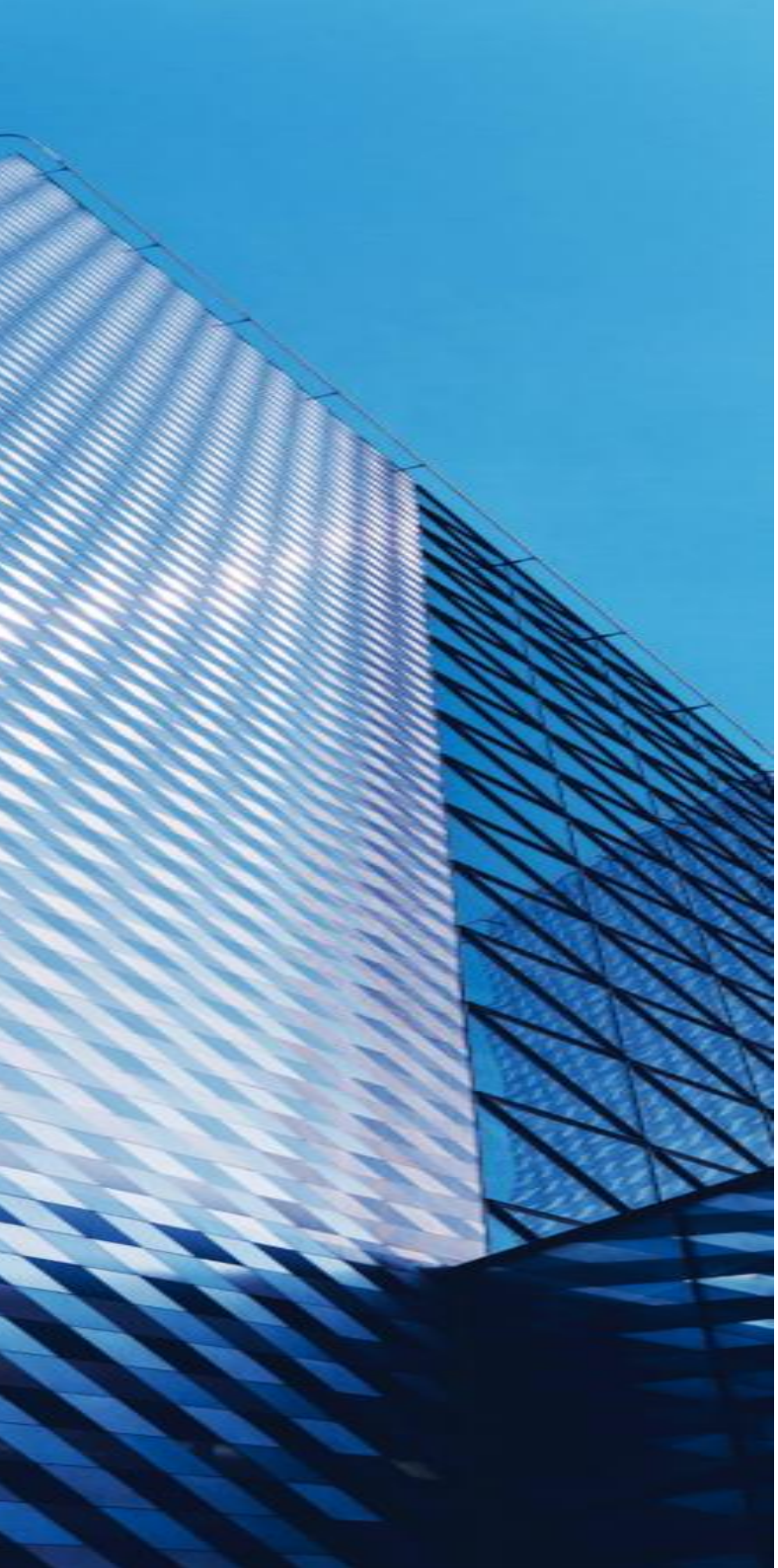


ENVIRONMENTAL PRODUCT DECLARATION

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

Raised Access Flooring Panel RMG600+
Kingspan Data and Flooring

EPD HUB, HUB-1905
Publishing date 23 August 2024, last updated on 25 October 2024, valid until 23 August 2029.

