



# ENVIRONMENTAL PRODUCT DECLARATION

IN ACCORDANCE WITH EN 15804+A2 & ISO 14025

Light and massive internal doors  
Haapsalu Uksetehase AS



**RTS\_442\_25**

Published on 4.12.2025, last updated on  
-, valid until 4.12.2030



EPD developed by  
**LCA SUPPORT**



## GENERAL INFORMATION

### MANUFACTURER

Manufacturer	Haapsalu Uksetehase AS
Address	Masti 8, Haapsalu, Estonia
Contact details	info@uksetehas.ee
Website	<a href="https://www.uksetehas.ee/">https://www.uksetehas.ee/</a>

### EPD STANDARDS, SCOPE AND VERIFICATION

Program operator	Rakennustieto EPD
Address	Malminkatu 16 A, 00100 Helsinki
Website	<a href="https://ymparisto.rakennustieto.fi/en">https://ymparisto.rakennustieto.fi/en</a>
Reference standard	EN 15804:2012+A2:2019/AC:2021 and ISO 14025
PCR	RTS PCR (12.11.2024) EN 17213 Windows and doors
Sector	Construction product
Category of EPD	Third party verified EPD
Scope of the EPD	Cradle to gate with options, A4-A5, and modules C1-C4, D
EPD author	Mari-Liis Tommula, LCA Support
EPD verification	Independent verification of this EPD and data, according to ISO 14025: <input type="checkbox"/> Internal verification <input checked="" type="checkbox"/> External verification
EPD verifier	Sigita Židonienė, Vesta Consulting, UAB

This EPD is intended for business-to-business and/or business-to-consumer communication. The manufacturer has the sole ownership, liability, and responsibility for the EPD. EPDs within the same product category but from

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

### PRODUCT

Product name	Light and massive internal doors
Place(s) of raw material origin	Europe
Place of production	Masti 8, 90401 Uuemõisa, Läänemaa, Estonia
Place(s) of installation and use	Finland, Estonia
Period for data	01.01.2022-31.12.2022
Averaging in EPD	Multiple products



Jukka Seppänen  
RTS EPD Committee Secretary



Laura Apilo  
Managing Director

## DECLARED UNIT

<b>Declared unit</b>	1 square meter of door based on M9x21 size door	
<b>Product group</b>	<b>Mass per declared unit, kg</b>	<b>Variation in GWP fossil for modules A1-A3</b>
FLUSH Door leaf and frame M9x21	14,11	±4,5%
FANCY sliding door-leaf (single product)	15,18	N/A
Interior Door leaf and frame M9x21 (FANCY, DESIGN and Rw33dB)	20,74	±7,7%
FLUSH Door leaf and frame M9x21 with HPL (single product)	20,76	N/A
FLUSH 1R Door leaf and frame M9x21 (single product)	18,38	N/A
Interior Door leaf and frame M9x21 (FANCY, FLUSH and Rw37dB)	20,75	±6,3%
Glazed Acoustic Door leaf and frame M9x21 Rw37dB	28,78	±2,8%

*The EPD results are specific to the declared door size and are comparable only to doors of the same dimensions.*

# PRODUCT AND MANUFACTURER

## ABOUT THE MANUFACTURER

Haapsalu Uksetehas is a door and door system manufacturer, specializing in the production of high-quality interior and exterior doors using modern manufacturing technologies and environmentally sustainable solutions. The company produces a comprehensive range of products including interior doors made from wood, MDF and laminate, exterior doors from wood, metal and composite materials, as well as fire-resistant and acoustic doors for various building types. The manufacturing process encompasses material preparation, framing, joining, finishing and hardware installation, all conducted under strict quality control measures.

## PRODUCT DESCRIPTION

The product groups consist of light and massive internal wooden doors, including Flush, Fancy and Design types, as well as acoustic doors with sound reduction levels of Rw33dB and Rw37dB. Doors are available veneered with transparent finish, painted or covered with high pressure laminate (HPL). Products are manufactured as rebated and flush-edge, except for the Fancy sliding door-leaf. Certain door types are available with glazing.

Products are meant for use as an interior door in residential and public buildings. Products are not suitable for humid and outdoor conditions, as well as between rooms with very different temperatures. Acoustic wooden doors with frame are intended for indoor use to close openings between compartments and in partitions subject to increased soundproofing requirements.

## TECHNICAL SPECIFICATIONS

Size: Double or single-leaf doors, the declared unit is based on single-leaf M9x21 doorset. Threshold is included only in acoustic doors (Rw33dB and Rw37dB).

Fancy sliding door size: 840x2050mm.

Door leaf: thickness 40mm.

Fittings: lock case 2014 or LC190; hinges FT-65 or 6540.

Glass: 4 mm tempered glass for standard glazed doors or 44.1 laminated glass for Rw37dB glazed doors

## Products are grouped as follows:

### 1. FLUSH Door leaf and frame M9x21:

FLUSH door-leaf and frame M9x21. Flush-edge and rebated, veneered, transparent finish;

FLUSH door-leaf and frame M9x21. Flush-edge and rebated, paint finish – *reference product*

### 2. FANCY sliding door-leaf

3. Interior Door leaf and frame M9x21 (FANCY, DESIGN and Rw33dB):

FANCY door-leaf and frame M9x21. Flush-edge and rebated, paint finish;

Rw33dB door-leaf and frame M9x21. Flush-edge and rebated, paint finish;

DESIGN door-leaf and frame M9x21. Flush-edge and rebated, veneered, transparent finish;

Rw33dB door-leaf and frame M9x21. Flush-edge and rebated, veneered, transparent finish - *reference product*

### 4. FLUSH Door leaf and frame M9x21 with HPL

### 5. FLUSH 1R Door leaf and frame M9x21

### 6. Interior Door leaf and frame M9x21 (FANCY, FLUSH and Rw37dB):

FANCY Fiesta 1A door-leaf with glass and frame M9x21. Flush-edge and rebated, paint finish;

Rw37dB door-leaf and frame M9x21. Flush-edge and rebated, paint finish;

Rw37dB door-leaf and frame M9x21. Flush-edge and rebated, veneered, transparent finish;

Rw37dB door-leaf and frame M9x21. Flush-edge and rebated, with HPL;

FLUSH 5A door-leaf with glass and frame M9x21. Flush-edge and rebated, paint finish - *reference product*

### 7. Glazed Acoustic Door leaf and frame M9x21 Rw37dB:

Rw37dB door-leaf with glass and frame M9x21. Flush-edge and rebated, paint finish;

Rw37dB door-leaf with glass and frame M9x21. Flush-edge and rebated, veneered, transparent finish;

Rw37dB door-leaf with glass and frame M9x21. Flush-edge and rebated, with HPL - *reference product*

### PRODUCT RAW MATERIAL MAIN COMPOSITION

Raw material category	Amount, mass %							Material origin
	Group 1	Group 2	Group 3	Group 4	Group 5	Group 6	Group 7	
Metals, %	2	1	3	3	2	2	4	Europe
Minerals, %	<1	<1	<1	<1	17	26	39	Europe
Fossil materials, %	5	5	4	2	3	4	3	Global
Bio-based materials, %	92	94	93	95	78	69	54	Europe

### Product packaging composition

	Group 1	Group 2	Group 3	Group 4	Group 5	Group 6	Group 7
Plastics (kg)	0,147	0,157	0,149	0,149	0,148	0,148	0,149
Cardboard (kg)	0,364	0,203	0,366	0,366	0,364	0,364	0,366
Wooden pallet (kg)	0,71	0,383	1,33	1,331	0,71	0,71	1,331
Total (kg)	1,22	0,74	1,85	1,85	1,22	1,22	1,85

### BIOGENIC CARBON CONTENT

Product's biogenic carbon content at the factory gate.

	Biogenic carbon content in product, kg C	Biogenic carbon content in packaging, kg C
Group 1	5,65	0,485
Group 2	6,49	0,26
Group 3	8,84	0,78
Group 4	8,40	0,78
Group 5	6,41	0,49
Group 6	8,07	0,49
Group 7	6,95	0,78

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

### SUBSTANCES, REACH - VERY HIGH CONCERN

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



FLUSH Door leaf  
and frame M9x21



FANCY sliding door-leaf



Interior Door leaf and frame M9x21  
(FANCY, DESIGN and Rw33dB)



FLUSH Door leaf and frame  
M9x21 with HPL



FLUSH 1R Door leaf  
and frame M9x21



Interior Door leaf and frame  
M9x21 (FANCY, FLUSH and Rw37dB)



Glazed Acoustic Door leaf  
and frame M9x21 Rw37dB

# PRODUCT LIFE-CYCLE

## SYSTEM BOUNDARY

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

Cradle to gate with options, A4-A5, and modules C1-C4, D.

Product stage			Assembly stage		Use stage							End of life stage				Beyond the system boundaries		
A1	A2	A3	A4	A5	B1	B2	B3	B4	B5	B6	B7	C1	C2	C3	C4	D		
X	X	X	X	X	ND	ND	ND	ND	ND	ND	ND	X	X	X	X	X		
Raw materials	Transport	Manufacturing	Transport	Assembly	Use	Maintenance	Repair	Replacement	Refurbishment	Operational energy use	Operational water use	Deconstruction/ demolition	Transport	Waste processing	Disposal	Reuse	Recovery	Recycling

Modules not declared = ND.

## MANUFACTURING AND PACKAGING (A1-A3)

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

A market-based approach is used in modelling the electricity mix utilized in the factory.

The production process begins with determining the need for purchasable materials and hardware. Work orders with customized drawings will be initiated in different production units simultaneously, such as in glulam plant for frames, thresholds etc. and pressing department for assembling the internal door frame with core materials. Door leaves are pressed in hot presses. When the bonded materials have been properly cured, CNC-machining will follow, whilst all the necessary machinings for hardware as well as glazing apertures are made. This is followed by edge-banding and intermediate quality control before the final finish. Water-based and UV curable waterborne topcoats are used for surface coatings. Before the final assembly, the quality of the finish will be checked and if everything meets the internal standards, mounting of hardware, sealings and glazings will commence. Before packaging, labelling and stacking for transport, operational checks for locking will be performed. Work order will be signed by the team member and archived, goods will be moved to the store for final packaging and strapping for the transport by trucks on to the construction site.

## TRANSPORT AND INSTALLATION (A4-A5)

Transportation impacts occurred from final products delivery to construction site (A4) cover fuel direct exhaust emissions, environmental impacts of fuel production, as well as related infrastructure emissions.

A4 is declared. Since 45% of the products are transported to Finland and the EPD is of interest mostly for Finnish customers, then the scenarios are developed based on Finnish data. It is assumed that the product is transported from the manufacturing site 110 km by truck and 118 km by ferry to Finland, Helsinki.

A5 is declared. No Product waste is generated during installation. It is assumed that the element will be installed without mechanical handling. Packaging waste comes from the packaging used for the final products. No water is needed for the installation process. Fasteners have been excluded as cut-off has been applied. For packaging, it is assumed that the pallet is shredded, and plastic packaging is incinerated with energy recovery (Eurostat, 2020).

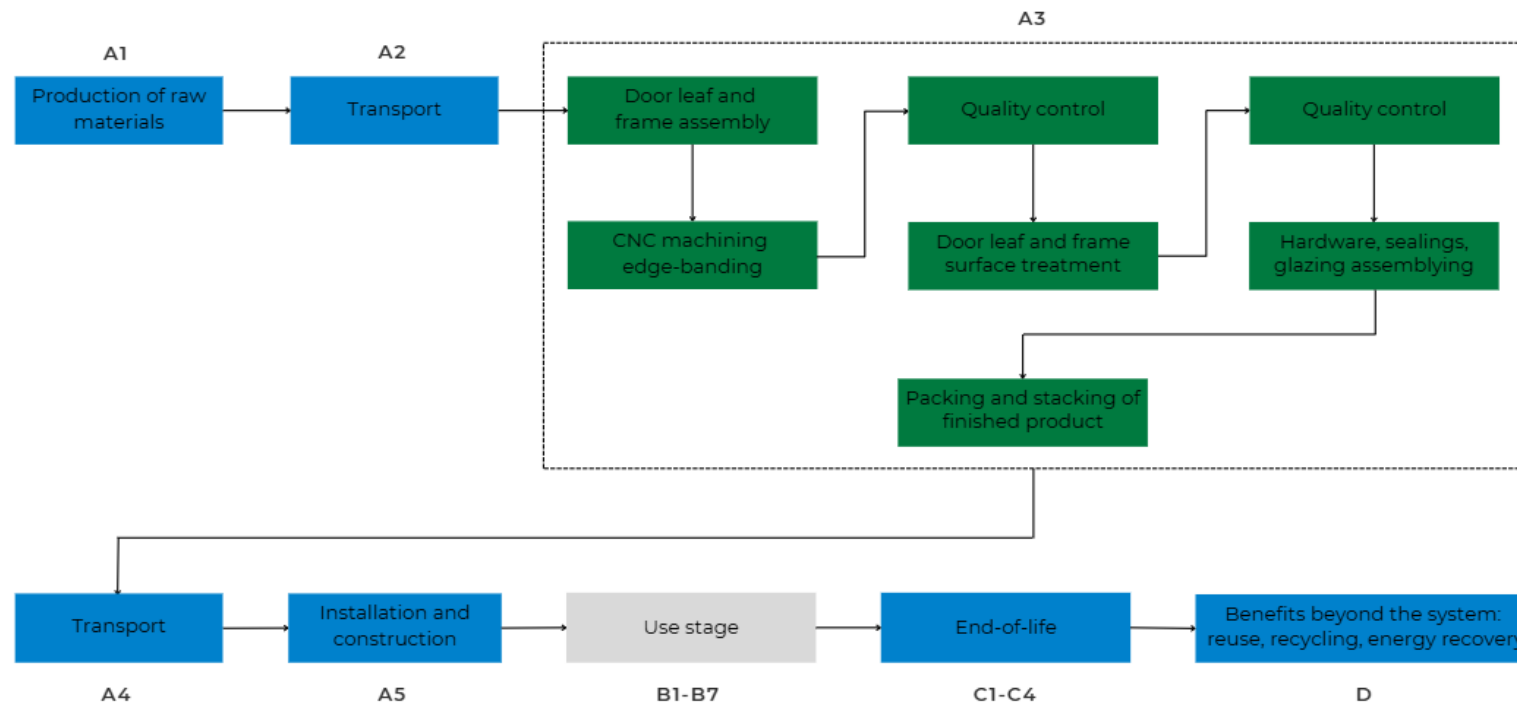
### **PRODUCT USE AND MAINTENANCE (B1-B7)**

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

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

It is estimated that there is no mass loss during the use of the product, therefore the end-of-life product is assumed to have the same weight as the declared product. The scenario is based on the scenario given by standard EN17213. Transportation distance to the closest disposal area is estimated as 50 km and the method is assumed as lorry which is the most common option. It is assumed that the products are removed from the building without additional energy use. The end-of-life waste treatment scenario assumes that 95% of non-glazing materials are collected for waste treatment, with the remaining 5% sent to landfill. Collected wood-based materials in the product are assumed to be incinerated with energy recovery, while other non-glazing materials are assumed to be recycled. For glazing materials, 30% are directed to recycling and 70% to landfill.

