+01
Water use	m^3e depr./kg	1,37E+00	0,00E+00	0,00E+00	1,56E-05	4,73E-04	3,90E-02	1,85E-05	-8,53E-01
Secondary materials	kg/kg	1,68E-01	0,00E+00	0,00E+00	2,27E-06	2,93E-05	3,25E-04	8,22E-07	5,16E-01
Biog. C in product	kgC/kg	0,00E+00	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Biog. C in packaging	kgC/kg	0,00E+00	N/A	N/A	N/A	N/A	N/A	N/A	N/A

MANIFOLD CABINET AND MANIFOLDS FOR WATER CIRCULATION FLOOR HEATING

KEY INFORMATION TABLE (RTS) – KEY INFORMATION PER KG OF PRODUCT

Impact category	Unit	A1-A3	A5	B5	C1	C2	C3	C4	D
GWP – total	kg CO_2e/kg	5,09E+00	0,00E+00	0,00E+00	4,31E-04	7,05E-03	7,76E-01	1,03E-04	-1,23E+00
ADP-minerals & metals	kg Sbe/kg	4,82E-05	0,00E+00	0,00E+00	2,18E-10	1,65E-08	5,01E-07	2,36E-10	-1,85E-05
ADP-fossil	MJ/kg	6,65E+01	0,00E+00	0,00E+00	5,79E-03	1,06E-01	2,46E-01	2,82E-03	-1,28E+01
Water use	m^3e depr./kg	3,46E+00	0,00E+00	0,00E+00	1,56E-05	4,73E-04	3,38E-02	8,95E-06	-2,50E-01
Secondary materials	kg/kg	1,56E-01	0,00E+00	0,00E+00	2,27E-06	2,94E-05	3,12E-04	5,94E-07	5,10E-01
Biog. C in product	kgC/kg	0,00E+00	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Biog. C in packaging	kgC/kg	0,00E+00	N/A	N/A	N/A	N/A	N/A	N/A	N/A

FLOOR TILES AND GROUTS

KEY INFORMATION TABLE (RTS) – KEY INFORMATION PER KG OF PRODUCT

Impact category	Unit	A1-A3	A5	B5	C1	C2	C3	C4	D
GWP – total	kg CO_2e/kg	8,83E-01	0,00E+00	6,03E-01	4,30E-04	7,05E-03	2,98E-03	1,17E-03	-2,79E-02
ADP-minerals & metals	kg Sbe/kg	1,63E-06	0,00E+00	9,67E-07	2,18E-10	1,65E-08	1,50E-09	2,52E-09	-2,14E-07
ADP-fossil	MJ/kg	1,28E+01	0,00E+00	8,64E+00	5,79E-03	1,06E-01	3,99E-02	2,34E-02	-4,03E-01
Water use	m^3e depr./kg	1,46E-01	0,00E+00	1,27E-01	1,55E-05	4,73E-04	1,07E-04	8,42E-05	-2,90E-02
Secondary materials	kg/kg	1,22E-03	0,00E+00	5,43E-05	2,26E-06	2,94E-05	1,56E-05	7,02E-06	-3,21E-04
Biog. C in product	kgC/kg	0,00E+00	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Biog. C in packaging	kgC/kg	0,00E+00	N/A	N/A	N/A	N/A	N/A	N/A	N/A

WALL PANELS, TILES, GLUE AND GROUT

KEY INFORMATION TABLE (RTS) – KEY INFORMATION PER KG OF PRODUCT

Impact category	Unit	A1-A3	A5	B5	C1	C2	C3	C4	D
GWP – total	kg CO_2e/kg	1,49E+00	6,71E-02	3,36E-01	4,18E-04	6,85E-03	5,38E-03	1,14E-03	-5,85E-01
ADP-minerals & metals	kg Sbe/kg	7,00E-05	6,50E-09	8,37E-06	2,12E-10	1,60E-08	2,21E-07	2,46E-09	-1,07E-05
ADP-fossil	MJ/kg	2,29E+01	1,54E-02	7,44E+00	5,64E-03	1,03E-01	7,59E-02	2,29E-02	-5,24E+00
Water use	m^3e depr./kg	1,92E-01	2,67E-03	5,21E-02	1,51E-05	4,61E-04	1,77E-03	8,24E-05	-1,26E-01
Secondary materials	kg/kg	1,02E-02	1,19E-05	3,53E-05	2,21E-06	2,86E-05	1,04E-04	6,81E-06	2,88E-01
Biog. C in product	kgC/kg	0,00E+00	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Biog. C in packaging	kgC/kg	0,00E+00	N/A	N/A	N/A	N/A	N/A	N/A	N/A

HORIZONTAL WALL STIFFENERS AND SILICONES PLUS GLUE AND STEEL PARTS ON THE EDGES OF THE BASE SLAB

KEY INFORMATION TABLE (RTS) – KEY INFORMATION PER KG OF PRODUCT

Impact category	Unit	A1-A3	A5	B5	C1	C2	C3	C4	D
GWP – total	kg CO_2e/kg	4,79E+00	0,00E+00	4,60E+00	4,31E-04	7,04E-03	1,04E+00	2,04E-03	-1,56E+00
ADP-minerals & metals	kg Sbe/kg	3,69E-05	0,00E+00	3,12E-05	2,18E-10	1,65E-08	3,43E-07	4,37E-09	-1,23E-05
ADP-fossil	MJ/kg	8,23E+01	0,00E+00	6,91E+01	5,78E-03	1,06E-01	2,52E-01	4,08E-02	-2,10E+01
Water use	m^3e depr./kg	1,19E+00	0,00E+00	8,68E-01	1,55E-05	4,73E-04	4,28E-02	1,46E-04	-4,73E-01
Secondary materials	kg/kg	8,13E-04	0,00E+00	2,02E-04	2,27E-06	2,93E-05	2,78E-04	1,22E-05	-4,12E-01
Biog. C in product	kgC/kg	0,00E+00	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Biog. C in packaging	kgC/kg	0,00E+00	N/A	N/A	N/A	N/A	N/A	N/A	N/A