Created with One Click LCA

GENERAL INFORMATION

MANUFACTURER

Manufacturer	Kingspan Data and Flooring
Address	Burma Drive, Hull, East Yorkshire, Marfleet, HU9 5SG, Hull, , GB
Contact details	fergal.cassin@kingspan.com
Website	www.kingspan.com/gb/en/business-groups/kingspan-data-and-flooring/

EPD STANDARDS, SCOPE AND VERIFICATION

Program operator	EPD Hub, hub@epdhub.com
Reference standard	EN 15804+A2:2019 and ISO 14025
PCR	EPD Hub Core PCR version 1.1, 5 Dec 2023
Sector	Construction product
Category of EPD	Third party verified EPD
Parent EPD number	
Scope of the EPD	Cradle to gate with options, A4-A5, and modules C1-C4, D
EPD author	Fergal Cassin
EPD verification	Independent verification of this EPD and data, according to ISO 14025: ¨ Internal verification þ External verification
EPD verifier	Magaly González Vázquez, as an authorized verifier acting for EPD Hub Limited

The manufacturer has the sole ownership, liability, and responsibility for the EPD. EPDs within the same product category but from different programs may not be comparable. EPDs of construction products may not be comparable if they do not comply with EN 15804 and if they are not compared in a building context.

PRODUCT

Product name	Raised Access Flooring Panel RMG600+
Additional labels	panel with steel thickness 0.5mm x 0.5mm
Product reference	RMG600+
Place of production	Hull, United Kingdom
Period for data	Calendar year 2023
Averaging in EPD	No averaging
Variation in GWP-fossil for A1-A3	-

ENVIRONMENTAL DATA SUMMARY

Declared unit	1 unit of raised access floor panel RMG600+ 600 x 600mm
Declared unit mass	10.89 kg
GWP-fossil, A1-A3 (kgCO2e)	6.88E+00
GWP-total, A1-A3 (kgCO2e)	-4.98E+00
Secondary material, inputs (%)	63.9
Secondary material, outputs (%)	94.7
Total energy use, A1-A3 (kWh)	71.2
Net fresh water use, A1-A3 (m3)	0.1

PRODUCT AND MANUFACTURER

ABOUT THE MANUFACTURER

Kingspan Data and Flooring is the world's largest supplier of raised access flooring. A track record of more than 50 years' experience in manufacturing, design, installation, and standard setting has won Kingspan Access Floors its market leading position. We are part of the €8.1 Billion turnover Kingspan Group, a global leader in high-performance insulation, building fabric and solar-integrated building envelopes: delivering high-efficiency, low-cost and lower-carbon building solutions across a broad range of market sectors. Fast changing business needs call for workspaces that can adapt quickly to new demands. Raised access floors have proven themselves as the most cost-effective way of creating flexible space, allowing safe, convenient and flexible distribution of services below the solid raised floor platform. Whether the requirement is for a standard raised floor, air-plenum floor or for factory-bonded finishes Kingspan Data and Flooring's product range is designed to meet every likely specification, including PSA MOB, the European Standard EN 12825.

The range encompasses galvanised woodcore, static control and natural finish systems. All deliver speedy installation, high performance and easy accessibility to the service void. At Kingspan Data and Flooring we like to set the pace and set the standard, with ISO 14001:2015 accreditation for our Environmental Management Systems, for example. We are serious about the importance of sustainable timber sourcing and the positive impact reducing deforestation can have on eco-systems. To demonstrate just how much we care about good forest management, we ensure our wood is FSC certified. We are ISO 9001:2015 accredited for both manufacturing and installation operations. Our highly automated factory in Hull is ISO50001:2018 and ISO14001:2015 accredited and can produce more than 200,000 floor panels per week – all designed and manufactured to the latest industry standards and backed up by our industry-leading in-house product testing and technical support facilities.

We have installed countless problem-free floors in offices, dealing rooms, call centres, computer rooms, retail and gallery spaces throughout the globe – all witness to the durability and functionality of Kingspan Access Floors' installations. A track record featuring many landmark and time critical projects.

PRODUCT DESCRIPTION

This EPD represents a lower embodied carbon, raised access floor panel RMG600+ manufactured at Kingspan Data and Flooring facility in the United Kingdom, Hull.