# MANUFACTURING PROCESS



## LIFE-CYCLE ASSESSMENT

### CUT-OFF CRITERIA

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

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

Cut-off has been applied in A3 to exclude solvents and A5 to exclude fasteners.

### VALIDATION OF DATA

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

Data collection for production, transport, and packaging was collected from the manufacturer via a questionnaire. The inventory and environmental data can be considered to be of good or very good quality.

### PRIMARY DATA

The share of primary data is calculated based on GWP-GHG results. It is a simplified indicator for data quality that do not capture all relevant aspects of data quality. The indicator is not comparable across product categories.

Share of primary data of GWP-GHG results for A1-A3:

	Group 1	Group 2	Group 3	Group 4	Group 5	Group 6	Group 7
<b>Electricity, Estonia, 2022 (One Click LCA)</b>	58%	57%	53%	48%	55%	50%	35%

### ALLOCATION, ESTIMATES AND ASSUMPTIONS

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

Data type	Allocation
Raw materials	No allocation
Packaging material	No allocation
Ancillary materials	Allocated by production volume
Manufacturing energy and waste	Allocated by production volume

### **PRODUCT & MANUFACTURING SITES GROUPING**

All the doors are manufactured on the same site. Doors are grouped based on similarities in materials and so that total GWP fossil values vary less than  $\pm 10\%$  from the group average. Reference products are chosen by the worst-case scenario with the greatest total GWP fossil values.

### **LCA SOFTWARE AND BIBLIOGRAPHY**

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

## ENVIRONMENTAL IMPACT DATA - FLUSH DOOR-LEAF AND FRAME M9X21. FLUSH-EDGE AND REBATED, PAINT FINISH

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

### CORE ENVIRONMENTAL IMPACT INDICATORS – EN 15804+A2, EF 3.1

Impact category	Unit	A1	A2	A3	A1-A3	A4	A5	B1	B2	B3	B4	B5	B6	B7	C1	C2	C3	C4	D
GWP – total <sup>1)</sup>	kg CO <sub>2</sub> e	-6,43E+00	7,79E-01	1,61E+01	1,04E+01	3,90E-01	6,04E-01	ND	ND	ND	ND	ND	ND	ND	0,00E+00	7,60E-02	2,14E+01	1,02E+00	-2,77E+01
GWP – fossil	kg CO <sub>2</sub> e	1,59E+01	7,79E-01	1,43E+01	3,10E+01	3,90E-01	5,14E-02	ND	ND	ND	ND	ND	ND	ND	0,00E+00	7,60E-02	2,19E+00	8,05E-03	-2,77E+01
GWP – biogenic	kg CO <sub>2</sub> e	-2,29E+01	3,73E-05	1,79E+00	-2,11E+01	6,91E-05	5,52E-01	ND	ND	ND	ND	ND	ND	ND	0,00E+00	1,27E-06	1,92E+01	1,01E+00	0,00E+00
GWP – LULUC	kg CO <sub>2</sub> e	5,27E-01	3,45E-04	3,17E-02	5,59E-01	1,73E-04	2,52E-05	ND	ND	ND	ND	ND	ND	ND	0,00E+00	3,40E-05	4,07E-04	5,10E-06	-2,73E-03
Ozone depletion pot.	kg CFC-11e	2,66E-07	1,16E-08	1,13E-07	3,90E-07	6,75E-09	3,32E-10	ND	ND	ND	ND	ND	ND	ND	0,00E+00	1,12E-09	6,94E-09	2,05E-10	-3,24E-07
Acidification potential	mol H <sup>+</sup> e	1,29E-01	2,71E-03	9,53E-02	2,27E-01	6,81E-03	2,05E-04	ND	ND	ND	ND	ND	ND	ND	0,00E+00	2,59E-04	3,31E-03	5,62E-05	-7,75E-02
EP-freshwater <sup>2)</sup>	kg Pe	8,94E-03	6,03E-05	3,03E-03	1,20E-02	1,84E-05	1,01E-05	ND	ND	ND	ND	ND	ND	ND	0,00E+00	5,92E-06	1,81E-04	6,15E-06	-6,76E-03
EP-marine	kg Ne	2,64E-02	9,01E-04	1,89E-02	4,62E-02	1,72E-03	1,05E-04	ND	ND	ND	ND	ND	ND	ND	0,00E+00	8,51E-05	1,48E-03	2,61E-04	-1,69E-02
EP-terrestrial	mol Ne	2,42E-01	9,80E-03	2,02E-01	4,53E-01	1,91E-02	8,58E-04	ND	ND	ND	ND	ND	ND	ND	0,00E+00	9,26E-04	1,46E-02	2,31E-04	-1,76E-01
POCP (“smog”) <sup>3)</sup>	kg NMVOCe	8,55E-02	3,99E-03	5,83E-02	1,48E-01	5,56E-03	2,38E-04	ND	ND	ND	ND	ND	ND	ND	0,00E+00	3,82E-04	4,02E-03	9,40E-05	-5,81E-02
ADP-minerals & metals <sup>4)</sup>	kg Sbe	6,60E-04	2,19E-06	1,36E-05	6,76E-04	6,90E-07	2,13E-07	ND	ND	ND	ND	ND	ND	ND	0,00E+00	2,12E-07	1,16E-06	1,78E-08	-3,29E-05
ADP-fossil resources	MJ	2,54E+02	1,13E+01	1,68E+02	4,34E+02	5,26E+00	3,28E-01	ND	ND	ND	ND	ND	ND	ND	0,00E+00	1,10E+00	6,16E+00	1,76E-01	-3,58E+02
Water use <sup>5)</sup>	m <sup>3</sup> e depr.	7,59E+00	5,57E-02	1,57E+02	1,64E+02	2,02E-02	2,90E-02	ND	ND	ND	ND	ND	ND	ND	0,00E+00	5,45E-03	4,98E-01	8,42E-04	-2,20E+00

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

**ADDITIONAL (OPTIONAL) ENVIRONMENTAL IMPACT INDICATORS – EN 15804+A2, EF 3.1**

Impact category	Unit	A1	A2	A3	A1-A3	A4	A5	B1	B2	B3	B4	B5	B6	B7	C1	C2	C3	C4	D
Particulate matter	Incidence	2,07E-06	7,76E-08	7,10E-07	2,86E-06	2,33E-08	2,89E-09	ND	ND	ND	ND	ND	ND	ND	0,00E+00	7,61E-09	4,00E-08	1,28E-09	-7,09E-07
Ionizing radiation <sup>6)</sup>	kBq U235e	1,83E+00	1,01E-02	4,07E-01	2,24E+00	4,23E-03	1,65E-03	ND	ND	ND	ND	ND	ND	ND	0,00E+00	9,60E-04	6,65E-02	1,72E-04	-2,82E+00
Ecotoxicity (freshwater)	CTUe	3,82E+02	1,60E+00	4,09E+01	4,25E+02	4,95E-01	2,40E-01	ND	ND	ND	ND	ND	ND	ND	0,00E+00	1,56E-01	2,43E+00	8,41E-02	-5,04E+01
Human toxicity, cancer	CTUh	1,95E-08	1,33E-10	2,34E-09	2,20E-08	7,35E-11	3,87E-11	ND	ND	ND	ND	ND	ND	ND	0,00E+00	1,25E-11	2,64E-09	2,41E-12	-1,60E-08
Human tox. non-cancer	CTUh	3,00E-07	7,34E-09	1,06E-07	4,13E-07	2,32E-09	1,83E-09	ND	ND	ND	ND	ND	ND	ND	0,00E+00	7,14E-10	3,32E-08	1,89E-10	-1,38E-07
SQP <sup>7)</sup>	-	2,60E+03	1,12E+01	1,93E+02	2,81E+03	2,83E+00	3,07E-01	ND	ND	ND	ND	ND	ND	ND	0,00E+00	1,11E+00	2,58E+00	4,11E-01	-4,30E+01

6) EN 15804+A2 disclaimer for Ionizing radiation, human health. This impact category deals mainly with the eventual impact of low-dose ionizing radiation on human health of the nuclear fuel cycle. It does not consider effects due to possible nuclear accidents, occupational exposure nor due to radioactive waste disposal in underground facilities. Potential ionizing radiation from the soil, from radon and from some construction materials is also not measured by this indicator; 7) SQP = Land use related impacts/soil quality.

**USE OF NATURAL RESOURCES**

Impact category	Unit	A1	A2	A3	A1-A3	A4	A5	B1	B2	B3	B4	B5	B6	B7	C1	C2	C3	C4	D
Renew. PER as energy <sup>8)</sup>	MJ	2,75E+02	1,57E-01	4,63E+01	3,22E+02	6,08E-02	-1,78E+01	ND	ND	ND	ND	ND	ND	ND	0,00E+00	1,51E-02	-3,50E+02	-1,20E+01	-9,02E+00
Renew. PER as material	MJ	1,91E+02	0,00E+00	-1,53E+01	1,75E+02	0,00E+00	-4,72E+00	ND	ND	ND	ND	ND	ND	ND	0,00E+00	0,00E+00	-1,62E+02	-8,53E+00	0,00E+00
Total use of renew. PER	MJ	4,66E+02	1,57E-01	3,10E+01	4,97E+02	6,08E-02	-2,25E+01	ND	ND	ND	ND	ND	ND	ND	0,00E+00	1,51E-02	-5,12E+02	-2,05E+01	-9,02E+00
Non-re. PER as energy	MJ	2,34E+02	1,13E+01	1,57E+02	4,02E+02	5,26E+00	-5,95E+00	ND	ND	ND	ND	ND	ND	ND	0,00E+00	1,10E+00	-1,35E+00	1,76E-01	-3,58E+02
Non-re. PER as material	MJ	2,19E+01	0,00E+00	4,10E+00	2,60E+01	0,00E+00	-6,16E+00	ND	ND	ND	ND	ND	ND	ND	0,00E+00	0,00E+00	-1,88E+01	-9,91E-01	0,00E+00
Total use of non-re. PER	MJ	2,56E+02	1,13E+01	1,61E+02	4,28E+02	5,26E+00	-1,21E+01	ND	ND	ND	ND	ND	ND	ND	0,00E+00	1,10E+00	-2,02E+01	-8,15E-01	-3,58E+02
Secondary materials	kg	8,90E-01	4,81E-03	3,80E-01	1,27E+00	2,28E-03	9,56E-04	ND	ND	ND	ND	ND	ND	ND	0,00E+00	4,69E-04	6,68E-03	6,37E-05	1,04E-01
Renew. secondary fuels	MJ	2,93E+00	6,07E-05	2,32E+01	2,61E+01	1,68E-05	5,87E-06	ND	ND	ND	ND	ND	ND	ND	0,00E+00	5,96E-06	4,48E-05	1,20E-06	-2,00E-04
Non-ren. secondary fuels	MJ	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	ND	ND	ND	ND	ND	ND	ND	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00
Use of net fresh water	m <sup>3</sup>	1,98E-01	1,66E-03	1,68E-01	3,68E-01	5,54E-04	2,50E-04	ND	ND	ND	ND	ND	ND	ND	0,00E+00	1,63E-04	5,02E-03	-2,63E-03	-1,93E-01

8) PER = Primary energy resources.