VERTICAL WALL STIFFENERS AND SILICONES

KEY INFORMATION TABLE (RTS) – KEY INFORMATION PER KG OF PRODUCT

Impact category	Unit	A1-A3	A5	B5	C1	C2	C3	C4	D
GWP – total	kg CO_2e/kg	2,95E+00	0,00E+00	1,44E-01	4,31E-04	7,03E-03	1,98E-02	3,00E-04	-1,36E+00
ADP-minerals & metals	kg Sbe/kg	1,71E-05	0,00E+00	2,70E-06	2,18E-10	1,65E-08	6,17E-07	6,59E-10	-2,53E-05
ADP-fossil	MJ/kg	3,24E+01	0,00E+00	2,28E+00	5,79E-03	1,06E-01	1,47E-01	6,73E-03	-1,20E+01
Water use	m^3e depr./kg	9,11E-01	0,00E+00	2,39E-02	1,55E-05	4,73E-04	4,78E-03	2,30E-05	-2,60E-01
Secondary materials	kg/kg	7,55E-04	0,00E+00	1,70E-06	2,27E-06	2,95E-05	2,65E-04	1,77E-06	6,88E-01
Biog. C in product	kgC/kg	0,00E+00	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Biog. C in packaging	kgC/kg	0,00E+00	N/A	N/A	N/A	N/A	N/A	N/A	N/A

CEILING: STEEL PANEL CEILING

KEY INFORMATION TABLE (RTS) – KEY INFORMATION PER KG OF PRODUCT

Impact category	Unit	A1-A3	A5	B5	C1	C2	C3	C4	D
GWP – total	kg CO_2e/kg	2,81E+00	2,11E-01	0,00E+00	3,50E-04	6,42E-03	1,84E-02	9,63E-05	-1,45E+00
ADP-minerals & metals	kg Sbe/kg	1,36E-04	2,05E-08	0,00E+00	1,78E-10	1,50E-08	5,73E-07	2,21E-10	-2,70E-05
ADP-fossil	MJ/kg	3,82E+01	4,85E-02	0,00E+00	4,72E-03	9,63E-02	1,36E-01	2,63E-03	-1,28E+01
Water use	m^3e depr./kg	4,67E-01	8,38E-03	0,00E+00	1,27E-05	4,32E-04	4,43E-03	8,35E-06	-2,76E-01
Secondary materials	kg/kg	2,12E-02	3,74E-05	0,00E+00	1,85E-06	2,68E-05	2,45E-04	5,54E-07	7,35E-01
Biog. C in product	kgC/kg	0,00E+00	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Biog. C in packaging	kgC/kg	0,00E+00	N/A	N/A	N/A	N/A	N/A	N/A	N/A

CEILING: ALUMINUM HONEYCOMB PANEL

KEY INFORMATION TABLE (RTS) – KEY INFORMATION PER KG OF PRODUCT

Impact category	Unit	A1-A3	A5	B5	C1	C2	C3	C4	D
GWP – total	kg CO_2e/kg	4,74E+00	1,46E-01	0,00E+00	4,05E-04	6,61E-03	1,00E-02	1,47E-04	-3,53E+00
ADP-minerals & metals	kg Sbe/kg	1,90E-05	1,41E-08	0,00E+00	2,05E-10	1,55E-08	6,10E-07	3,39E-10	-2,00E-05
ADP-fossil	MJ/kg	3,62E+01	3,35E-02	0,00E+00	5,44E-03	9,92E-02	1,45E-01	4,03E-03	-4,92E+01
Water use	m^3e depr./kg	1,24E+00	5,78E-03	0,00E+00	1,46E-05	4,45E-04	4,72E-03	1,28E-05	-5,95E+00
Secondary materials	kg/kg	1,26E-02	2,58E-05	0,00E+00	2,12E-06	2,76E-05	2,60E-04	8,48E-07	8,31E-01
Biog. C in product	kgC/kg	0,00E+00	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Biog. C in packaging	kgC/kg	0,00E+00	N/A	N/A	N/A	N/A	N/A	N/A	N/A

HORIZONTAL CEILING STIFFENERS FOR STEEL PANEL CEILING

KEY INFORMATION TABLE (RTS) – KEY INFORMATION PER KG OF PRODUCT

Impact category	Unit	A1-A3	A5	B5	C1	C2	C3	C4	D
GWP – total	kg CO_2e/kg	2,79E+00	0,00E+00	0,00E+00	4,31E-04	7,05E-03	2,01E-02	1,06E-04	-1,56E+00
ADP-minerals & metals	kg Sbe/kg	4,78E-05	0,00E+00	0,00E+00	2,18E-10	1,65E-08	6,29E-07	2,42E-10	-2,91E-05
ADP-fossil	MJ/kg	1,92E+01	0,00E+00	0,00E+00	5,79E-03	1,06E-01	1,49E-01	2,88E-03	-1,38E+01
Water use	m^3e depr./kg	3,61E-01	0,00E+00	0,00E+00	1,55E-05	4,73E-04	4,86E-03	9,16E-06	-2,99E-01
Secondary materials	kg/kg	3,54E-02	0,00E+00	0,00E+00	2,26E-06	2,93E-05	2,69E-04	6,07E-07	7,92E-01
Biog. C in product	kgC/kg	0,00E+00	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Biog. C in packaging	kgC/kg	0,00E+00	N/A	N/A	N/A	N/A	N/A	N/A	N/A

VENTILATION UNIT: VALLOX 99 MV

KEY INFORMATION TABLE (RTS) – KEY INFORMATION PER KG OF PRODUCT

Impact category	Unit	A1-A3	A5	B5	C1	C2	C3	C4	D
GWP – total	kg CO_2e/kg	4,73E+00	0,00E+00	5,03E+00	4,30E-04	7,04E-03	2,95E-01	1,51E-03	-3,60E+00
ADP-minerals & metals	kg Sbe/kg	3,03E-04	0,00E+00	3,03E-04	2,18E-10	1,65E-08	9,77E-08	5,03E-09	-9,41E-05
ADP-fossil	MJ/kg	6,48E+01	0,00E+00	6,50E+01	5,79E-03	1,06E-01	1,11E-01	3,49E-02	-3,96E+01
Water use	m^3e depr./kg	5,18E+00	0,00E+00	5,19E+00	1,55E-05	4,73E-04	6,78E-03	2,02E-04	-2,77E+00
Secondary materials	kg/kg	1,33E-01	0,00E+00	1,33E-01	2,27E-06	2,94E-05	8,72E-05	1,24E-05	1,30E+00
Biog. C in product	kgC/kg	0,00E+00	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Biog. C in packaging	kgC/kg	0,00E+00	N/A	N/A	N/A	N/A	N/A	N/A	N/A