The RMG600+ raised access panel is based on 1 unit of 600 x 600mm square module; made of a high-performance, high-density 30mm particle chipboard core in a galvanised steel envelope. The Particle board includes 69% of post-consumer recycled material and 23.5% of pre-consumer recycled material. The galvanised-steel shell comprises a top sheet that is wrapped around and laminated to the core, then mechanically stitched to the bottom steel sheet for greater strength and to provide full electrical continuity and static dispersion of the system where required. **The steel is made from electric arc furnace steel which consists of 90% recycled content and has a lower embodied carbon than traditional steel making methods.** The steel shell thickness is 0.5mm x 0.5mm for both the top and bottom layers.

The RMG600+ is designed for general office use and this unique wrap-around construction makes panel removal and replacement easy whilst also improving panel edge strength. The RMG600+ panel is engineered to fine dimensional tolerances for modular control and independently tested in accordance with the PSA MOB PF2 PS/SPU Specification to Medium Grade. No reference service life is specified in this cradle-to-gate EPD. RMG600 panels carry a 25-year warranty.

Further information can be found at www.kingspan.com/gb/en/business-groups/kingspan-data-and-flooring/

PRODUCT RAW MATERIAL MAIN COMPOSITION

Raw material category	Amount, mass- %	Material origin
Metals	27	Global
Minerals	-	-
Fossil materials	<1	EU
Bio-based materials	73	EU

BIOGENIC CARBON CONTENT

Product's biogenic carbon content at the factory gate

Biogenic carbon content in product, kg C	3.025
Biogenic carbon content in packaging, kg C	0.273

UNCTIONAL UNIT AND SERVICE LIFE

Declared unit	One raised access floor panel RMG600+ 600 x 600mm
Mass per declared unit	10.89 kg

SUBSTANCES, REACH - VERY HIGH CONCERN

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

PRODUCT LIFE-CYCLE

SYSTEM BOUNDARY

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

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

Modules not declared = MND. Modules not relevant = MNR.

MANUFACTURING AND PACKAGING (A1-A3)

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

The product is made of particle board encapsulated in a galvanised steel sheet. The materials are transported to Kingspan Data and Flooring production facility in Hull (UK), where the main manufacturing processes include trimming of particle board and steel sheet, encapsulation of the board in the steel sheet and finally, finishing. The manufacturing process requires electricity and fuels for the different equipment as well as heating. Certain ancillary materials are also included. The study considers the losses of raw materials occurring during the manufacturing process. The finished product is packaged in polypropylene straps to hold the panels before being sent to the installation site on a wooden pallet. Pedestals for the panels are excluded from the study as there has been a separate EPD completed for these products. Manufacture is covered by the sites ISO 9001:2015 certified quality management system, its ISO 14001:2015-certified environmental management system and ISO 50001:2018 certified energy management system.

Metal waste and chipboard waste generated during the manufacturing stage is segregated and recycled. The chipboard can also be used for energy recovery in an onsite biomass to generate heat for the factory. Panels are transported to the construction site on wooden pallets, which can be reused. Polyester strapping is used to retain panels in place; typical use is approximately 5g of strapping per panel.

TRANSPORT AND INSTALLATION (A4-A5)

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

The average transportation distance is calculated as 228km by road and 302km by sea freight.
The installation energy is minimal due to the manual labour involved in installing these panels. The installation scenario assumes drill fixing, sawing and electric pallet trucks. Installation losses are estimated at 3%. These losses, as well as packaging, are included as installation waste.

Regarding installation losses, it is assumed that Kingspan take ownership of the materials, through our return to manufacture site scheme, known as a ‘takeback scheme’. This return to site and end of life process are covered within A5, with particleboard being incinerated and steel being recycled. Th distance for this transport is taken as an average of 328km for the UK under A5.

The following recommended EU scenarios were considered: for the packaging EoL:

Resource	Scenario	Reference
Wood pallet	31% recycled 31% incinerated with ER 38% landfill	Eurostat & PSR-0014 v2 (2023)
Plastics	32.5% recycled 42.5% incinerated with ER 25% landfill	EuroParl (2023)
Cardboard	82% recycled 9% incinerated with ER 9% landfill	Eurostat & PSR-0014 v2 (2023)

PRODUCT USE AND MAINTENANCE (B1-B7)

Modules B1-B7 are not covered by the scope of the study.