## FLUSH DOOR-LEAF AND FRAME M9X21. FLUSH-EDGE AND REBATED, PAINT FINISH

### END OF LIFE – WASTE

Impact category	Unit	A1	A2	A3	A1-A3	A4	A5	B1	B2	B3	B4	B5	B6	B7	C1	C2	C3	C4	D
Hazardous waste	kg	2,02E+00	1,90E-02	1,78E-01	2,21E+00	7,00E-03	7,22E-03	ND	ND	ND	ND	ND	ND	ND	0,00E+00	1,87E-03	1,27E-01	3,06E-04	-2,14E+00
Non-hazardous waste	kg	8,16E+01	3,54E-01	2,66E+01	1,09E+02	1,19E-01	8,10E-01	ND	ND	ND	ND	ND	ND	ND	0,00E+00	3,46E-02	1,46E+01	3,53E+00	-3,60E+01
Radioactive waste	kg	1,23E-03	2,47E-06	8,09E-05	1,31E-03	1,04E-06	4,20E-07	ND	ND	ND	ND	ND	ND	ND	0,00E+00	2,35E-07	1,70E-05	4,22E-08	-6,93E-04

### END OF LIFE – OUTPUT FLOWS

Impact category	Unit	A1	A2	A3	A1-A3	A4	A5	B1	B2	B3	B4	B5	B6	B7	C1	C2	C3	C4	D
Components for re-use	kg	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	ND	ND	ND	ND	ND	ND	ND	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00
Materials for recycling	kg	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	ND	ND	ND	ND	ND	ND	ND	0,00E+00	0,00E+00	3,05E-01	0,00E+00	0,00E+00
Materials for energy rec	kg	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	ND	ND	ND	ND	ND	ND	ND	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00
Exported energy – Electricity	MJ	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	6,28E+00	ND	ND	ND	ND	ND	ND	ND	0,00E+00	0,00E+00	6,68E+01	0,00E+00	0,00E+00
Exported energy – Heat	MJ	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	1,26E+01	ND	ND	ND	ND	ND	ND	ND	0,00E+00	0,00E+00	1,11E+02	0,00E+00	0,00E+00

### ADDITIONAL INDICATOR – GWP-GHG

Impact category	Unit	A1	A2	A3	A1-A3	A4	A5	B1	B2	B3	B4	B5	B6	B7	C1	C2	C3	C4	D
GWP-GHG <sup>9)</sup>	kg CO <sub>2</sub> e	1,64E+01	7,79E-01	1,43E+01	3,15E+01	3,90E-01	5,15E-02	ND	ND	ND	ND	ND	ND	ND	0,00E+00	7,60E-02	2,19E+00	8,06E-03	-2,77E+01

9) This indicator includes all greenhouse gases excluding biogenic carbon dioxide uptake and emissions and biogenic carbon stored in the product. In addition, the characterisation factors for the flows – CH<sub>4</sub> fossil, CH<sub>4</sub> biogenic and Dinitrogen monoxide – were updated. This indicator is identical to the GWP-total of EN 15804:2012+A2:2019 except that the characterisation factor for biogenic CO<sub>2</sub> is set to zero.

## ENVIRONMENTAL IMPACT DATA - FANCY SLIDING DOOR-LEAF

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

### CORE ENVIRONMENTAL IMPACT INDICATORS – EN 15804+A2, EF 3.1

Impact category	Unit	A1	A2	A3	A1-A3	A4	A5	B1	B2	B3	B4	B5	B6	B7	C1	C2	C3	C4	D
GWP – total <sup>1)</sup>	kg CO <sub>2</sub> e	-8,82E+00	1,91E+00	1,54E+01	8,48E+00	4,05E-01	3,44E-01	ND	ND	ND	ND	ND	ND	ND	0,00E+00	8,18E-02	2,42E+01	1,17E+00	-2,80E+01
GWP – fossil	kg CO <sub>2</sub> e	1,58E+01	1,91E+00	1,42E+01	3,20E+01	4,05E-01	4,12E-02	ND	ND	ND	ND	ND	ND	ND	0,00E+00	8,17E-02	2,06E+00	8,62E-03	-2,80E+01
GWP – biogenic	kg CO <sub>2</sub> e	-2,51E+01	4,27E-04	1,12E+00	-2,39E+01	7,18E-05	3,03E-01	ND	ND	ND	ND	ND	ND	ND	0,00E+00	1,05E-06	2,22E+01	1,17E+00	0,00E+00
GWP – LULUC	kg CO <sub>2</sub> e	4,50E-01	8,51E-04	2,48E-02	4,76E-01	1,80E-04	2,09E-05	ND	ND	ND	ND	ND	ND	ND	0,00E+00	3,66E-05	4,44E-04	5,46E-06	-1,30E-02
Ozone depletion pot.	kg CFC-11e	2,51E-07	2,83E-08	1,05E-07	3,83E-07	7,01E-09	2,21E-10	ND	ND	ND	ND	ND	ND	ND	0,00E+00	1,21E-09	7,57E-09	2,19E-10	-3,98E-07
Acidification potential	mol H <sup>+</sup> e	1,22E-01	6,56E-03	9,36E-02	2,22E-01	7,08E-03	1,33E-04	ND	ND	ND	ND	ND	ND	ND	0,00E+00	2,79E-04	3,62E-03	6,01E-05	-6,19E-02
EP-freshwater <sup>2)</sup>	kg Pe	8,35E-03	1,48E-04	2,95E-03	1,14E-02	1,91E-05	6,84E-06	ND	ND	ND	ND	ND	ND	ND	0,00E+00	6,36E-06	2,00E-04	6,58E-06	-5,01E-03
EP-marine	kg Ne	2,40E-02	2,16E-03	1,83E-02	4,45E-02	1,79E-03	7,03E-05	ND	ND	ND	ND	ND	ND	ND	0,00E+00	9,16E-05	1,60E-03	2,79E-04	-1,38E-02
EP-terrestrial	mol Ne	2,27E-01	2,35E-02	1,94E-01	4,45E-01	1,99E-02	5,33E-04	ND	ND	ND	ND	ND	ND	ND	0,00E+00	9,97E-04	1,58E-02	2,47E-04	-1,43E-01
POCP (“smog”) <sup>3)</sup>	kg NMVOce	8,62E-02	9,65E-03	5,71E-02	1,53E-01	5,77E-03	1,50E-04	ND	ND	ND	ND	ND	ND	ND	0,00E+00	4,11E-04	4,36E-03	1,01E-04	-5,81E-02
ADP-minerals & metals <sup>4)</sup>	kg Sbe	8,48E-05	5,33E-06	1,31E-05	1,03E-04	7,16E-07	1,64E-07	ND	ND	ND	ND	ND	ND	ND	0,00E+00	2,28E-07	1,59E-06	1,91E-08	-2,37E-05
ADP-fossil resources	MJ	2,57E+02	2,77E+01	1,67E+02	4,51E+02	5,46E+00	2,24E-01	ND	ND	ND	ND	ND	ND	ND	0,00E+00	1,19E+00	6,71E+00	1,88E-01	-3,89E+02
Water use <sup>5)</sup>	m <sup>3</sup> e depr.	7,89E+00	1,37E-01	1,56E+02	1,64E+02	2,10E-02	1,76E-02	ND	ND	ND	ND	ND	ND	ND	0,00E+00	5,86E-03	5,42E-01	9,01E-04	-2,51E+00

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

**ADDITIONAL (OPTIONAL) ENVIRONMENTAL IMPACT INDICATORS – EN 15804+A2, EF 3.1**

Impact category	Unit	A1	A2	A3	A1-A3	A4	A5	B1	B2	B3	B4	B5	B6	B7	C1	C2	C3	C4	D
Particulate matter	Incidence	1,72E-06	1,91E-07	6,89E-07	2,60E-06	2,42E-08	1,94E-09	ND	ND	ND	ND	ND	ND	ND	0,00E+00	8,18E-09	4,40E-08	1,37E-09	-5,52E-07
Ionizing radiation <sup>6)</sup>	kBq 11225a	1,79E+00	2,43E-02	3,93E-01	2,21E+00	4,39E-03	1,24E-03	ND	ND	ND	ND	ND	ND	ND	0,00E+00	1,03E-03	7,23E-02	1,84E-04	-2,11E+00
Ecotoxicity (freshwater)	CTUe	1,99E+02	3,91E+00	3,91E+01	2,42E+02	5,15E-01	1,74E-01	ND	ND	ND	ND	ND	ND	ND	0,00E+00	1,68E-01	2,58E+00	9,00E-02	-4,08E+01
Human toxicity, cancer	CTUh	4,63E-08	3,18E-10	2,22E-09	4,88E-08	7,64E-11	2,70E-11	ND	ND	ND	ND	ND	ND	ND	0,00E+00	1,35E-11	2,46E-09	2,58E-12	-1,27E-08
Human tox. non-cancer	CTUh	1,74E-07	1,79E-08	1,03E-07	2,95E-07	2,41E-09	1,10E-09	ND	ND	ND	ND	ND	ND	ND	0,00E+00	7,68E-10	3,53E-08	2,02E-10	-1,10E-07
SQP <sup>7)</sup>	-	1,52E+03	2,77E+01	1,87E+02	1,73E+03	2,94E+00	2,47E-01	ND	ND	ND	ND	ND	ND	ND	0,00E+00	1,19E+00	2,86E+00	4,40E-01	-3,18E+01

6) EN 15804+A2 disclaimer for ionizing radiation, human health. This impact category deals mainly with the eventual impact of low-dose ionizing radiation on human health of the nuclear fuel cycle. It does not consider effects due to possible nuclear accidents, occupational exposure nor due to radioactive waste disposal in underground facilities. Potential ionizing radiation from the soil, from radon and from some construction materials is also not measured by this indicator; 7) SQP = Land use related impacts/soil quality.

**USE OF NATURAL RESOURCES**

Impact category	Unit	A1	A2	A3	A1-A3	A4	A5	B1	B2	B3	B4	B5	B6	B7	C1	C2	C3	C4	D
Renew. PER as energy <sup>8)</sup>	MJ	9,40E+01	3,81E-01	3,95E+01	1,34E+02	6,32E-02	-9,70E+00	ND	ND	ND	ND	ND	ND	ND	0,00E+00	1,63E-02	-3,81E+02	-1,29E+01	-9,34E+00
Renew. PER as material	MJ	2,06E+02	0,00E+00	-9,77E+00	1,96E+02	0,00E+00	-2,59E+00	ND	ND	ND	ND	ND	ND	ND	0,00E+00	0,00E+00	-1,84E+02	-9,69E+00	0,00E+00
Total use of renew. PER	MJ	3,00E+02	3,81E-01	2,97E+01	3,30E+02	6,32E-02	-1,23E+01	ND	ND	ND	ND	ND	ND	ND	0,00E+00	1,63E-02	-5,65E+02	-2,26E+01	-9,34E+00
Non-re. PER as energy	MJ	2,31E+02	2,77E+01	1,54E+02	4,12E+02	5,46E+00	-6,44E+00	ND	ND	ND	ND	ND	ND	ND	0,00E+00	1,19E+00	4,31E-02	1,88E-01	-3,89E+02
Non-re. PER as material	MJ	2,69E+01	0,00E+00	4,68E+00	3,16E+01	0,00E+00	-6,67E+00	ND	ND	ND	ND	ND	ND	ND	0,00E+00	0,00E+00	-2,36E+01	-1,24E+00	0,00E+00
Total use of non-re. PER	MJ	2,57E+02	2,77E+01	1,59E+02	4,44E+02	5,46E+00	-1,31E+01	ND	ND	ND	ND	ND	ND	ND	0,00E+00	1,19E+00	-2,36E+01	-1,06E+00	-3,89E+02
Secondary materials	kg	1,17E+00	1,18E-02	2,16E-01	1,40E+00	2,37E-03	7,79E-04	ND	ND	ND	ND	ND	ND	ND	0,00E+00	5,05E-04	7,27E-03	6,82E-05	-1,19E-02
Renew. secondary fuels	MJ	1,30E+01	1,49E-04	7,70E+00	2,07E+01	1,75E-05	5,30E-06	ND	ND	ND	ND	ND	ND	ND	0,00E+00	6,41E-06	5,01E-05	1,28E-06	-1,64E-04
Non-ren. secondary fuels	MJ	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	ND	ND	ND	ND	ND	ND	ND	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00
Use of net fresh water	m <sup>3</sup>	2,13E-01	4,09E-03	1,67E-01	3,84E-01	5,75E-04	1,64E-04	ND	ND	ND	ND	ND	ND	ND	0,00E+00	1,75E-04	5,44E-03	-2,81E-03	-1,56E-01

8) PER = Primary energy resources.

**END OF LIFE – WASTE**

Impact category	Unit	A1	A2	A3	A1-A3	A4	A5	B1	B2	B3	B4	B5	B6	B7	C1	C2	C3	C4	D
Hazardous waste	kg	1,93E+00	4,68E-02	1,78E-01	2,15E+00	7,27E-03	4,74E-03	ND	ND	ND	ND	ND	ND	ND	0,00E+00	2,01E-03	1,33E-01	3,28E-04	-1,61E+00
Non-hazardous waste	kg	7,28E+01	8,67E-01	2,70E+01	1,01E+02	1,24E-01	4,63E-01	ND	ND	ND	ND	ND	ND	ND	0,00E+00	3,72E-02	1,58E+01	3,78E+00	-2,66E+01
Radioactive waste	kg	1,01E-03	5,94E-06	7,72E-05	1,10E-03	1,08E-06	3,17E-07	ND	ND	ND	ND	ND	ND	ND	0,00E+00	2,53E-07	1,85E-05	4,51E-08	-5,20E-04

**END OF LIFE – OUTPUT FLOWS**

Impact category	Unit	A1	A2	A3	A1-A3	A4	A5	B1	B2	B3	B4	B5	B6	B7	C1	C2	C3	C4	D
Components for re-use	kg	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	ND	ND	ND	ND	ND	ND	ND	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00
Materials for recycling	kg	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	ND	ND	ND	ND	ND	ND	ND	0,00E+00	0,00E+00	2,00E-01	0,00E+00	0,00E+00
Materials for energy rec	kg	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	ND	ND	ND	ND	ND	ND	ND	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00
Exported energy – Electricity	MJ	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	4,45E+00	ND	ND	ND	ND	ND	ND	ND	0,00E+00	0,00E+00	8,14E+01	0,00E+00	0,00E+00
Exported energy – Heat	MJ	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	8,90E+00	ND	ND	ND	ND	ND	ND	ND	0,00E+00	0,00E+00	1,63E+02	0,00E+00	0,00E+00

**ADDITIONAL INDICATOR – GWP-GHG**

Impact category	Unit	A1	A2	A3	A1-A3	A4	A5	B1	B2	B3	B4	B5	B6	B7	C1	C2	C3	C4	D
GWP-GHG <sup>9)</sup>	kg CO <sub>2</sub> e	1,63E+01	1,91E+00	1,43E+01	3,24E+01	4,05E-01	4,13E-02	ND	ND	ND	ND	ND	ND	ND	0,00E+00	8,18E-02	2,06E+00	8,63E-03	-2,80E+01

9) This indicator includes all greenhouse gases excluding biogenic carbon dioxide uptake and emissions and biogenic carbon stored in the product. In addition, the characterisation factors for the flows – CH<sub>4</sub> fossil, CH<sub>4</sub> biogenic and Dinitrogen monoxide – were updated. This indicator is identical to the GWP-total of EN 15804:2012+A2:2019 except that the characterisation factor for biogenic CO<sub>2</sub> is set to zero.