VENTILATION UNIT: VALLOX 51 MV

KEY INFORMATION TABLE (RTS) – KEY INFORMATION PER KG OF PRODUCT

Impact category	Unit	A1-A3	A5	B5	C1	C2	C3	C4	D
GWP – total	kg CO_2e/kg	5,59E+00	0,00E+00	5,90E+00	4,30E-04	7,05E-03	3,01E-01	1,08E-03	-4,10E+00
ADP-minerals & metals	kg Sbe/kg	2,44E-04	0,00E+00	2,44E-04	2,18E-10	1,65E-08	8,72E-08	3,59E-09	-1,17E-04
ADP-fossil	MJ/kg	7,53E+01	0,00E+00	7,55E+01	5,80E-03	1,06E-01	1,10E-01	2,48E-02	-4,64E+01
Water use	m^3e depr./kg	-6,64E+00	0,00E+00	-6,62E+00	1,55E-05	4,73E-04	6,81E-03	1,44E-04	-3,68E+00
Secondary materials	kg/kg	7,98E-02	0,00E+00	7,98E-02	2,26E-06	2,93E-05	8,36E-05	8,89E-06	1,67E+00
Biog. C in product	kgC/kg	0,00E+00	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Biog. C in packaging	kgC/kg	0,00E+00	N/A	N/A	N/A	N/A	N/A	N/A	N/A

VENTILATION UNIT: SWEGON CASA W3/W4

KEY INFORMATION TABLE (RTS) – KEY INFORMATION PER KG OF PRODUCT

Impact category	Unit	A1-A3	A5	B5	C1	C2	C3	C4	D
GWP – total	kg CO_2e/kg	4,80E+00	0,00E+00	5,08E+00	4,30E-04	7,05E-03	2,77E-01	1,02E-03	-2,90E+00
ADP-minerals & metals	kg Sbe/kg	6,81E-05	0,00E+00	6,81E-05	2,18E-10	1,65E-08	1,29E-07	3,40E-09	-1,34E-04
ADP-fossil	MJ/kg	6,53E+01	0,00E+00	6,53E+01	5,79E-03	1,06E-01	1,13E-01	2,34E-02	-3,55E+01
Water use	m^3e depr./kg	2,33E+00	0,00E+00	2,33E+00	1,56E-05	4,72E-04	6,64E-03	1,36E-04	-3,35E+00
Secondary materials	kg/kg	1,64E-02	0,00E+00	1,64E-02	2,27E-06	2,94E-05	9,78E-05	8,41E-06	9,78E-01
Biog. C in product	kgC/kg	0,00E+00	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Biog. C in packaging	kgC/kg	0,00E+00	N/A	N/A	N/A	N/A	N/A	N/A	N/A

LAUNDRY CABINET

KEY INFORMATION TABLE (RTS) – KEY INFORMATION PER KG OF PRODUCT

Impact category	Unit	A1-A3	A5	B5	C1	C2	C3	C4	D
GWP – total	kg CO_2e/kg	2,68E+00	0,00E+00	2,68E+00	4,19E-04	7,03E-03	2,01E-02	1,06E-04	-1,44E+00
ADP-minerals & metals	kg Sbe/kg	1,92E-05	0,00E+00	1,97E-05	2,13E-10	1,65E-08	6,28E-07	2,42E-10	-2,69E-05
ADP-fossil	MJ/kg	2,91E+01	0,00E+00	2,89E+01	5,64E-03	1,06E-01	1,49E-01	2,89E-03	-1,27E+01
Water use	m^3e depr./kg	7,03E-01	0,00E+00	7,09E-01	1,51E-05	4,73E-04	4,86E-03	9,18E-06	-2,74E-01
Secondary materials	kg/kg	1,28E-04	0,00E+00	2,99E-04	2,21E-06	2,94E-05	2,69E-04	6,07E-07	7,30E-01
Biog. C in product	kgC/kg	0,00E+00	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Biog. C in packaging	kgC/kg	0,00E+00	N/A	N/A	N/A	N/A	N/A	N/A	N/A

SHOWER WALL

KEY INFORMATION TABLE (RTS) – KEY INFORMATION PER KG OF PRODUCT

Impact category	Unit	A1-A3	A5	B5	C1	C2	C3	C4	D
GWP – total	kg CO_2e/kg	2,39E+00	0,00E+00	2,37E+00	4,55E-04	7,03E-03	2,14E-02	3,34E-03	-1,52E+00
ADP-minerals & metals	kg Sbe/kg	1,97E-05	0,00E+00	2,05E-05	2,31E-10	1,65E-08	9,72E-07	7,66E-09	-3,83E-06
ADP-fossil	MJ/kg	3,09E+01	0,00E+00	3,05E+01	6,14E-03	1,06E-01	1,52E-01	9,14E-02	-2,28E+01
Water use	m^3e depr./kg	5,45E-01	0,00E+00	5,48E-01	1,65E-05	4,72E-04	3,44E-03	2,90E-04	-2,79E+00
Secondary materials	kg/kg	1,99E-03	0,00E+00	1,91E-03	2,40E-06	2,93E-05	9,10E-05	1,92E-05	-7,62E-01
Biog. C in product	kgC/kg	0,00E+00	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Biog. C in packaging	kgC/kg	0,00E+00	N/A	N/A	N/A	N/A	N/A	N/A	N/A