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

PRODUCT END OF LIFE (C1-C4, D)

Energy consumption is considered in this section for the process of panel de-construction from the building. It is assumed that it takes 0.01 KwH per kg of deconstructed panels. It is assumed that 85% of the products steel is recycled, with the remaining 15% is transported to landfill. This is as per World Steel methodology.

The particle board is taken as per the RICS WLCA methodology, which states that the end-of-life scenarios for wood panel products are 99% incineration for energy recovery, with 1% disposed of in landfill.

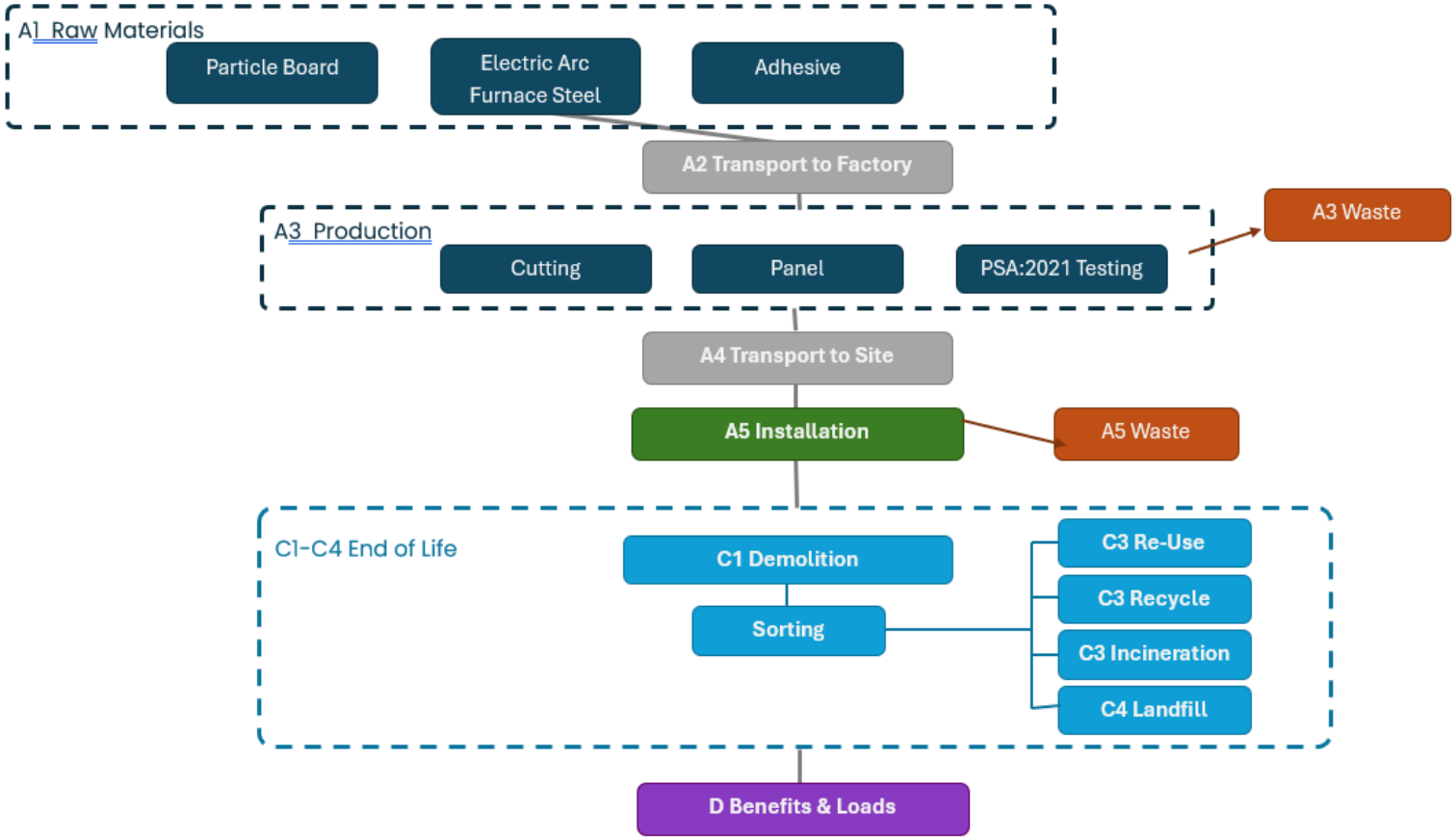
Transportation distance is assumed as 50km to treatment and landfill and the transportation method is assumed to be a >32-ton EURO6 lorry (C2). Steel is recycled and particle board is incinerated with energy recovery in module C3. Module C3 covers also burdens of packaging waste handling. Loads of landfilled product are reported in module C4.