# ENVIRONMENTAL IMPACT DATA – RW33DB DOOR-LEAF AND FRAME M9X21. FLUSH-EDGE AND REBATED, VENEERED, TRANSPARENT FINISH

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

## CORE ENVIRONMENTAL IMPACT INDICATORS – EN 15804+A2, EF 3.1

Impact category	Unit	A1	A2	A3	A1-A3	A4	A5	B1	B2	B3	B4	B5	B6	B7	C1	C2	C3	C4	D
GWP – total <sup>1)</sup>	kg CO <sub>2</sub> e	-1,45E+01	1,90E+00	1,71E+01	4,51E+00	5,75E-01	6,18E-01	ND	ND	ND	ND	ND	ND	ND	0,00E+00	1,12E-01	3,14E+01	1,54E+00	-3,94E+01
GWP – fossil	kg CO <sub>2</sub> e	1,95E+01	1,90E+00	1,41E+01	3,55E+01	5,75E-01	6,46E-02	ND	ND	ND	ND	ND	ND	ND	0,00E+00	1,12E-01	2,30E+00	1,18E-02	-3,94E+01
GWP – biogenic	kg CO <sub>2</sub> e	-3,42E+01	1,36E-04	2,96E+00	-3,13E+01	1,02E-04	5,54E-01	ND	ND	ND	ND	ND	ND	ND	0,00E+00	1,57E-06	2,91E+01	1,53E+00	0,00E+00
GWP – LULUC	kg CO <sub>2</sub> e	2,37E-01	8,49E-04	3,17E-02	2,70E-01	2,55E-04	2,94E-05	ND	ND	ND	ND	ND	ND	ND	0,00E+00	4,99E-05	5,99E-04	7,45E-06	-3,56E-03
Ozone depletion pot.	kg CFC-11e	3,57E-07	2,82E-08	1,09E-07	4,94E-07	9,94E-09	4,91E-10	ND	ND	ND	ND	ND	ND	ND	0,00E+00	1,65E-09	1,02E-08	2,99E-10	-5,51E-07
Acidification potential	mol H <sup>+</sup> e	1,34E-01	6,52E-03	9,46E-02	2,36E-01	1,00E-02	3,17E-04	ND	ND	ND	ND	ND	ND	ND	0,00E+00	3,81E-04	4,89E-03	8,20E-05	-8,58E-02
EP-freshwater <sup>2)</sup>	kg Pe	1,07E-02	1,48E-04	2,98E-03	1,39E-02	2,70E-05	1,46E-05	ND	ND	ND	ND	ND	ND	ND	0,00E+00	8,69E-06	2,68E-04	8,98E-06	-6,99E-03
EP-marine	kg Ne	3,13E-02	2,15E-03	1,87E-02	5,22E-02	2,54E-03	1,62E-04	ND	ND	ND	ND	ND	ND	ND	0,00E+00	1,25E-04	2,19E-03	3,81E-04	-1,95E-02
EP-terrestrial	mol Ne	3,28E-01	2,34E-02	1,99E-01	5,51E-01	2,82E-02	1,41E-03	ND	ND	ND	ND	ND	ND	ND	0,00E+00	1,36E-03	2,15E-02	3,37E-04	-2,02E-01
POCP (“smog”) <sup>3)</sup>	kg NMVOce	1,15E-01	9,61E-03	5,77E-02	1,83E-01	8,19E-03	3,83E-04	ND	ND	ND	ND	ND	ND	ND	0,00E+00	5,61E-04	5,92E-03	1,37E-04	-8,17E-02
ADP-minerals & metals <sup>4)</sup>	kg Sbe	1,06E-03	5,31E-06	1,31E-05	1,08E-03	1,02E-06	2,43E-07	ND	ND	ND	ND	ND	ND	ND	0,00E+00	3,11E-07	1,72E-06	2,60E-08	-4,06E-05
ADP-fossil resources	MJ	3,19E+02	2,76E+01	1,67E+02	5,14E+02	7,75E+00	4,63E-01	ND	ND	ND	ND	ND	ND	ND	0,00E+00	1,62E+00	9,05E+00	2,57E-01	-5,42E+02
Water use <sup>5)</sup>	m <sup>3</sup> e depr.	1,06E+01	1,36E-01	1,57E+02	1,67E+02	2,98E-02	4,95E-02	ND	ND	ND	ND	ND	ND	ND	0,00E+00	8,00E-03	7,51E-01	1,23E-03	-2,42E+00

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

**ADDITIONAL (OPTIONAL) ENVIRONMENTAL IMPACT INDICATORS – EN 15804+A2, EF 3.1**

Impact category	Unit	A1	A2	A3	A1-A3	A4	A5	B1	B2	B3	B4	B5	B6	B7	C1	C2	C3	C4	D
Particulate matter	Incidence	2,56E-06	1,90E-07	7,01E-07	3,45E-06	3,43E-08	4,36E-09	ND	ND	ND	ND	ND	ND	ND	0,00E+00	1,12E-08	5,87E-08	1,86E-09	-7,73E-07
Ionizing radiation <sup>6)</sup>	kBq	2,33E+00	2,42E-02	4,03E-01	2,76E+00	6,23E-03	1,80E-03	ND	ND	ND	ND	ND	ND	ND	0,00E+00	1,41E-03	9,77E-02	2,52E-04	-2,77E+00
Ecotoxicity (freshwater)	CTUe	4,34E+02	3,90E+00	3,83E+01	4,76E+02	7,30E-01	3,13E-01	ND	ND	ND	ND	ND	ND	ND	0,00E+00	2,29E-01	4,00E+00	1,23E-01	-5,82E+01
Human toxicity, cancer	CTUh	5,51E-08	3,17E-10	2,11E-09	5,76E-08	1,08E-10	5,74E-11	ND	ND	ND	ND	ND	ND	ND	0,00E+00	1,84E-11	2,23E-09	3,52E-12	-1,67E-08
Human tox. non-cancer	CTUh	4,32E-07	1,79E-08	1,04E-07	5,54E-07	3,41E-09	3,08E-09	ND	ND	ND	ND	ND	ND	ND	0,00E+00	1,05E-09	4,54E-08	2,75E-10	-1,53E-07
SQP <sup>7)</sup>	-	3,14E+03	2,77E+01	1,93E+02	3,36E+03	4,18E+00	3,82E-01	ND	ND	ND	ND	ND	ND	ND	0,00E+00	1,63E+00	3,79E+00	6,01E-01	-4,61E+01

6) EN 15804+A2 disclaimer for ionizing radiation, human health. This impact category deals mainly with the eventual impact of low-dose ionizing radiation on human health of the nuclear fuel cycle. It does not consider effects due to possible nuclear accidents, occupational exposure nor due to radioactive waste disposal in underground facilities. Potential ionizing radiation from the soil, from radon and from some construction materials is also not measured by this indicator; 7) SQP = Land use related impacts/soil quality.

**USE OF NATURAL RESOURCES**

Impact category	Unit	A1	A2	A3	A1-A3	A4	A5	B1	B2	B3	B4	B5	B6	B7	C1	C2	C3	C4	D
Renew. PER as energy <sup>8)</sup>	MJ	2,87E+02	3,80E-01	4,37E+01	3,31E+02	8,96E-02	-2,83E+01	ND	ND	ND	ND	ND	ND	ND	0,00E+00	2,22E-02	-5,18E+02	-1,76E+01	-9,67E+00
Renew. PER as material	MJ	2,81E+02	0,00E+00	-2,43E+01	2,56E+02	0,00E+00	-4,73E+00	ND	ND	ND	ND	ND	ND	ND	0,00E+00	0,00E+00	-2,39E+02	-1,26E+01	0,00E+00
Total use of renew. PER	MJ	5,67E+02	3,80E-01	1,94E+01	5,87E+02	8,96E-02	-3,31E+01	ND	ND	ND	ND	ND	ND	ND	0,00E+00	2,22E-02	-7,57E+02	-3,01E+01	-9,67E+00
Non-re. PER as energy	MJ	2,84E+02	2,76E+01	1,57E+02	4,69E+02	7,75E+00	-5,87E+00	ND	ND	ND	ND	ND	ND	ND	0,00E+00	1,62E+00	-2,82E+00	2,57E-01	-5,42E+02
Non-re. PER as material	MJ	3,51E+01	0,00E+00	3,31E+00	3,84E+01	0,00E+00	-6,22E+00	ND	ND	ND	ND	ND	ND	ND	0,00E+00	0,00E+00	-3,06E+01	-1,61E+00	0,00E+00
Total use of non-re. PER	MJ	3,19E+02	2,76E+01	1,61E+02	5,07E+02	7,75E+00	-1,21E+01	ND	ND	ND	ND	ND	ND	ND	0,00E+00	1,62E+00	-3,34E+01	-1,35E+00	-5,42E+02
Secondary materials	kg	1,34E+00	1,17E-02	3,80E-01	1,73E+00	3,37E-03	1,18E-03	ND	ND	ND	ND	ND	ND	ND	0,00E+00	6,90E-04	9,71E-03	9,30E-05	3,58E-01
Renew. secondary fuels	MJ	1,22E+01	1,49E-04	1,65E+01	2,87E+01	2,48E-05	6,64E-06	ND	ND	ND	ND	ND	ND	ND	0,00E+00	8,76E-06	6,75E-05	1,75E-06	-2,62E-04
Non-ren. secondary fuels	MJ	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	ND	ND	ND	ND	ND	ND	ND	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00
Use of net fresh water	m <sup>3</sup>	2,69E-01	4,08E-03	1,68E-01	4,41E-01	8,16E-04	3,82E-04	ND	ND	ND	ND	ND	ND	ND	0,00E+00	2,39E-04	7,65E-03	-3,84E-03	-1,94E-01

8) PER = Primary energy resources.

**END OF LIFE – WASTE**

Impact category	Unit	A1	A2	A3	A1-A3	A4	A5	B1	B2	B3	B4	B5	B6	B7	C1	C2	C3	C4	D
Hazardous waste	kg	2,35E+00	4,67E-02	1,50E-01	2,54E+00	1,03E-02	1,13E-02	ND	ND	ND	ND	ND	ND	ND	0,00E+00	2,74E-03	1,68E-01	4,47E-04	-2,33E+00
Non-hazardous waste	kg	7,76E+01	8,65E-01	2,66E+01	1,05E+02	1,75E-01	1,45E+00	ND	ND	ND	ND	ND	ND	ND	0,00E+00	5,08E-02	2,12E+01	5,15E+00	-3,75E+01
Radioactive waste	kg	1,11E-03	5,92E-06	7,99E-05	1,20E-03	1,53E-06	4,57E-07	ND	ND	ND	ND	ND	ND	ND	0,00E+00	3,45E-07	2,50E-05	6,16E-08	-6,79E-04

**END OF LIFE – OUTPUT FLOWS**

Impact category	Unit	A1	A2	A3	A1-A3	A4	A5	B1	B2	B3	B4	B5	B6	B7	C1	C2	C3	C4	D
Components for re-use	kg	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	ND	ND	ND	ND	ND	ND	ND	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00
Materials for recycling	kg	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	ND	ND	ND	ND	ND	ND	ND	0,00E+00	0,00E+00	5,90E-01	0,00E+00	0,00E+00
Materials for energy rec	kg	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	ND	ND	ND	ND	ND	ND	ND	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00
Exported energy – Electricity	MJ	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	1,00E+01	ND	ND	ND	ND	ND	ND	ND	0,00E+00	0,00E+00	1,11E+02	0,00E+00	0,00E+00
Exported energy – Heat	MJ	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	2,01E+01	ND	ND	ND	ND	ND	ND	ND	0,00E+00	0,00E+00	2,21E+02	0,00E+00	0,00E+00

**ADDITIONAL INDICATOR – GWP-GHG**

Impact category	Unit	A1	A2	A3	A1-A3	A4	A5	B1	B2	B3	B4	B5	B6	B7	C1	C2	C3	C4	D
GWP-GHG <sup>9)</sup>	kg CO <sub>2</sub> e	1,97E+01	1,90E+00	1,41E+01	3,58E+01	5,75E-01	6,47E-02	ND	ND	ND	ND	ND	ND	ND	0,00E+00	1,12E-01	2,30E+00	1,18E-02	-3,94E+01

9) This indicator includes all greenhouse gases excluding biogenic carbon dioxide uptake and emissions and biogenic carbon stored in the product. In addition, the characterisation factors for the flows – CH<sub>4</sub> fossil, CH<sub>4</sub> biogenic and Dinitrogen monoxide – were updated. This indicator is identical to the GWP-total of EN 15804:2012+A2:2019 except that the characterisation factor for biogenic CO<sub>2</sub> is set to zero.