STANDARD PRODUCTS

KEY INFORMATION TABLE (RTS) – KEY INFORMATION PER KG OF PRODUCT

Impact category	Unit	A1-A3	A5	B5	C1	C2	C3	C4	D
GWP – total	kg CO_2e/kg	2,38E+00	0,00E+00	2,19E+00	4,30E-04	7,04E-03	3,04E-01	1,25E-03	-7,73E-01
ADP-minerals & metals	kg Sbe/kg	9,38E+00	0,00E+00	1,80E+01	2,18E-10	1,65E-08	3,10E-07	2,80E-09	-7,25E-05
ADP-fossil	MJ/kg	3,04E+01	0,00E+00	1,03E+01	5,78E-03	1,06E-01	1,92E-01	3,35E-02	-9,47E+00
Water use	m^3e depr./kg	1,62E+00	0,00E+00	1,44E+00	1,56E-05	4,74E-04	2,98E-02	1,06E-04	2,53E-02
Secondary materials	kg/kg	5,00E-02	0,00E+00	1,25E-02	2,26E-06	2,94E-05	2,42E-04	7,17E-06	2,58E-01
Biog. C in product	kgC/kg	0,00E+00	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Biog. C in packaging	kgC/kg	0,00E+00	N/A	N/A	N/A	N/A	N/A	N/A	N/A

ANNEX 2. REFERENCE PRODUCT RESULTS

M MODULE WITH HOLLOW CORE SLAB

CORE ENVIRONMENTAL IMPACT INDICATORS – EN 15804+A2, PEF

Impact category	Unit	A1-A3	A5	B5	C1	C2	C3	C4	D
GWP – total	kg CO_2e	2,80E+03	3,99E+01	8,66E+02	1,16E+00	1,91E+01	1,99E+02	6,09E+00	-6,89E+02
GWP – fossil	kg CO_2e	2,86E+03	3,99E+01	8,64E+02	1,16E+00	1,91E+01	1,42E+02	6,08E+00	-6,87E+02
GWP – biogenic	kg CO_2e	-5,69E+01	0,00E+00	0,00E+00	0,00E+00	0,00E+00	5,69E+01	0,00E+00	-4,49E-01
GWP – LULUC	kg CO_2e	2,96E+00	3,81E-04	1,60E+00	1,16E-04	7,03E-03	8,68E-03	1,10E-02	-1,28E+00
Ozone depletion pot.	kg CFC_{-11}e	1,20E-04	1,14E-07	4,44E-05	2,48E-07	4,38E-06	2,86E-06	1,76E-06	-3,35E-05
Acidification potential	mol H^+e	1,60E+01	9,68E-03	5,05E+00	1,21E-02	8,07E-02	1,76E-01	5,52E-02	-3,73E+00
EP-freshwater[3)]	kg Pe	1,31E-01	1,14E-05	1,92E-01	3,85E-06	1,56E-04	3,77E-04	5,19E-05	-2,80E-02
EP-marine	kg Ne	3,55E+00	4,44E-03	6,57E-01	5,35E-03	2,39E-02	7,59E-02	2,14E-02	-5,51E-01
EP-terrestrial	mol Ne	3,98E+01	4,56E-02	8,40E+00	5,86E-02	2,65E-01	7,67E-01	2,35E-01	-7,41E+00
POCP (“smog”)	kg NMVOCe	1,10E+01	1,12E-02	2,29E+00	1,61E-02	8,46E-02	2,06E-01	6,64E-02	-3,29E+00
ADP-minerals & metals	kg Sbe	2,16E+03	3,86E-06	4,14E+03	5,90E-07	4,47E-05	2,75E-04	1,17E-05	-2,50E-02
ADP-fossil resources	MJ	3,72E+04	9,16E+00	8,61E+03	1,56E+01	2,86E+02	2,24E+02	1,19E+02	-7,19E+03
Water use[2)]	m^3e depr.	9,95E+02	1,59E+00	4,02E+02	4,21E-02	1,28E+00	9,11E+00	4,15E-01	-1,92E+02

1)GWP = Global Warming Potential; EP = Eutrophication potential; POCP = Photochemical ozone formation; ADP = Abiotic depletion potential. 2) 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 experienced with the indicator. 3) Required characterisation method and data are in kg P-eq. Multiply by 3,07 to get PO_4e.

USE OF NATURAL RESOURCES

Impact category	Unit	A1-A3	A5	B5	C1	C2	C3	C4	D
Renew. PER as energy	MJ	2,59E+04	3,09E-01	1,83E+03	8,95E-02	3,22E+00	1,12E+01	1,19E+00	-1,07E+03
Renew. PER as material	MJ	5,83E+02	0,00E+00	0,00E+00	0,00E+00	0,00E+00	-5,83E+02	0,00E+00	0,00E+00
Total use of renew. PER	MJ	2,65E+04	3,09E-01	1,83E+03	8,95E-02	3,22E+00	-5,71E+02	1,19E+00	-1,07E+03
Non-re. PER as energy	MJ	3,45E+04	9,16E+00	1,11E+04	1,56E+01	2,86E+02	2,24E+02	1,19E+02	-7,20E+03
Non-re. PER as material	MJ	1,97E+03	-7,09E+02	0,00E+00	0,00E+00	0,00E+00	-1,08E+03	-1,79E+02	0,00E+00
Total use of non-ren. PER	MJ	3,64E+04	-7,00E+02	1,11E+04	1,56E+01	2,86E+02	-8,57E+02	-6,02E+01	-7,20E+03
Secondary materials	kg	2,62E+01	7,07E-03	2,96E+00	6,14E-03	7,95E-02	1,85E-01	3,58E-02	2,47E+02
Renew. secondary fuels	MJ	3,10E+02	2,36E-04	2,49E+01	2,00E-05	8,02E-04	8,98E-03	5,05E-04	-6,04E-02
Non-ren. secondary fuels	MJ	1,32E-02	0,00E+00	1,32E-02	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00
Use of net fresh water	m^3	2,03E+01	5,90E-02	1,04E+01	9,50E-04	3,70E-02	2,33E-01	8,18E-02	-7,58E+00

1)PER = primary energy resources; Non-ren = Non renewable

END OF LIFE – WASTE

Impact category	Unit	A1-A3	A5	B5	C1	C2	C3	C4	D
Hazardous waste	kg	9,55E+01	2,34E-03	2,90E+01	2,09E-02	3,79E-01	0,00E+00	1,42E-01	-2,29E+02
Non-hazardous waste	kg	1,89E+03	1,68E+01	4,16E+02	1,47E-01	6,23E+00	0,00E+00	7,77E+01	-1,44E+03
Radioactive waste	kg	4,83E-01	1,18E-05	3,41E-01	1,10E-04	1,91E-03	0,00E+00	7,28E-04	-1,81E-02