The wood pallet is recycled, and polypropylene straps are incinerated. The benefits and loads of incineration and recycling are included in Module D (packaging materials included).

The table below shows the used waste processing scenarios for the accumulated product materials and installation parts. The recommended EU scenarios were considered for the End of Life:

Resource	Scenario	Reference
Particleboard	99% incineration 1% landfill	RICS WLCA V2
Steel	85% recycled 15% landfill	World steel association

MANUFACTURING PROCESS



LIFE-CYCLE ASSESSMENT

CUT-OFF CRITERIA

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

ALLOCATION, ESTIMATES AND ASSUMPTIONS

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

Data type	Allocation
Raw materials	No Allocation
Packaging materials	No Allocation
Ancillary materials	Allocated by mass or volume
Manufacturing energy and waste	Allocated by mass or volume

AVERAGES AND VARIABILITY

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

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

LCA SOFTWARE AND BIBLIOGRAPHY

This EPD has been created using One Click LCA EPD Generator. The LCA and EPD have been prepared according to the reference standards and ISO 14040/14044. The EPD Generator uses Ecoinvent v3.8 and One Click LCA databases as sources of environmental data.

ENVIRONMENTAL IMPACT DATA

CORE ENVIRONMENTAL IMPACT INDICATORS – EN 15804+A2, PEF

Impact category	Unit	A1	A2	A3	A1-A3	A4	A5	B1	B2	B3	B4	B5	B6	B7	C1	C2	C3	C4	D
GWP – total[1)]	kg CO_2e	-5,30E+00	7,09E-01	-3,89E-01	-4,98E+00	2,48E-01	1,26E+00	MND	MND	MND	MND	MND	MND	MND	4,34E-02	4,74E-02	1,10E+01	9,06E-02	-6,11E+00
GWP – fossil	kg CO_2e	5,78E+00	7,09E-01	3,96E-01	6,88E+00	2,47E-01	2,65E-01	MND	MND	MND	MND	MND	MND	MND	4,33E-02	4,74E-02	1,77E-01	3,40E-03	-6,11E+00
GWP – biogenic	kg CO_2e	-1,11E+01	0,00E+00	-7,86E-01	-1,19E+01	9,78E-05	9,98E-01	MND	MND	MND	MND	MND	MND	MND	0,00E+00	0,00E+00	1,08E+01	8,72E-02	0,00E+00
GWP – LULUC	kg CO_2e	1,01E-02	3,89E-04	1,03E-03	1,15E-02	1,04E-04	3,63E-04	MND	MND	MND	MND	MND	MND	MND	1,01E-04	1,78E-05	1,18E-04	3,28E-06	-2,71E-03
Ozone depletion pot.	kg CFC-$_{11}$e	5,89E-07	1,52E-07	4,15E-08	7,83E-07	6,01E-08	2,85E-08	MND	MND	MND	MND	MND	MND	MND	2,16E-09	1,18E-08	1,55E-08	1,29E-09	-3,00E-07
Acidification potential	mol H^+e	4,59E-02	7,94E-03	2,06E-03	5,59E-02	1,70E-03	1,85E-03	MND	MND	MND	MND	MND	MND	MND	2,34E-04	1,51E-04	2,01E-03	3,12E-05	-3,31E-02
EP-freshwater[2)]	kg Pe	2,36E-04	5,09E-06	1,65E-05	2,58E-04	1,66E-06	8,30E-06	MND	MND	MND	MND	MND	MND	MND	4,59E-06	3,39E-07	4,83E-06	4,28E-08	-2,62E-04
EP-marine	kg Ne	8,00E-03	2,10E-03	4,96E-04	1,06E-02	4,00E-04	3,69E-04	MND	MND	MND	MND	MND	MND	MND	3,19E-05	3,35E-05	7,49E-04	1,30E-05	-5,40E-03
EP-terrestrial	mol Ne	8,83E-02	2,33E-02	6,06E-03	1,18E-01	4,45E-03	4,06E-03	MND	MND	MND	MND	MND	MND	MND	3,63E-04	3,72E-04	8,12E-03	1,18E-04	-6,25E-02
POCP ("smog")[3)]	kg NMVOCe	2,64E-02	6,55E-03	1,97E-03	3,49E-02	1,38E-03	1,20E-03	MND	MND	MND	MND	MND	MND	MND	9,87E-05	1,46E-04	2,05E-03	3,61E-05	-2,51E-02
ADP-minerals & metals[4)]	kg Sbe	1,53E-04	1,72E-06	4,21E-06	1,59E-04	5,73E-07	5,08E-06	MND	MND	MND	MND	MND	MND	MND	1,02E-07	1,16E-07	8,52E-06	8,70E-09	-6,79E-05
ADP-fossil resources	MJ	9,11E+01	1,04E+01	7,57E+00	1,09E+02	3,85E+00	3,67E+00	MND	MND	MND	MND	MND	MND	MND	9,20E-01	7,57E-01	1,81E+00	8,94E-02	-6,43E+01
Water use[5)]	m^3e depr.	3,30E+00	4,93E-02	2,45E-01	3,60E+00	1,71E-02	1,27E-01	MND	MND	MND	MND	MND	MND	MND	2,37E-02	3,49E-03	5,20E-01	3,37E-04	-1,14E+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, PEF