## ENVIRONMENTAL IMPACT DATA - FLUSH DOOR LEAF AND FRAME M9X21 WITH HPL

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

### CORE ENVIRONMENTAL IMPACT INDICATORS – EN 15804+A2, EF 3.1

Impact category	Unit	A1	A2	A3	A1-A3	A4	A5	B1	B2	B3	B4	B5	B6	B7	C1	C2	C3	C4	D
GWP – total <sup>1)</sup>	kg CO <sub>2</sub> e	-8,98E+00	2,02E+00	1,78E+01	1,08E+01	5,75E-01	6,18E-01	ND	ND	ND	ND	ND	ND	ND	0,00E+00	1,12E-01	3,04E+01	1,53E+00	-4,07E+01
GWP – fossil	kg CO <sub>2</sub> e	2,48E+01	2,02E+00	1,46E+01	4,15E+01	5,75E-01	6,46E-02	ND	ND	ND	ND	ND	ND	ND	0,00E+00	1,12E-01	1,64E+00	1,18E-02	-4,06E+01
GWP – biogenic	kg CO <sub>2</sub> e	-3,40E+01	4,20E-04	3,13E+00	-3,09E+01	1,02E-04	5,54E-01	ND	ND	ND	ND	ND	ND	ND	0,00E+00	1,22E-06	2,88E+01	1,51E+00	0,00E+00
GWP – LULUC	kg CO <sub>2</sub> e	2,38E-01	9,01E-04	3,17E-02	2,71E-01	2,55E-04	2,94E-05	ND	ND	ND	ND	ND	ND	ND	0,00E+00	5,00E-05	5,97E-04	7,46E-06	-3,66E-03
Ozone depletion pot.	kg CFC-11e	1,09E-06	2,98E-08	1,11E-07	1,23E-06	9,94E-09	4,91E-10	ND	ND	ND	ND	ND	ND	ND	0,00E+00	1,65E-09	1,00E-08	3,00E-10	-5,73E-07
Acidification potential	mol H <sup>+</sup> e	1,48E-01	7,64E-03	9,53E-02	2,51E-01	1,00E-02	3,17E-04	ND	ND	ND	ND	ND	ND	ND	0,00E+00	3,81E-04	4,82E-03	8,21E-05	-8,75E-02
EP-freshwater <sup>2)</sup>	kg Pe	1,24E-02	1,55E-04	3,01E-03	1,56E-02	2,70E-05	1,46E-05	ND	ND	ND	ND	ND	ND	ND	0,00E+00	8,70E-06	2,68E-04	8,99E-06	-7,10E-03
EP-marine	kg Ne	3,56E-02	2,45E-03	1,90E-02	5,71E-02	2,54E-03	1,62E-04	ND	ND	ND	ND	ND	ND	ND	0,00E+00	1,25E-04	2,15E-03	3,81E-04	-1,99E-02
EP-terrestrial	mol Ne	3,67E-01	2,68E-02	2,03E-01	5,97E-01	2,82E-02	1,41E-03	ND	ND	ND	ND	ND	ND	ND	0,00E+00	1,36E-03	2,12E-02	3,38E-04	-2,07E-01
POCP (“smog”) <sup>3)</sup>	kg NMVOCe	1,29E-01	1,07E-02	5,84E-02	1,98E-01	8,19E-03	3,83E-04	ND	ND	ND	ND	ND	ND	ND	0,00E+00	5,62E-04	5,84E-03	1,37E-04	-8,42E-02
ADP-minerals & metals <sup>4)</sup>	kg Sbe	1,06E-03	5,58E-06	1,31E-05	1,08E-03	1,02E-06	2,43E-07	ND	ND	ND	ND	ND	ND	ND	0,00E+00	3,12E-07	1,69E-06	2,60E-08	-4,12E-05
ADP-fossil resources	MJ	4,10E+02	2,92E+01	1,67E+02	6,07E+02	7,75E+00	4,63E-01	ND	ND	ND	ND	ND	ND	ND	0,00E+00	1,62E+00	8,99E+00	2,57E-01	-5,61E+02
Water use <sup>5)</sup>	m <sup>3</sup> e depr.	1,28E+01	1,43E-01	1,57E+02	1,70E+02	2,98E-02	4,95E-02	ND	ND	ND	ND	ND	ND	ND	0,00E+00	8,01E-03	7,29E-01	1,23E-03	-2,47E+00

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

**ADDITIONAL (OPTIONAL) ENVIRONMENTAL IMPACT INDICATORS – EN 15804+A2, EF 3.1**

Impact category	Unit	A1	A2	A3	A1-A3	A4	A5	B1	B2	B3	B4	B5	B6	B7	C1	C2	C3	C4	D
Particulate matter	Incidence	2,25E-06	2,00E-07	7,10E-07	3,16E-06	3,43E-08	4,36E-09	ND	ND	ND	ND	ND	ND	ND	0,00E+00	1,12E-08	5,85E-08	1,87E-09	-7,87E-07
Ionizing radiation <sup>6)</sup>	kBq 11225a	1,94E+00	2,54E-02	4,03E-01	2,37E+00	6,23E-03	1,80E-03	ND	ND	ND	ND	ND	ND	ND	0,00E+00	1,41E-03	9,77E-02	2,52E-04	-2,81E+00
Ecotoxicity (freshwater)	CTUe	3,77E+02	4,10E+00	3,95E+01	4,21E+02	7,30E-01	3,13E-01	ND	ND	ND	ND	ND	ND	ND	0,00E+00	2,29E-01	3,11E+00	1,23E-01	-5,95E+01
Human toxicity, cancer	CTUh	5,00E-08	3,37E-10	2,33E-09	5,27E-08	1,08E-10	5,74E-11	ND	ND	ND	ND	ND	ND	ND	0,00E+00	1,84E-11	1,91E-09	3,53E-12	-1,70E-08
Human tox. non-cancer	CTUh	3,90E-07	1,88E-08	1,12E-07	5,21E-07	3,41E-09	3,08E-09	ND	ND	ND	ND	ND	ND	ND	0,00E+00	1,05E-09	4,38E-08	2,76E-10	-1,56E-07
SQP <sup>7)</sup>	-	2,82E+03	2,90E+01	1,93E+02	3,04E+03	4,18E+00	3,82E-01	ND	ND	ND	ND	ND	ND	ND	0,00E+00	1,63E+00	3,77E+00	6,01E-01	-4,69E+01

6) EN 15804+A2 disclaimer for ionizing radiation, human health. This impact category deals mainly with the eventual impact of low-dose ionizing radiation on human health of the nuclear fuel cycle. It does not consider effects due to possible nuclear accidents, occupational exposure nor due to radioactive waste disposal in underground facilities. Potential ionizing radiation from the soil, from radon and from some construction materials is also not measured by this indicator; 7) SQP = Land use related impacts/soil quality.

**USE OF NATURAL RESOURCES**

Impact category	Unit	A1	A2	A3	A1-A3	A4	A5	B1	B2	B3	B4	B5	B6	B7	C1	C2	C3	C4	D
Renew. PER as energy <sup>8)</sup>	MJ	2,55E+02	3,99E-01	3,54E+01	2,91E+02	8,96E-02	-2,83E+01	ND	ND	ND	ND	ND	ND	ND	0,00E+00	2,22E-02	-5,24E+02	-1,76E+01	-9,83E+00
Renew. PER as material	MJ	3,32E+02	0,00E+00	-4,50E+01	2,87E+02	0,00E+00	-4,73E+00	ND	ND	ND	ND	ND	ND	ND	0,00E+00	0,00E+00	-2,69E+02	-1,41E+01	0,00E+00
Total use of renew. PER	MJ	5,88E+02	3,99E-01	-9,56E+00	5,78E+02	8,96E-02	-3,31E+01	ND	ND	ND	ND	ND	ND	ND	0,00E+00	2,22E-02	-7,92E+02	-3,17E+01	-9,83E+00
Non-re. PER as energy	MJ	3,55E+02	2,92E+01	1,51E+02	5,36E+02	7,75E+00	-5,87E+00	ND	ND	ND	ND	ND	ND	ND	0,00E+00	1,62E+00	4,74E+00	2,57E-01	-5,61E+02
Non-re. PER as material	MJ	5,49E+01	0,00E+00	-5,20E+00	4,97E+01	0,00E+00	-6,22E+00	ND	ND	ND	ND	ND	ND	ND	0,00E+00	0,00E+00	-4,13E+01	-2,17E+00	0,00E+00
Total use of non-re. PER	MJ	4,10E+02	2,92E+01	1,46E+02	5,85E+02	7,75E+00	-1,21E+01	ND	ND	ND	ND	ND	ND	ND	0,00E+00	1,62E+00	-3,65E+01	-1,91E+00	-5,61E+02
Secondary materials	kg	1,27E+00	1,24E-02	3,81E-01	1,66E+00	3,37E-03	1,18E-03	ND	ND	ND	ND	ND	ND	ND	0,00E+00	6,90E-04	9,68E-03	9,31E-05	3,54E-01
Renew. secondary fuels	MJ	1,22E+01	1,56E-04	2,28E+01	3,50E+01	2,48E-05	6,64E-06	ND	ND	ND	ND	ND	ND	ND	0,00E+00	8,77E-06	6,50E-05	1,75E-06	-2,66E-04
Non-ren. secondary fuels	MJ	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	ND	ND	ND	ND	ND	ND	ND	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00
Use of net fresh water	m <sup>3</sup>	3,49E-01	4,28E-03	1,69E-01	5,22E-01	8,16E-04	3,82E-04	ND	ND	ND	ND	ND	ND	ND	0,00E+00	2,40E-04	7,18E-03	-3,84E-03	-1,97E-01

8) PER = Primary energy resources.

**END OF LIFE – WASTE**

Impact category	Unit	A1	A2	A3	A1-A3	A4	A5	B1	B2	B3	B4	B5	B6	B7	C1	C2	C3	C4	D
Hazardous waste	kg	2,03E+00	4,92E-02	2,07E-01	2,28E+00	1,03E-02	1,13E-02	ND	ND	ND	ND	ND	ND	ND	0,00E+00	2,75E-03	1,57E-01	4,48E-04	-2,37E+00
Non-hazardous waste	kg	6,27E+01	9,10E-01	2,83E+01	9,19E+01	1,75E-01	1,45E+00	ND	ND	ND	ND	ND	ND	ND	0,00E+00	5,08E-02	2,12E+01	5,16E+00	-3,81E+01
Radioactive waste	kg	1,31E-03	6,22E-06	7,98E-05	1,40E-03	1,53E-06	4,57E-07	ND	ND	ND	ND	ND	ND	ND	0,00E+00	3,46E-07	2,50E-05	6,16E-08	-6,90E-04

**END OF LIFE – OUTPUT FLOWS**

Impact category	Unit	A1	A2	A3	A1-A3	A4	A5	B1	B2	B3	B4	B5	B6	B7	C1	C2	C3	C4	D
Components for re-use	kg	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	ND	ND	ND	ND	ND	ND	ND	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00
Materials for recycling	kg	4,69E-02	0,00E+00	0,00E+00	4,69E-02	0,00E+00	5,15E-01	ND	ND	ND	ND	ND	ND	ND	0,00E+00	0,00E+00	5,90E-01	0,00E+00	0,00E+00
Materials for energy rec	kg	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	ND	ND	ND	ND	ND	ND	ND	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00
Exported energy – Electricity	MJ	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	1,00E+01	ND	ND	ND	ND	ND	ND	ND	0,00E+00	0,00E+00	1,12E+02	0,00E+00	0,00E+00
Exported energy – Heat	MJ	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	2,01E+01	ND	ND	ND	ND	ND	ND	ND	0,00E+00	0,00E+00	2,25E+02	0,00E+00	0,00E+00

**ADDITIONAL INDICATOR – GWP-GHG**

Impact category	Unit	A1	A2	A3	A1-A3	A4	A5	B1	B2	B3	B4	B5	B6	B7	C1	C2	C3	C4	D
GWP-GHG <sup>9)</sup>	kg CO <sub>2</sub> e	2,51E+01	2,02E+00	1,47E+01	4,18E+01	5,75E-01	6,47E-02	ND	ND	ND	ND	ND	ND	ND	0,00E+00	1,12E-01	1,64E+00	1,18E-02	-4,07E+01

9) This indicator includes all greenhouse gases excluding biogenic carbon dioxide uptake and emissions and biogenic carbon stored in the product. In addition, the characterisation factors for the flows – CH<sub>4</sub> fossil, CH<sub>4</sub> biogenic and Dinitrogen monoxide – were updated. This indicator is identical to the GWP-total of EN 15804:2012+A2:2019 except that the characterisation factor for biogenic CO<sub>2</sub> is set to zero.