END OF LIFE – OUTPUT FLOWS

Impact category	Unit	A1-A3	A5	B5	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	0,00E+00	0,00E+00
Materials for recycling	kg	2,00E+02	0,00E+00	3,64E+02	0,00E+00	0,00E+00	2,11E+03	0,00E+00	0,00E+00
Materials for energy recovery	kg	7,26E+01	1,67E+01	6,30E+01	0,00E+00	0,00E+00	8,17E+01	0,00E+00	0,00E+00
Exported energy	MJ	4,84E+01	0,00E+00	4,84E+01	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00

BIOGENIC CARBON CONTENT

Biogenic carbon content	Unit (per declared unit)
Biogenic carbon content in product	0 kg
Biogenic carbon content in accompanying packaging	0 kg

NOTE 1 kg biogenic carbon is equivalent to 44/12 kg of CO2

KEY INFORMATION TABLE (RTS) – KEY INFORMATION PER KG OF PRODUCT

Impact category	Unit	A1-A3	A5	B5	C1	C2	C3	C4	D
GWP – total	kg CO_2e	1,03E+00	1,46E-02	3,18E-01	4,27E-04	7,01E-03	7,31E-02	2,24E-03	-2,44E-01
ADP-minerals & metals	kg CO_2e	7,93E-01	1,42E-09	1,52E+00	2,16E-10	1,64E-08	1,01E-07	4,31E-09	-8,87E-06
ADP-fossil	kg CO_2e	1,37E+01	3,36E-03	3,16E+00	5,74E-03	1,05E-01	8,21E-02	4,36E-02	-2,55E+00
Water use	kg CO_2e	3,65E-01	5,82E-04	1,48E-01	1,55E-05	4,70E-04	3,34E-03	1,52E-04	-6,83E-02
Secondary materials	kg $CFC_{-11}e$	9,62E-03	2,60E-06	1,09E-03	2,25E-06	2,92E-05	6,79E-05	1,31E-05	8,76E-02
Biog. C in product	mol H^+e	0,00E+00	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Biog. C in packaging	kg Pe	0,00E+00	N/A	N/A	N/A	N/A	N/A	N/A	N/A

M MODULE WITH SUPERSLAB

CORE ENVIRONMENTAL IMPACT INDICATORS – EN 15804+A2, PEF

Impact category	Unit	A1-A3	A5	B5	C1	C2	C3	C4	D
GWP – total	kg CO_2e	2,85E+03	3,99E+01	8,66E+02	8,42E-01	1,38E+01	1,99E+02	3,89E+00	-7,44E+02
GWP – fossil	kg CO_2e	2,91E+03	3,99E+01	8,64E+02	8,42E-01	1,38E+01	1,42E+02	3,88E+00	-7,42E+02
GWP – biogenic	kg CO_2e	-5,69E+01	0,00E+00	0,00E+00	0,00E+00	0,00E+00	5,69E+01	0,00E+00	-4,42E-01
GWP – LULUC	kg CO_2e	2,80E+00	3,81E-04	1,60E+00	8,38E-05	5,09E-03	8,66E-03	6,85E-03	-1,28E+00
Ozone depletion pot.	kg CFC_{-11}e	1,21E-04	1,14E-07	4,44E-05	1,80E-07	3,17E-06	2,82E-06	1,14E-06	-3,46E-05
Acidification potential	mol H^+e	1,65E+01	9,68E-03	5,05E+00	8,76E-03	5,84E-02	1,74E-01	3,53E-02	-3,92E+00
EP-freshwater[3)]	kg Pe	1,31E-01	1,14E-05	1,92E-01	2,79E-06	1,13E-04	3,76E-04	3,34E-05	-3,03E-02
EP-marine	kg Ne	3,63E+00	4,44E-03	6,57E-01	3,87E-03	1,74E-02	7,50E-02	1,37E-02	-5,87E-01
EP-terrestrial	mol Ne	4,06E+01	4,56E-02	8,40E+00	4,24E-02	1,92E-01	7,57E-01	1,50E-01	-7,83E+00
POCP (“smog”)	kg NMVOCe	1,13E+01	1,12E-02	2,29E+00	1,17E-02	6,12E-02	2,03E-01	4,24E-02	-3,55E+00
ADP-minerals & metals	kg Sbe	2,16E+03	3,86E-06	4,14E+03	4,27E-07	3,23E-05	2,75E-04	7,53E-06	-2,62E-02
ADP-fossil resources	MJ	3,84E+04	9,16E+00	8,61E+03	1,13E+01	2,07E+02	2,21E+02	7,70E+01	-7,61E+03
Water use[2)]	m^3e depr.	1,01E+03	1,59E+00	4,02E+02	3,04E-02	9,27E-01	9,11E+00	2,68E-01	-1,94E+02

1)GWP = Global Warming Potential; EP = Eutrophication potential; POCP = Photochemical ozone formation; ADP = Abiotic depletion potential. 2) 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 experienced with the indicator. 3) Required characterisation method and data are in kg P-eq. Multiply by 3,07 to get PO_4e.

USE OF NATURAL RESOURCES

Impact category	Unit	A1-A3	A5	B5	C1	C2	C3	C4	D
Renew. PER as energy	MJ	2,58E+04	3,09E-01	1,83E+03	6,48E-02	2,33E+00	1,12E+01	7,67E-01	-1,10E+03
Renew. PER as material	MJ	5,83E+02	0,00E+00	0,00E+00	0,00E+00	0,00E+00	-5,83E+02	0,00E+00	0,00E+00
Total use of renew. PER	MJ	2,63E+04	3,09E-01	1,83E+03	6,48E-02	2,33E+00	-5,71E+02	7,67E-01	-1,10E+03
Non-re. PER as energy	MJ	3,44E+04	9,16E+00	1,11E+04	1,13E+01	2,07E+02	2,21E+02	7,72E+01	-7,62E+03
Non-re. PER as material	MJ	1,87E+03	-7,09E+02	0,00E+00	0,00E+00	0,00E+00	-1,08E+03	-4,64E+01	0,00E+00
Total use of non-ren. PER	MJ	3,62E+04	-7,00E+02	1,11E+04	1,13E+01	2,07E+02	-8,60E+02	3,08E+01	-7,62E+03
Secondary materials	kg	2,85E+01	7,07E-03	2,96E+00	4,44E-03	5,75E-02	1,84E-01	2,28E-02	2,85E+02
Renew. secondary fuels	MJ	4,07E+02	2,36E-04	2,49E+01	1,45E-05	5,80E-04	8,97E-03	3,32E-04	-6,56E-02
Non-ren. secondary fuels	MJ	2,29E+02	0,00E+00	1,32E-02	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00
Use of net fresh water	m^3	2,05E+01	5,90E-02	1,04E+01	6,87E-04	2,68E-02	2,33E-01	5,46E-02	-7,47E+00