## ENVIRONMENTAL IMPACT DATA - FLUSH 1R DOOR LEAF AND FRAME M9X21

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

### CORE ENVIRONMENTAL IMPACT INDICATORS – EN 15804+A2, EF 3.1

Impact category	Unit	A1	A2	A3	A1-A3	A4	A5	B1	B2	B3	B4	B5	B6	B7	C1	C2	C3	C4	D
GWP – total <sup>1)</sup>	kg CO <sub>2</sub> e	-1,19E+01	7,98E-01	1,99E+01	8,82E+00	4,99E-01	6,04E-01	ND	ND	ND	ND	ND	ND	ND	0,00E+00	9,90E-02	2,54E+01	1,28E+00	-2,75E+01
GWP – fossil	kg CO <sub>2</sub> e	1,85E+01	7,98E-01	1,47E+01	3,40E+01	4,99E-01	5,15E-02	ND	ND	ND	ND	ND	ND	ND	0,00E+00	9,89E-02	1,76E+00	3,36E-02	-2,75E+01
GWP – biogenic	kg CO <sub>2</sub> e	-3,07E+01	1,59E-04	5,19E+00	-2,55E+01	8,83E-05	5,52E-01	ND	ND	ND	ND	ND	ND	ND	0,00E+00	4,90E-06	2,36E+01	1,24E+00	0,00E+00
GWP – LULUC	kg CO <sub>2</sub> e	2,59E-01	3,54E-04	3,17E-02	2,91E-01	2,21E-04	2,52E-05	ND	ND	ND	ND	ND	ND	ND	0,00E+00	4,43E-05	5,22E-04	2,09E-05	-2,65E-03
Ozone depletion pot.	kg CFC-11e	3,29E-07	1,19E-08	1,16E-07	4,57E-07	8,63E-09	3,33E-10	ND	ND	ND	ND	ND	ND	ND	0,00E+00	1,46E-09	8,59E-09	8,64E-10	-3,92E-07
Acidification potential	mol H <sup>+</sup> e	1,46E-01	2,77E-03	9,64E-02	2,45E-01	8,71E-03	2,06E-04	ND	ND	ND	ND	ND	ND	ND	0,00E+00	3,37E-04	3,87E-03	2,34E-04	-6,69E-02
EP-freshwater <sup>2)</sup>	kg Pe	9,43E-03	6,18E-05	3,03E-03	1,25E-02	2,35E-05	1,01E-05	ND	ND	ND	ND	ND	ND	ND	0,00E+00	7,70E-06	2,22E-04	9,04E-06	-4,77E-03
EP-marine	kg Ne	3,29E-02	9,21E-04	1,93E-02	5,32E-02	2,20E-03	1,05E-04	ND	ND	ND	ND	ND	ND	ND	0,00E+00	1,11E-04	1,68E-03	3,45E-04	-1,46E-02
EP-terrestrial	mol Ne	3,46E-01	1,00E-02	2,08E-01	5,64E-01	2,44E-02	8,58E-04	ND	ND	ND	ND	ND	ND	ND	0,00E+00	1,21E-03	1,66E-02	9,67E-04	-1,54E-01
POCP (“smog”) <sup>3)</sup>	kg NMVOCe	1,14E-01	4,08E-03	5,92E-02	1,77E-01	7,10E-03	2,38E-04	ND	ND	ND	ND	ND	ND	ND	0,00E+00	4,97E-04	4,65E-03	3,50E-04	-6,00E-02
ADP-minerals & metals <sup>4)</sup>	kg Sbe	5,78E-04	2,24E-06	1,32E-05	5,94E-04	8,82E-07	2,13E-07	ND	ND	ND	ND	ND	ND	ND	0,00E+00	2,76E-07	1,44E-06	7,52E-08	-3,32E-05
ADP-fossil resources	MJ	2,89E+02	1,16E+01	1,68E+02	4,68E+02	6,72E+00	3,28E-01	ND	ND	ND	ND	ND	ND	ND	0,00E+00	1,44E+00	7,72E+00	7,39E-01	-3,76E+02
Water use <sup>5)</sup>	m <sup>3</sup> e depr.	8,24E+00	5,71E-02	1,57E+02	1,65E+02	2,58E-02	2,91E-02	ND	ND	ND	ND	ND	ND	ND	0,00E+00	7,09E-03	5,54E-01	3,50E-03	-1,84E+00

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

**ADDITIONAL (OPTIONAL) ENVIRONMENTAL IMPACT INDICATORS – EN 15804+A2, EF 3.1**

Impact category	Unit	A1	A2	A3	A1-A3	A4	A5	B1	B2	B3	B4	B5	B6	B7	C1	C2	C3	C4	D
Particulate matter	Incidence	2,78E-06	7,96E-08	7,25E-07	3,59E-06	2,97E-08	2,90E-09	ND	ND	ND	ND	ND	ND	ND	0,00E+00	9,91E-09	4,75E-08	5,37E-09	-6,11E-07
Ionizing radiation <sup>6)</sup>	kBq 11225a	2,05E+00	1,03E-02	4,04E-01	2,47E+00	5,40E-03	1,65E-03	ND	ND	ND	ND	ND	ND	ND	0,00E+00	1,25E-03	8,69E-02	6,82E-04	-1,91E+00
Ecotoxicity (freshwater)	CTUe	3,03E+02	1,64E+00	4,05E+01	3,45E+02	6,33E-01	2,40E-01	ND	ND	ND	ND	ND	ND	ND	0,00E+00	2,03E-01	2,59E+00	2,30E-01	-4,57E+01
Human toxicity, cancer	CTUh	2,70E-08	1,36E-10	2,47E-09	2,96E-08	9,40E-11	3,88E-11	ND	ND	ND	ND	ND	ND	ND	0,00E+00	1,63E-11	2,04E-09	8,78E-12	-1,14E-08
Human tox. non-cancer	CTUh	2,94E-07	7,52E-09	1,15E-07	4,16E-07	2,96E-09	1,84E-09	ND	ND	ND	ND	ND	ND	ND	0,00E+00	9,30E-10	3,44E-08	3,40E-10	-1,06E-07
SQP <sup>7)</sup>	-	3,54E+03	1,15E+01	1,93E+02	3,75E+03	3,62E+00	3,08E-01	ND	ND	ND	ND	ND	ND	ND	0,00E+00	1,45E+00	3,40E+00	1,74E+00	-3,38E+01

6) EN 15804+A2 disclaimer for ionizing radiation, human health. This impact category deals mainly with the eventual impact of low-dose ionizing radiation on human health of the nuclear fuel cycle. It does not consider effects due to possible nuclear accidents, occupational exposure nor due to radioactive waste disposal in underground facilities. Potential ionizing radiation from the soil, from radon and from some construction materials is also not measured by this indicator; 7) SQP = Land use related impacts/soil quality.

**USE OF NATURAL RESOURCES**

Impact category	Unit	A1	A2	A3	A1-A3	A4	A5	B1	B2	B3	B4	B5	B6	B7	C1	C2	C3	C4	D
Renew. PER as energy <sup>8)</sup>	MJ	3,91E+02	1,60E-01	4,08E+01	4,32E+02	7,78E-02	-1,78E+01	ND	ND	ND	ND	ND	ND	ND	0,00E+00	1,97E-02	-4,13E+02	-1,29E+01	-7,03E+00
Renew. PER as material	MJ	2,54E+02	0,00E+00	-4,22E+01	2,12E+02	0,00E+00	-4,72E+00	ND	ND	ND	ND	ND	ND	ND	0,00E+00	0,00E+00	-1,97E+02	-1,04E+01	0,00E+00
Total use of renew. PER	MJ	6,45E+02	1,60E-01	-1,47E+00	6,43E+02	7,78E-02	-2,25E+01	ND	ND	ND	ND	ND	ND	ND	0,00E+00	1,97E-02	-6,10E+02	-2,32E+01	-7,03E+00
Non-re. PER as energy	MJ	2,63E+02	1,16E+01	1,51E+02	4,26E+02	6,72E+00	-5,96E+00	ND	ND	ND	ND	ND	ND	ND	0,00E+00	1,44E+00	2,45E+00	6,34E-01	-3,76E+02
Non-re. PER as material	MJ	2,66E+01	0,00E+00	2,37E+00	2,90E+01	0,00E+00	-6,16E+00	ND	ND	ND	ND	ND	ND	ND	0,00E+00	0,00E+00	-2,17E+01	-1,14E+00	0,00E+00
Total use of non-re. PER	MJ	2,90E+02	1,16E+01	1,54E+02	4,55E+02	6,72E+00	-1,21E+01	ND	ND	ND	ND	ND	ND	ND	0,00E+00	1,44E+00	-1,93E+01	-5,09E-01	-3,76E+02
Secondary materials	kg	4,95E-01	4,93E-03	3,80E-01	8,80E-01	2,92E-03	9,57E-04	ND	ND	ND	ND	ND	ND	ND	0,00E+00	6,11E-04	7,74E-03	2,69E-04	1,54E-01
Renew. secondary fuels	MJ	3,40E+00	6,22E-05	3,70E+01	4,04E+01	2,15E-05	5,87E-06	ND	ND	ND	ND	ND	ND	ND	0,00E+00	7,76E-06	5,62E-05	5,05E-06	-6,95E-04
Non-ren. secondary fuels	MJ	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	ND	ND	ND	ND	ND	ND	ND	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00
Use of net fresh water	m <sup>3</sup>	2,18E-01	1,71E-03	1,69E-01	3,89E-01	7,08E-04	2,50E-04	ND	ND	ND	ND	ND	ND	ND	0,00E+00	2,12E-04	5,39E-03	-1,11E-02	-1,37E-01

8) PER = Primary energy resources.

**END OF LIFE – WASTE**

Impact category	Unit	A1	A2	A3	A1-A3	A4	A5	B1	B2	B3	B4	B5	B6	B7	C1	C2	C3	C4	D
Hazardous waste	kg	1,63E+00	1,94E-02	2,15E-01	1,87E+00	8,95E-03	7,22E-03	ND	ND	ND	ND	ND	ND	ND	0,00E+00	2,43E-03	1,28E-01	1,32E-03	-1,54E+00
Non-hazardous waste	kg	6,43E+01	3,62E-01	2,82E+01	9,28E+01	1,52E-01	8,11E-01	ND	ND	ND	ND	ND	ND	ND	0,00E+00	4,50E-02	1,65E+01	1,49E+01	-2,58E+01
Radioactive waste	kg	1,29E-03	2,52E-06	8,00E-05	1,37E-03	1,33E-06	4,21E-07	ND	ND	ND	ND	ND	ND	ND	0,00E+00	3,06E-07	2,23E-05	1,67E-07	-4,70E-04

**END OF LIFE – OUTPUT FLOWS**

Impact category	Unit	A1	A2	A3	A1-A3	A4	A5	B1	B2	B3	B4	B5	B6	B7	C1	C2	C3	C4	D
Components for re-use	kg	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	ND	ND	ND	ND	ND	ND	ND	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00
Materials for recycling	kg	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	5,13E-01	ND	ND	ND	ND	ND	ND	ND	0,00E+00	0,00E+00	1,27E+00	0,00E+00	0,00E+00
Materials for energy rec	kg	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	ND	ND	ND	ND	ND	ND	ND	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00
Exported energy – Electricity	MJ	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	6,28E+00	ND	ND	ND	ND	ND	ND	ND	0,00E+00	0,00E+00	8,16E+01	0,00E+00	0,00E+00
Exported energy – Heat	MJ	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	1,26E+01	ND	ND	ND	ND	ND	ND	ND	0,00E+00	0,00E+00	1,63E+02	0,00E+00	0,00E+00

**ADDITIONAL INDICATOR – GWP-GHG**

Impact category	Unit	A1	A2	A3	A1-A3	A4	A5	B1	B2	B3	B4	B5	B6	B7	C1	C2	C3	C4	D
GWP-GHG <sup>9)</sup>	kg CO <sub>2</sub> e	1,88E+01	7,98E-01	1,47E+01	3,43E+01	4,99E-01	5,15E-02	ND	ND	ND	ND	ND	ND	ND	0,00E+00	9,90E-02	1,76E+00	3,37E-02	-2,75E+01

9) This indicator includes all greenhouse gases excluding biogenic carbon dioxide uptake and emissions and biogenic carbon stored in the product. In addition, the characterisation factors for the flows – CH<sub>4</sub> fossil, CH<sub>4</sub> biogenic and Dinitrogen monoxide – were updated. This indicator is identical to the GWP-total of EN 15804:2012+A2:2019 except that the characterisation factor for biogenic CO<sub>2</sub> is set to zero.

# ENVIRONMENTAL IMPACT DATA - FLUSH 5A DOOR-LEAF WITH GLASS AND FRAME M9X21. FLUSH-EDGE AND REBATED, PAINT FINISH

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

## CORE ENVIRONMENTAL IMPACT INDICATORS – EN 15804+A2, EF 3.1

Impact category	Unit	A1	A2	A3	A1-A3	A4	A5	B1	B2	B3	B4	B5	B6	B7	C1	C2	C3	C4	D
GWP – total <sup>1)</sup>	kg CO <sub>2</sub> e	-9,48E+00	8,11E-01	2,14E+01	1,27E+01	5,59E-01	6,04E-01	ND	ND	ND	ND	ND	ND	ND	0,00E+00	1,12E-01	2,76E+01	1,38E+00	-5,03E+01
GWP – fossil	kg CO <sub>2</sub> e	2,36E+01	8,10E-01	1,52E+01	3,96E+01	5,59E-01	5,14E-02	ND	ND	ND	ND	ND	ND	ND	0,00E+00	1,12E-01	2,34E+00	5,06E-02	-5,03E+01
GWP – biogenic	kg CO <sub>2</sub> e	-3,36E+01	1,71E-04	6,20E+00	-2,74E+01	9,90E-05	5,52E-01	ND	ND	ND	ND	ND	ND	ND	0,00E+00	7,81E-06	2,52E+01	1,33E+00	0,00E+00
GWP – LULUC	kg CO <sub>2</sub> e	5,34E-01	3,60E-04	3,31E-02	5,68E-01	2,48E-04	2,52E-05	ND	ND	ND	ND	ND	ND	ND	0,00E+00	4,99E-05	5,85E-04	3,14E-05	-4,83E-03
Ozone depletion pot.	kg CFC-11e	4,08E-07	1,21E-08	1,20E-07	5,40E-07	9,67E-09	3,32E-10	ND	ND	ND	ND	ND	ND	ND	0,00E+00	1,65E-09	9,54E-09	1,30E-09	-7,23E-07
Acidification potential	mol H <sup>+</sup> e	2,00E-01	2,82E-03	9,71E-02	3,00E-01	9,77E-03	2,05E-04	ND	ND	ND	ND	ND	ND	ND	0,00E+00	3,81E-04	4,13E-03	3,52E-04	-1,21E-01
EP-freshwater <sup>2)</sup>	kg Pe	1,06E-02	6,27E-05	3,13E-03	1,38E-02	2,63E-05	1,01E-05	ND	ND	ND	ND	ND	ND	ND	0,00E+00	8,69E-06	2,41E-04	1,08E-05	-8,64E-03
EP-marine	kg Ne	3,93E-02	9,37E-04	1,96E-02	5,98E-02	2,47E-03	1,05E-04	ND	ND	ND	ND	ND	ND	ND	0,00E+00	1,25E-04	1,77E-03	3,94E-04	-2,64E-02
EP-terrestrial	mol Ne	3,98E-01	1,02E-02	2,10E-01	6,18E-01	2,74E-02	8,58E-04	ND	ND	ND	ND	ND	ND	ND	0,00E+00	1,36E-03	1,75E-02	1,46E-03	-2,78E-01
POCP (“smog”) <sup>3)</sup>	kg NMVOCe	1,34E-01	4,15E-03	6,05E-02	1,98E-01	7,96E-03	2,38E-04	ND	ND	ND	ND	ND	ND	ND	0,00E+00	5,61E-04	4,95E-03	5,19E-04	-1,09E-01
ADP-minerals & metals <sup>4)</sup>	kg Sbe	6,20E-04	2,27E-06	1,41E-05	6,37E-04	9,88E-07	2,13E-07	ND	ND	ND	ND	ND	ND	ND	0,00E+00	3,11E-07	1,60E-06	1,13E-07	-5,60E-05
ADP-fossil resources	MJ	3,45E+02	1,17E+01	1,70E+02	5,27E+02	7,54E+00	3,28E-01	ND	ND	ND	ND	ND	ND	ND	0,00E+00	1,62E+00	8,57E+00	1,11E+00	-6,92E+02
Water use <sup>5)</sup>	m <sup>3</sup> e depr.	9,14E+00	5,80E-02	1,57E+02	1,66E+02	2,90E-02	2,91E-02	ND	ND	ND	ND	ND	ND	ND	0,00E+00	8,00E-03	5,73E-01	5,27E-03	-3,31E+00