1)PER = primary energy resources; Non-ren = Non renewable

END OF LIFE – WASTE

Impact category	Unit	A1-A3	A5	B5	C1	C2	C3	C4	D
Hazardous waste	kg	9,51E+01	2,34E-03	2,90E+01	1,52E-02	2,74E-01	0,00E+00	8,73E-02	-2,50E+02
Non-hazardous waste	kg	1,83E+03	1,68E+01	4,16E+02	1,07E-01	4,51E+00	0,00E+00	7,70E+01	-1,53E+03
Radioactive waste	kg	6,69E-01	1,18E-05	3,41E-01	7,97E-05	1,39E-03	0,00E+00	4,46E-04	-1,70E-02

END OF LIFE – OUTPUT FLOWS

Impact category	Unit	A1-A3	A5	B5	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	0,00E+00	0,00E+00
Materials for recycling	kg	2,00E+02	0,00E+00	3,64E+02	0,00E+00	0,00E+00	1,52E+03	0,00E+00	0,00E+00
Materials for energy recovery	kg	7,26E+01	1,67E+01	6,30E+01	0,00E+00	0,00E+00	8,17E+01	0,00E+00	0,00E+00
Exported energy	MJ	4,84E+01	0,00E+00	4,84E+01	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00

BIOGENIC CARBON CONTENT

Biogenic carbon content	Unit (per declared unit)
Biogenic carbon content in product	0 kg
Biogenic carbon content in accompanying packaging	0 kg

NOTE 1 kg biogenic carbon is equivalent to 44/12 kg of CO2

KEY INFORMATION TABLE (RTS) – KEY INFORMATION PER KG OF PRODUCT

Impact category	Unit	A1-A3	A5	B5	C1	C2	C3	C4	D
GWP – total	kg CO_2e	1,44E+00	2,02E-02	4,38E-01	4,26E-04	6,98E-03	1,01E-01	1,97E-03	-3,76E-01
ADP-minerals & metals	kg CO_2e	1,09E+00	1,95E-09	2,10E+00	2,16E-10	1,63E-08	1,39E-07	3,81E-09	-1,33E-05
ADP-fossil	kg CO_2e	1,94E+01	4,64E-03	4,36E+00	5,73E-03	1,05E-01	1,12E-01	3,90E-02	-3,85E+00
Water use	kg CO_2e	5,11E-01	8,03E-04	2,04E-01	1,54E-05	4,69E-04	4,61E-03	1,36E-04	-9,83E-02
Secondary materials	kg $CFC_{-11}e$	1,44E-02	3,58E-06	1,50E-03	2,24E-06	2,91E-05	9,30E-05	1,15E-05	1,44E-01
Biog. C in product	mol H^+e	0,00E+00	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Biog. C in packaging	kg Pe	0,00E+00	N/A	N/A	N/A	N/A	N/A	N/A	N/A

M MODULE WITH CAST IN SITU

CORE ENVIRONMENTAL IMPACT INDICATORS – EN 15804+A2, PEF

Impact category	Unit	A1-A3	A5	B5	C1	C2	C3	C4	D
GWP – total	kg CO_2e	2,99E+03	3,99E+01	8,68E+02	1,67E+00	2,73E+01	2,08E+02	9,30E+00	-7,19E+02
GWP – fossil	kg CO_2e	3,05E+03	3,99E+01	8,66E+02	1,67E+00	2,73E+01	1,51E+02	9,28E+00	-7,17E+02
GWP – biogenic	kg CO_2e	-5,69E+01	0,00E+00	0,00E+00	0,00E+00	0,00E+00	5,69E+01	0,00E+00	-4,79E-01
GWP – LULUC	kg CO_2e	3,11E+00	3,81E-04	1,60E+00	1,66E-04	1,01E-02	9,51E-03	1,67E-02	-1,29E+00
Ozone depletion pot.	kg CFC_{-11}e	1,22E-04	1,14E-07	4,44E-05	3,56E-07	6,28E-06	4,62E-06	2,66E-06	-3,60E-05
Acidification potential	mol H^+e	1,64E+01	9,68E-03	5,05E+00	1,74E-02	1,16E-01	2,61E-01	8,44E-02	-3,89E+00
EP-freshwater[3)]	kg Pe	1,31E-01	1,14E-05	1,92E-01	5,53E-06	2,23E-04	4,04E-04	7,83E-05	-2,91E-02
EP-marine	kg Ne	3,75E+00	4,44E-03	6,58E-01	7,67E-03	3,43E-02	1,14E-01	3,29E-02	-5,89E-01
EP-terrestrial	mol Ne	4,04E+01	4,56E-02	8,41E+00	8,41E-02	3,79E-01	1,18E+00	3,61E-01	-7,86E+00
POCP (“smog”)	kg NMVOCe	1,13E+01	1,12E-02	2,29E+00	2,31E-02	1,21E-01	3,21E-01	1,02E-01	-3,45E+00
ADP-minerals & metals	kg Sbe	2,16E+03	3,86E-06	4,14E+03	8,46E-07	6,40E-05	2,79E-04	1,77E-05	-2,54E-02
ADP-fossil resources	MJ	3,86E+04	9,16E+00	8,64E+03	2,24E+01	4,10E+02	3,34E+02	1,79E+02	-7,53E+03
Water use[2)]	m^3e depr.	1,02E+03	1,59E+00	4,03E+02	6,03E-02	1,84E+00	9,43E+00	6,27E-01	-2,10E+02

1)GWP = Global Warming Potential; EP = Eutrophication potential; POCP = Photochemical ozone formation; ADP = Abiotic depletion potential. 2) 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 experienced with the indicator. 3) Required characterisation method and data are in kg P-eq. Multiply by 3,07 to get PO_4e.