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

**ADDITIONAL (OPTIONAL) ENVIRONMENTAL IMPACT INDICATORS – EN 15804+A2, EF 3.1**

Impact category	Unit	A1	A2	A3	A1-A3	A4	A5	B1	B2	B3	B4	B5	B6	B7	C1	C2	C3	C4	D
Particulate matter	Incidence	3,30E-06	8,09E-08	7,34E-07	4,12E-06	3,33E-08	2,90E-09	ND	ND	ND	ND	ND	ND	ND	0,00E+00	1,12E-08	5,11E-08	8,09E-09	-1,09E-06
Ionizing radiation <sup>6)</sup>	kBq	2,23E+00	1,05E-02	4,18E-01	2,66E+00	6,06E-03	1,65E-03	ND	ND	ND	ND	ND	ND	ND	0,00E+00	1,41E-03	9,83E-02	1,02E-03	-3,56E+00
Ecotoxicity (freshwater)	CTUe	4,04E+02	1,66E+00	4,41E+01	4,50E+02	7,10E-01	2,40E-01	ND	ND	ND	ND	ND	ND	ND	0,00E+00	2,29E-01	2,88E+00	3,25E-01	-8,26E+01
Human toxicity, cancer	CTUh	2,15E-08	1,38E-10	2,81E-09	2,44E-08	1,05E-10	3,87E-11	ND	ND	ND	ND	ND	ND	ND	0,00E+00	1,84E-11	2,72E-09	1,30E-11	-2,10E-08
Human tox. non-cancer	CTUh	3,26E-07	7,63E-09	1,18E-07	4,52E-07	3,32E-09	1,83E-09	ND	ND	ND	ND	ND	ND	ND	0,00E+00	1,05E-09	3,69E-08	4,36E-10	-1,93E-07
SQP <sup>7)</sup>	-	3,93E+03	1,16E+01	3,13E+02	4,26E+03	4,06E+00	3,07E-01	ND	ND	ND	ND	ND	ND	ND	0,00E+00	1,63E+00	3,87E+00	2,62E+00	-6,09E+01

6) EN 15804+A2 disclaimer for ionizing radiation, human health. This impact category deals mainly with the eventual impact of low-dose ionizing radiation on human health of the nuclear fuel cycle. It does not consider effects due to possible nuclear accidents, occupational exposure nor due to radioactive waste disposal in underground facilities. Potential ionizing radiation from the soil, from radon and from some construction materials is also not measured by this indicator; 7) SQP = Land use related impacts/soil quality.

**USE OF NATURAL RESOURCES**

Impact category	Unit	A1	A2	A3	A1-A3	A4	A5	B1	B2	B3	B4	B5	B6	B7	C1	C2	C3	C4	D
Renew. PER as energy <sup>8)</sup>	MJ	4,29E+02	1,63E-01	6,30E+01	4,92E+02	8,72E-02	-1,78E+01	ND	ND	ND	ND	ND	ND	ND	0,00E+00	2,22E-02	-4,36E+02	-1,30E+01	-1,27E+01
Renew. PER as material	MJ	2,73E+02	0,00E+00	-4,92E+01	2,23E+02	0,00E+00	-4,72E+00	ND	ND	ND	ND	ND	ND	ND	0,00E+00	0,00E+00	-2,08E+02	-1,09E+01	0,00E+00
Total use of renew. PER	MJ	7,01E+02	1,63E-01	1,38E+01	7,15E+02	8,72E-02	-2,25E+01	ND	ND	ND	ND	ND	ND	ND	0,00E+00	2,22E-02	-6,44E+02	-2,40E+01	-1,27E+01
Non-re. PER as energy	MJ	3,23E+02	1,17E+01	3,89E+02	7,23E+02	7,54E+00	-5,96E+00	ND	ND	ND	ND	ND	ND	ND	0,00E+00	1,62E+00	1,05E+00	9,38E-01	-6,92E+02
Non-re. PER as material	MJ	2,32E+01	0,00E+00	3,45E+00	2,67E+01	0,00E+00	-6,16E+00	ND	ND	ND	ND	ND	ND	ND	0,00E+00	0,00E+00	-1,95E+01	-1,03E+00	0,00E+00
Total use of non-re. PER	MJ	3,46E+02	1,17E+01	3,92E+02	7,50E+02	7,54E+00	-1,21E+01	ND	ND	ND	ND	ND	ND	ND	0,00E+00	1,62E+00	-1,84E+01	-8,83E-02	-6,92E+02
Secondary materials	kg	3,95E-01	5,00E-03	3,88E-01	7,88E-01	3,27E-03	9,56E-04	ND	ND	ND	ND	ND	ND	ND	0,00E+00	6,90E-04	8,26E-03	4,06E-04	3,99E-02
Renew. secondary fuels	MJ	3,68E+00	6,31E-05	3,60E+01	3,97E+01	2,41E-05	5,87E-06	ND	ND	ND	ND	ND	ND	ND	0,00E+00	8,76E-06	6,28E-05	7,62E-06	-1,16E-03
Non-ren. secondary fuels	MJ	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	ND	ND	ND	ND	ND	ND	ND	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00
Use of net fresh water	m <sup>3</sup>	2,42E-01	1,73E-03	4,82E-01	7,26E-01	7,94E-04	2,50E-04	ND	ND	ND	ND	ND	ND	ND	0,00E+00	2,40E-04	5,56E-03	-1,67E-02	-2,53E-01

8) PER = Primary energy resources.

**END OF LIFE – WASTE**

Impact category	Unit	A1	A2	A3	A1-A3	A4	A5	B1	B2	B3	B4	B5	B6	B7	C1	C2	C3	C4	D
Hazardous waste	kg	2,19E+00	1,98E-02	2,97E-01	2,50E+00	1,00E-02	7,22E-03	ND	ND	ND	ND	ND	ND	ND	0,00E+00	2,74E-03	1,41E-01	1,99E-03	-2,72E+00
Non-hazardous waste	kg	9,13E+01	3,68E-01	4,22E+01	1,34E+02	1,70E-01	8,11E-01	ND	ND	ND	ND	ND	ND	ND	0,00E+00	5,08E-02	1,73E+01	2,25E+01	-4,66E+01
Radioactive waste	kg	1,34E-03	2,56E-06	1,44E-04	1,48E-03	1,49E-06	4,20E-07	ND	ND	ND	ND	ND	ND	ND	0,00E+00	3,45E-07	2,52E-05	2,50E-07	-8,75E-04

**END OF LIFE – OUTPUT FLOWS**

Impact category	Unit	A1	A2	A3	A1-A3	A4	A5	B1	B2	B3	B4	B5	B6	B7	C1	C2	C3	C4	D
Components for re-use	kg	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	ND	ND	ND	ND	ND	ND	ND	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00
Materials for recycling	kg	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	5,12E-01	ND	ND	ND	ND	ND	ND	ND	0,00E+00	0,00E+00	1,92E+00	0,00E+00	0,00E+00
Materials for energy rec	kg	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	ND	ND	ND	ND	ND	ND	ND	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00
Exported energy – Electricity	MJ	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	6,28E+00	ND	ND	ND	ND	ND	ND	ND	0,00E+00	0,00E+00	1,51E+02	0,00E+00	0,00E+00
Exported energy – Heat	MJ	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	1,26E+01	ND	ND	ND	ND	ND	ND	ND	0,00E+00	0,00E+00	3,03E+02	0,00E+00	0,00E+00

**ADDITIONAL INDICATOR – GWP-GHG**

Impact category	Unit	A1	A2	A3	A1-A3	A4	A5	B1	B2	B3	B4	B5	B6	B7	C1	C2	C3	C4	D
GWP-GHG <sup>9)</sup>	kg CO <sub>2</sub> e	2,41E+01	8,11E-01	1,52E+01	4,01E+01	5,59E-01	5,15E-02	ND	ND	ND	ND	ND	ND	ND	0,00E+00	1,12E-01	2,34E+00	5,07E-02	-5,03E+01

9) This indicator includes all greenhouse gases excluding biogenic carbon dioxide uptake and emissions and biogenic carbon stored in the product. In addition, the characterisation factors for the flows – CH<sub>4</sub> fossil, CH<sub>4</sub> biogenic and Dinitrogen monoxide – were updated. This indicator is identical to the GWP-total of EN 15804:2012+A2:2019 except that the characterisation factor for biogenic CO<sub>2</sub> is set to zero.

# ENVIRONMENTAL IMPACT DATA - RW37DB DOOR-LEAF WITH GLASS AND FRAME M9X21. FLUSH-EDGE AND REBATED, WITH HPL

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

## ADDITIONAL CORE ENVIRONMENTAL IMPACT INDICATORS – EN 15804+A2, EF 3.1

Impact category	Unit	A1	A2	A3	A1-A3	A4	A5	B1	B2	B3	B4	B5	B6	B7	C1	C2	C3	C4	D
GWP – total <sup>1)</sup>	kg CO <sub>2</sub> e	8,44E+00	1,08E+00	2,66E+01	3,61E+01	7,80E-01	6,18E-01	ND	ND	ND	ND	ND	ND	ND	0,00E+00	1,55E-01	3,02E+01	1,54E+00	-3,33E+01
GWP – fossil	kg CO <sub>2</sub> e	4,74E+01	1,08E+00	1,67E+01	6,52E+01	7,79E-01	6,47E-02	ND	ND	ND	ND	ND	ND	ND	0,00E+00	1,55E-01	2,74E+00	9,69E-02	-3,33E+01
GWP – biogenic	kg CO <sub>2</sub> e	-3,93E+01	1,79E-04	9,90E+00	-2,94E+01	1,38E-04	5,54E-01	ND	ND	ND	ND	ND	ND	ND	0,00E+00	1,61E-05	2,74E+01	1,44E+00	0,00E+00
GWP – LULUC	kg CO <sub>2</sub> e	2,96E-01	4,68E-04	3,18E-02	3,28E-01	3,46E-04	2,95E-05	ND	ND	ND	ND	ND	ND	ND	0,00E+00	6,93E-05	8,07E-04	6,01E-05	-3,64E-03
Ozone depletion pot.	kg CFC-11e	1,79E-06	1,68E-08	1,19E-07	1,92E-06	1,35E-08	4,91E-10	ND	ND	ND	ND	ND	ND	ND	0,00E+00	2,29E-09	1,28E-08	2,49E-09	-4,74E-07
Acidification potential	mol H <sup>+</sup> e	3,13E-01	4,70E-03	9,77E-02	4,15E-01	1,36E-02	3,17E-04	ND	ND	ND	ND	ND	ND	ND	0,00E+00	5,28E-04	5,23E-03	6,72E-04	-9,95E-02
EP-freshwater <sup>2)</sup>	kg Pe	1,80E-02	8,09E-05	3,19E-03	2,13E-02	3,67E-05	1,46E-05	ND	ND	ND	ND	ND	ND	ND	0,00E+00	1,21E-05	3,14E-04	1,62E-05	-6,04E-03
EP-marine	kg Ne	6,61E-02	1,55E-03	2,00E-02	8,77E-02	3,45E-03	1,62E-04	ND	ND	ND	ND	ND	ND	ND	0,00E+00	1,73E-04	2,19E-03	5,54E-04	-2,05E-02
EP-terrestrial	mol Ne	7,09E-01	1,69E-02	2,14E-01	9,40E-01	3,82E-02	1,41E-03	ND	ND	ND	ND	ND	ND	ND	0,00E+00	1,89E-03	2,16E-02	2,78E-03	-2,23E-01
POCP (“smog”) <sup>3)</sup>	kg NMVOce	2,32E-01	6,36E-03	6,07E-02	2,99E-01	1,11E-02	3,84E-04	ND	ND	ND	ND	ND	ND	ND	0,00E+00	7,78E-04	6,20E-03	9,82E-04	-8,14E-02
ADP-minerals & metals <sup>4)</sup>	kg Sbe	1,33E-03	3,04E-06	1,35E-05	1,35E-03	1,38E-06	2,43E-07	ND	ND	ND	ND	ND	ND	ND	0,00E+00	4,32E-07	2,17E-06	2,17E-07	-6,69E-05
ADP-fossil resources	MJ	8,00E+02	1,56E+01	1,69E+02	9,85E+02	1,05E+01	4,63E-01	ND	ND	ND	ND	ND	ND	ND	0,00E+00	2,25E+00	1,16E+01	2,13E+00	-4,44E+02
Water use <sup>5)</sup>	m <sup>3</sup> e depr.	1,68E+01	7,58E-02	1,57E+02	1,74E+02	4,04E-02	4,96E-02	ND	ND	ND	ND	ND	ND	ND	0,00E+00	1,11E-02	7,09E-01	1,01E-02	-2,76E+00