USE OF NATURAL RESOURCES

Impact category	Unit	A1-A3	A5	B5	C1	C2	C3	C4	D
Renew. PER as energy	MJ	2,62E+04	3,09E-01	1,84E+03	1,28E-01	4,62E+00	1,19E+01	1,80E+00	-1,09E+03
Renew. PER as material	MJ	5,83E+02	0,00E+00	0,00E+00	0,00E+00	0,00E+00	-5,83E+02	0,00E+00	0,00E+00
Total use of renew. PER	MJ	2,68E+04	3,09E-01	1,84E+03	1,28E-01	4,62E+00	-5,70E+02	1,80E+00	-1,09E+03
Non-re. PER as energy	MJ	3,59E+04	9,16E+00	1,11E+04	2,24E+01	4,10E+02	3,34E+02	1,79E+02	-7,55E+03
Non-re. PER as material	MJ	2,04E+03	-7,09E+02	0,00E+00	0,00E+00	0,00E+00	-1,08E+03	-2,55E+02	0,00E+00
Total use of non-ren. PER	MJ	3,79E+04	-7,00E+02	1,11E+04	2,24E+01	4,10E+02	-7,50E+02	-7,55E+01	-7,55E+03
Secondary materials	kg	4,72E+01	7,07E-03	2,96E+00	8,79E-03	1,14E-01	2,28E-01	5,46E-02	2,56E+02
Renew. secondary fuels	MJ	3,10E+02	2,36E-04	2,49E+01	2,87E-05	1,15E-03	9,12E-03	7,49E-04	-6,31E-02
Non-ren. secondary fuels	MJ	1,32E-02	0,00E+00	1,32E-02	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00
Use of net fresh water	m^3	2,09E+01	5,90E-02	1,04E+01	1,36E-03	5,31E-02	2,41E-01	1,20E-01	-7,97E+00

1)PER = primary energy resources; Non-ren = Non renewable

END OF LIFE – WASTE

Impact category	Unit	A1-A3	A5	B5	C1	C2	C3	C4	D
Hazardous waste	kg	9,59E+01	2,34E-03	2,90E+01	3,00E-02	5,44E-01	0,00E+00	2,22E-01	-2,35E+02
Non-hazardous waste	kg	1,93E+03	1,68E+01	4,17E+02	2,11E-01	8,93E+00	0,00E+00	7,87E+01	-1,49E+03
Radioactive waste	kg	5,22E-01	1,18E-05	3,42E-01	1,58E-04	2,74E-03	0,00E+00	1,14E-03	-1,92E-02

END OF LIFE – OUTPUT FLOWS

Impact category	Unit	A1-A3	A5	B5	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	0,00E+00	0,00E+00
Materials for recycling	kg	2,01E+02	0,00E+00	3,64E+02	0,00E+00	0,00E+00	3,06E+03	0,00E+00	0,00E+00
Materials for energy recovery	kg	7,26E+01	1,67E+01	6,31E+01	0,00E+00	0,00E+00	8,19E+01	0,00E+00	0,00E+00
Exported energy	MJ	4,84E+01	0,00E+00	4,84E+01	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00

BIOGENIC CARBON CONTENT

Biogenic carbon content	Unit (per declared unit)
Biogenic carbon content in product	0 kg
Biogenic carbon content in accompanying packaging	0 kg

NOTE 1 kg biogenic carbon is equivalent to 44/12 kg of CO2

KEY INFORMATION TABLE (RTS) – KEY INFORMATION PER KG OF PRODUCT

Impact category	Unit	A1-A3	A5	B5	C1	C2	C3	C4	D
GWP – total	kg CO_2e	7,68E-01	1,02E-02	2,23E-01	4,29E-04	7,01E-03	5,33E-02	2,39E-03	-1,84E-01
ADP-minerals & metals	kg CO_2e	5,54E-01	9,91E-10	1,06E+00	2,17E-10	1,64E-08	7,16E-08	4,55E-09	-6,52E-06
ADP-fossil	kg CO_2e	9,92E+00	2,35E-03	2,22E+00	5,76E-03	1,05E-01	8,56E-02	4,59E-02	-1,93E+00
Water use	kg CO_2e	2,61E-01	4,07E-04	1,03E-01	1,55E-05	4,72E-04	2,42E-03	1,61E-04	-5,40E-02
Secondary materials	kg $CFC_{-11}e$	1,21E-02	1,81E-06	7,61E-04	2,25E-06	2,92E-05	5,85E-05	1,40E-05	6,56E-02
Biog. C in product	mol H^+e	0,00E+00	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Biog. C in packaging	kg Pe	0,00E+00	N/A	N/A	N/A	N/A	N/A	N/A	N/A