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

**ADDITIONAL (OPTIONAL) ENVIRONMENTAL IMPACT INDICATORS – EN 15804+A2, EF 3.1**

Impact category	Unit	A1	A2	A3	A1-A3	A4	A5	B1	B2	B3	B4	B5	B6	B7	C1	C2	C3	C4	D
Particulate matter	Incidence	4,12E-06	1,05E-07	7,37E-07	4,96E-06	4,65E-08	4,36E-09	ND	ND	ND	ND	ND	ND	ND	0,00E+00	1,55E-08	6,46E-08	1,55E-08	-9,79E-07
Ionizing radiation <sup>6)</sup>	kBq U235e	3,07E+00	1,48E-02	4,06E-01	3,49E+00	8,44E-03	1,80E-03	ND	ND	ND	ND	ND	ND	ND	0,00E+00	1,96E-03	1,37E-01	1,94E-03	-2,09E+00
Ecotoxicity (freshwater)	CTUe	5,33E+02	2,18E+00	4,68E+01	5,82E+02	9,90E-01	3,13E-01	ND	ND	ND	ND	ND	ND	ND	0,00E+00	3,18E-01	5,09E+00	5,89E-01	-6,82E+01
Human toxicity, cancer	CTUh	3,24E-08	2,07E-10	3,29E-09	3,59E-08	1,47E-10	5,74E-11	ND	ND	ND	ND	ND	ND	ND	0,00E+00	2,56E-11	1,95E-09	2,45E-11	-1,28E-08
Human tox. non-cancer	CTUh	5,58E-07	1,01E-08	1,38E-07	7,05E-07	4,63E-09	3,08E-09	ND	ND	ND	ND	ND	ND	ND	0,00E+00	1,45E-09	4,08E-08	7,14E-10	-1,36E-07
SQP <sup>7)</sup>	-	3,30E+03	1,43E+01	1,94E+02	3,51E+03	5,66E+00	3,82E-01	ND	ND	ND	ND	ND	ND	ND	0,00E+00	2,26E+00	5,42E+00	5,02E+00	-4,77E+01

6) EN 15804+A2 disclaimer for Ionizing radiation, human health. This impact category deals mainly with the eventual impact of low-dose ionizing radiation on human health of the nuclear fuel cycle. It does not consider effects due to possible nuclear accidents, occupational exposure nor due to radioactive waste disposal in underground facilities. Potential ionizing radiation from the soil, from radon and from some construction materials is also not measured by this indicator; 7) SQP = Land use related impacts/soil quality.

**USE OF NATURAL RESOURCES**

Impact category	Unit	A1	A2	A3	A1-A3	A4	A5	B1	B2	B3	B4	B5	B6	B7	C1	C2	C3	C4	D
Renew. PER as energy <sup>8)</sup>	MJ	4,00E+02	2,23E-01	5,31E+00	4,06E+02	1,22E-01	-2,83E+01	ND	ND	ND	ND	ND	ND	ND	0,00E+00	3,08E-02	-5,35E+02	-1,49E+01	-9,85E+00
Renew. PER as material	MJ	4,16E+02	0,00E+00	-1,02E+02	3,14E+02	0,00E+00	-4,73E+00	ND	ND	ND	ND	ND	ND	ND	0,00E+00	0,00E+00	-2,93E+02	-1,54E+01	0,00E+00
Total use of renew. PER	MJ	8,16E+02	2,23E-01	-9,66E+01	7,20E+02	1,22E-01	-3,31E+01	ND	ND	ND	ND	ND	ND	ND	0,00E+00	3,08E-02	-8,29E+02	-3,03E+01	-9,85E+00
Non-re. PER as energy	MJ	7,24E+02	1,56E+01	1,29E+02	8,69E+02	1,05E+01	-5,86E+00	ND	ND	ND	ND	ND	ND	ND	0,00E+00	2,25E+00	-7,91E+00	1,77E+00	-4,44E+02
Non-re. PER as material	MJ	7,58E+01	0,00E+00	-7,21E+00	6,86E+01	0,00E+00	-6,26E+00	ND	ND	ND	ND	ND	ND	ND	0,00E+00	0,00E+00	-5,28E+01	-9,54E+00	0,00E+00
Total use of non-re. PER	MJ	8,00E+02	1,56E+01	1,22E+02	9,38E+02	1,05E+01	-1,21E+01	ND	ND	ND	ND	ND	ND	ND	0,00E+00	2,25E+00	-6,07E+01	-7,78E+00	-4,44E+02
Secondary materials	kg	7,40E-01	6,65E-03	3,83E-01	1,13E+00	4,56E-03	1,18E-03	ND	ND	ND	ND	ND	ND	ND	0,00E+00	9,56E-04	1,01E-02	7,78E-04	9,94E-01
Renew. secondary fuels	MJ	4,44E+00	8,05E-05	3,84E+01	4,29E+01	3,36E-05	6,64E-06	ND	ND	ND	ND	ND	ND	ND	0,00E+00	1,21E-05	8,93E-05	1,46E-05	-2,07E-03
Non-ren. secondary fuels	MJ	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	ND	ND	ND	ND	ND	ND	ND	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00
Use of net fresh water	m <sup>3</sup>	4,65E-01	2,25E-03	1,73E-01	6,40E-01	1,11E-03	3,82E-04	ND	ND	ND	ND	ND	ND	ND	0,00E+00	3,32E-04	7,22E-03	-3,20E-02	-1,66E-01

8) PER = Primary energy resources.

**END OF LIFE – WASTE**

Impact category	Unit	A1	A2	A3	A1-A3	A4	A5	B1	B2	B3	B4	B5	B6	B7	C1	C2	C3	C4	D
Hazardous waste	kg	3,53E+00	2,54E-02	4,37E-01	3,99E+00	1,40E-02	1,13E-02	ND	ND	ND	ND	ND	ND	ND	0,00E+00	3,81E-03	1,56E-01	3,82E-03	-2,21E+00
Non-hazardous waste	kg	1,35E+02	4,81E-01	3,41E+01	1,69E+02	2,38E-01	1,45E+00	ND	ND	ND	ND	ND	ND	ND	0,00E+00	7,04E-02	2,03E+01	4,30E+01	-3,36E+01
Radioactive waste	kg	5,59E-03	3,63E-06	8,07E-05	5,67E-03	2,08E-06	4,57E-07	ND	ND	ND	ND	ND	ND	ND	0,00E+00	4,79E-07	3,52E-05	4,75E-07	-5,14E-04

**END OF LIFE – OUTPUT FLOWS**

Impact category	Unit	A1	A2	A3	A1-A3	A4	A5	B1	B2	B3	B4	B5	B6	B7	C1	C2	C3	C4	D
Components for re-use	kg	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	ND	ND	ND	ND	ND	ND	ND	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00
Materials for recycling	kg	4,69E-02	0,00E+00	0,00E+00	4,69E-02	0,00E+00	5,15E-01	ND	ND	ND	ND	ND	ND	ND	0,00E+00	0,00E+00	4,57E+00	0,00E+00	0,00E+00
Materials for energy rec	kg	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	ND	ND	ND	ND	ND	ND	ND	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00
Exported energy – Electricity	MJ	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	1,00E+01	ND	ND	ND	ND	ND	ND	ND	0,00E+00	0,00E+00	8,83E+01	0,00E+00	0,00E+00
Exported energy – Heat	MJ	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	2,01E+01	ND	ND	ND	ND	ND	ND	ND	0,00E+00	0,00E+00	1,77E+02	0,00E+00	0,00E+00

**ADDITIONAL INDICATOR – GWP-GHG**

Impact category	Unit	A1	A2	A3	A1-A3	A4	A5	B1	B2	B3	B4	B5	B6	B7	C1	C2	C3	C4	D
GWP-GHG <sup>9)</sup>	kg CO <sub>2</sub> e	4,77E+01	1,08E+00	1,67E+01	6,55E+01	7,80E-01	6,47E-02	ND	ND	ND	ND	ND	ND	ND	0,00E+00	1,55E-01	2,74E+00	9,69E-02	-3,33E+01

9) This indicator includes all greenhouse gases excluding biogenic carbon dioxide uptake and emissions and biogenic carbon stored in the product. In addition, the characterisation factors for the flows – CH<sub>4</sub> fossil, CH<sub>4</sub> biogenic and Dinitrogen monoxide – were updated. This indicator is identical to the GWP-total of EN 15804:2012+A2:2019 except that the characterisation factor for biogenic CO<sub>2</sub> is set to zero.

## SCENARIO DOCUMENTATION

### Manufacturing energy scenario documentation

Scenario parameter	Value
Electricity data source and quality	Electricity, Estonia, 2022 (One Click LCA, residual mix)
Electricity kgCO <sub>2e</sub> / kWh	0,99
District heating data source and quality	Heat production, wood chips from industry, at furnace 1000kW, state-of-the-art 2014
District heating kgCO <sub>2e</sub> / kWh	0,0025 (ecoinvent 3.10.1)

### Transport scenario documentation A4

Scenario parameter	Value
Fuel and vehicle type. Eg, electric truck, diesel powered truck	diesel powered truck and ferry
Average transport distance, km	truck 110
	ferry 118
Capacity utilization (including empty return) %	100
Bulk density of transported products	719 kg/m <sup>3</sup>
Volume capacity utilization factor	<1

### Installation scenario documentation A5

Scenario information	Group 1	Group 2	Group 3	Group 4	Group 5	Group 6	Group 7
Ancillary materials for installation (specified by material) / kg or other units as appropriate	0	0	0	0	0	0	0
Water use / m <sup>3</sup>	0	0	0	0	0	0	0
Other resource use / kg	0	0	0	0	0	0	0
Quantitative description of energy type (regional mix) and consumption during the installation process / kWh or MJ	0	0	0	0	0	0	0
Waste materials on the building site before waste processing, generated by the product's installation (specified by type) / kg	0	0	0	0	0	0	0
Output materials (specified by type) as result of waste processing at the building site e.g. collection for recycling, for energy recovery, disposal (specified by route) / kg	1,22	0,74	1,85	1,85	1,22	1,22	1,85

**End of life scenario documentation**

Scenario information	Group 1	Group 2	Group 3	Group 4	Group 5	Group 6	Group 7
Collection process – kg collected separately	14,11	15,18	20,74	20,76	18,38	20,75	28,78
Collection process – kg collected with mixed construction waste	0	0	0	0	0	0	0
Recovery process – kg for re-use	0	0	0	0	0	0	0
Recovery process – kg for recycling	0,3	0,2	0,59	0,59	1,27	1,92	4,56
Recovery process – kg for energy recovery	13,1	14,22	19,11	19,13	14,11	14,31	15,55
Disposal (total) – kg for final deposition	0,71	0,76	1,04	1,04	3	4,52	8,67
Scenario assumptions e.g. transportation	Transported 50 km with lorry						

## REFERENCES

1. ISO 14025:2010 Environmental labels and declarations – Type III environmental declarations Principles and procedures.
2. ISO 14040:2006 Environmental management. Life cycle assessment. Principles and frameworks.
3. ISO 14044:2006 Environmental management. Life cycle assessment. Requirements and guidelines.
4. EN 15804:2012+A2:2019/AC:2021 Sustainability in construction works – Environmental product declarations – Core rules for the product category of construction products.
5. EN 17213 Windows and doors - Environmental Product Declarations - Product category rules for windows and pedestrian doorsets.
6. Ecoinvent database v3.10.1 (released November 19, 2024).
7. Eurostat (2023) Treatment of waste by waste category, hazardousness and waste management operations. Available at: [https://ec.europa.eu/eurostat/databrowser/view/env\\_wastrt\\_\\_custom\\_18674899/default/table](https://ec.europa.eu/eurostat/databrowser/view/env_wastrt__custom_18674899/default/table)
8. Eurostat (2024) Municipal waste by waste management operations. Available at: [https://ec.europa.eu/eurostat/databrowser/view/env\\_wasmun\\_\\_custom\\_18672963/default/table?lang=en](https://ec.europa.eu/eurostat/databrowser/view/env_wasmun__custom_18672963/default/table?lang=en)
9. European Environment Agency (2025) Waste management country profile with a focus on municipal and packaging waste: Finland. Copenhagen: European Environment Agency. Available at: <https://www.eea.europa.eu/en/topics/in-depth/waste-and-recycling/municipal-and-packaging-waste-management-country-profiles-2025/fi-municipal-waste-factsheet.pdf/@@download/file>
10. Nordic Council of Ministers (2022) LCA for treatment of wood waste in the Nordics, TemaNord 2022:539. Copenhagen: Nordic Council of Ministers. Available at: <https://pub.norden.org/temanord2022-539/#114576>
11. Rinne, S. and Syri, S. (2013). Heat pumps versus combined heat and power production as CO2 reduction measures in Finland. [Heat pumps versus combined heat and power production as CO2 reduction measures in Finland - ScienceDirect](#)
12. European Commission (2025). Cogeneration of heat and power. Cogeneration of heat and power
13. Ministry of Agriculture and Forestry of Finland (2024). Wood fuels in energy generation in Finland, pg 7. [PowerPoint Presentation](#)
14. Finnish Energy (2025). District heating 2024 preliminary graphs (presentation), pg 2. [District heating statistics - Finnish Energy](#)