M MODULE WITH PARMAFLOW

CORE ENVIRONMENTAL IMPACT INDICATORS – EN 15804+A2, PEF

Impact category	Unit	A1-A3	A5	B5	C1	C2	C3	C4	D
GWP – total	kg CO_2e	3,23E+03	3,99E+01	8,68E+02	1,87E+00	3,06E+01	2,13E+02	1,01E+01	-7,32E+02
GWP – fossil	kg CO_2e	3,28E+03	3,99E+01	8,66E+02	1,87E+00	3,06E+01	1,56E+02	1,01E+01	-7,30E+02
GWP – biogenic	kg CO_2e	-5,69E+01	0,00E+00	0,00E+00	0,00E+00	0,00E+00	5,69E+01	0,00E+00	-4,89E-01
GWP – LULUC	kg CO_2e	3,32E+00	3,81E-04	1,60E+00	1,86E-04	1,13E-02	1,27E-02	1,81E-02	-1,30E+00
Ozone depletion pot.	kg CFC_{-11}e	1,42E-04	1,14E-07	4,44E-05	3,99E-07	7,04E-06	5,07E-06	2,89E-06	-3,69E-05
Acidification potential	mol H^+e	1,75E+01	9,68E-03	5,05E+00	1,94E-02	1,30E-01	2,93E-01	9,18E-02	-3,95E+00
EP-freshwater[3)]	kg Pe	1,45E-01	1,14E-05	1,92E-01	6,19E-06	2,51E-04	5,54E-04	8,51E-05	-2,97E-02
EP-marine	kg Ne	3,94E+00	4,44E-03	6,58E-01	8,60E-03	3,85E-02	1,26E-01	3,59E-02	-6,04E-01
EP-terrestrial	mol Ne	4,26E+01	4,56E-02	8,41E+00	9,42E-02	4,25E-01	1,29E+00	3,93E-01	-8,04E+00
POCP (“smog”)	kg NMVOCe	1,21E+01	1,12E-02	2,29E+00	2,59E-02	1,36E-01	3,52E-01	1,11E-01	-3,52E+00
ADP-minerals & metals	kg Sbe	2,16E+03	3,86E-06	4,14E+03	9,48E-07	7,17E-05	3,95E-04	1,93E-05	-2,56E-02
ADP-fossil resources	MJ	4,20E+04	9,16E+00	8,64E+03	2,51E+01	4,59E+02	3,80E+02	1,94E+02	-7,67E+03
Water use[2)]	m^3e depr.	1,14E+03	1,59E+00	4,03E+02	6,75E-02	2,06E+00	1,04E+01	6,82E-01	-2,15E+02

1)GWP = Global Warming Potential; EP = Eutrophication potential; POCP = Photochemical ozone formation; ADP = Abiotic depletion potential. 2) 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 experienced with the indicator. 3) Required characterisation method and data are in kg P-eq. Multiply by 3,07 to get PO_4e.

USE OF NATURAL RESOURCES

Impact category	Unit	A1-A3	A5	B5	C1	C2	C3	C4	D
Renew. PER as energy	MJ	2,66E+04	3,09E-01	1,84E+03	1,44E-01	5,18E+00	1,64E+01	1,96E+00	-1,10E+03
Renew. PER as material	MJ	5,83E+02	0,00E+00	0,00E+00	0,00E+00	0,00E+00	-5,83E+02	0,00E+00	0,00E+00
Total use of renew. PER	MJ	2,72E+04	3,09E-01	1,84E+03	1,44E-01	5,18E+00	-5,66E+02	1,96E+00	-1,10E+03
Non-re. PER as energy	MJ	3,92E+04	9,16E+00	1,11E+04	2,51E+01	4,59E+02	3,80E+02	1,95E+02	-7,68E+03
Non-re. PER as material	MJ	2,06E+03	-7,09E+02	0,00E+00	0,00E+00	0,00E+00	-1,08E+03	-2,73E+02	0,00E+00
Total use of non-ren. PER	MJ	4,12E+04	-7,00E+02	1,11E+04	2,51E+01	4,59E+02	-7,04E+02	-7,80E+01	-7,68E+03
Secondary materials	kg	2,25E+02	7,07E-03	2,96E+00	9,84E-03	1,28E-01	2,85E-01	5,94E-02	2,61E+02
Renew. secondary fuels	MJ	3,10E+02	2,36E-04	2,49E+01	3,22E-05	1,29E-03	1,31E-02	8,13E-04	-6,43E-02
Non-ren. secondary fuels	MJ	1,32E-02	0,00E+00	1,32E-02	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00
Use of net fresh water	m^3	2,28E+01	5,90E-02	1,04E+01	1,52E-03	5,96E-02	2,65E-01	1,30E-01	-8,08E+00

1)PER = primary energy resources; Non-ren = Non renewable

END OF LIFE – WASTE

Impact category	Unit	A1-A3	A5	B5	C1	C2	C3	C4	D
Hazardous waste	kg	1,38E+02	2,34E-03	2,90E+01	3,36E-02	6,09E-01	0,00E+00	2,42E-01	-2,38E+02
Non-hazardous waste	kg	2,58E+03	1,68E+01	4,17E+02	2,36E-01	1,00E+01	0,00E+00	8,27E+01	-1,51E+03
Radioactive waste	kg	5,40E-01	1,18E-05	3,42E-01	1,77E-04	3,07E-03	0,00E+00	1,24E-03	-1,95E-02

END OF LIFE – OUTPUT FLOWS

Impact category	Unit	A1-A3	A5	B5	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	0,00E+00	0,00E+00
Materials for recycling	kg	2,01E+02	0,00E+00	3,64E+02	0,00E+00	0,00E+00	3,44E+03	0,00E+00	0,00E+00
Materials for energy recovery	kg	7,26E+01	1,67E+01	6,31E+01	0,00E+00	0,00E+00	8,19E+01	0,00E+00	0,00E+00
Exported energy	MJ	4,84E+01	0,00E+00	4,84E+01	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00

BIOGENIC CARBON CONTENT

Biogenic carbon content	Unit (per declared unit)
Biogenic carbon content in product	0 kg
Biogenic carbon content in accompanying packaging	0 kg

NOTE 1 kg biogenic carbon is equivalent to 44/12 kg of CO2

KEY INFORMATION TABLE (RTS) – KEY INFORMATION PER KG OF PRODUCT

Impact category	Unit	A1-A3	A5	B5	C1	C2	C3	C4	D
GWP – total	kg CO_2e	7,39E-01	9,14E-03	1,99E-01	4,28E-04	7,01E-03	4,87E-02	2,32E-03	-1,68E-01
ADP-minerals & metals	kg CO_2e	4,95E-01	8,85E-10	9,49E-01	2,17E-10	1,64E-08	9,05E-08	4,41E-09	-5,87E-06
ADP-fossil	kg CO_2e	9,64E+00	2,10E-03	1,98E+00	5,76E-03	1,05E-01	8,71E-02	4,46E-02	-1,76E+00
Water use	kg CO_2e	2,62E-01	3,64E-04	9,23E-02	1,55E-05	4,71E-04	2,38E-03	1,56E-04	-4,94E-02
Secondary materials	kg $CFC_{-11}e$	5,16E-02	1,62E-06	6,79E-04	2,26E-06	2,92E-05	6,52E-05	1,36E-05	5,98E-02
Biog. C in product	mol H^+e	0,00E+00	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Biog. C in packaging	kg Pe	0,00E+00	N/A	N/A	N/A	N/A	N/A	N/A	N/A