Impact category	Unit	A1	A2	A3	A1-A3	A4	A5	B1	B2	B3	B4	B5	B6	B7	C1	C2	C3	C4	D

Particulate matter	Incidence	4,35E-07	6,78E-08	3,09E-08	5,33E-07	2,61E-08	1,88E-08	MND	MND	MND	MND	MND	MND	MND	7,17E-10	5,50E-09	2,33E-08	6,27E-10	-3,91E-07
Ionizing radiation[6]	kBq U235e	2,60E-01	5,32E-02	4,58E-02	3,59E-01	1,96E-02	1,40E-02	MND	MND	MND	MND	MND	MND	MND	2,48E-02	3,90E-03	1,13E-02	4,10E-04	-8,59E-02
Ecotoxicity (freshwater)	CTUe	1,40E+02	8,33E+00	8,17E+00	1,56E+02	3,12E+00	5,20E+00	MND	MND	MND	MND	MND	MND	MND	5,09E-01	6,29E-01	5,56E+00	6,52E-02	-1,72E+02
Human toxicity, cancer	CTUh	2,70E-08	3,43E-10	1,35E-09	2,87E-08	9,33E-11	8,88E-10	MND	MND	MND	MND	MND	MND	MND	1,48E-11	1,64E-11	4,42E-10	1,76E-12	3,21E-08
Human tox. non-cancer	CTUh	8,68E-08	7,98E-09	7,04E-09	1,02E-07	3,08E-09	4,07E-09	MND	MND	MND	MND	MND	MND	MND	5,06E-10	6,40E-10	2,09E-08	4,95E-11	-8,92E-08
SQP[7]	-	1,67E+02	9,28E+00	8,23E+01	2,58E+02	4,08E+00	8,15E+00	MND	MND	MND	MND	MND	MND	MND	1,35E-01	8,81E-01	1,98E+00	1,96E-01	-5,77E+01

USE OF NATURAL RESOURCES

Impact category	Unit	A1	A2	A3	A1-A3	A4	A5	B1	B2	B3	B4	B5	B6	B7	C1	C2	C3	C4	D
Renew. PER as energy[8]	MJ	1,40E+02	1,42E-01	8,02E+00	1,48E+02	4,74E-02	4,47E+00	MND	MND	MND	MND	MND	MND	MND	1,57E-01	9,79E-03	1,70E-01	9,61E-04	-1,20E+01
Renew. PER as material	MJ	1,01E+02	0,00E+00	6,75E+00	1,08E+02	0,00E+00	-8,74E+00	MND	MND	MND	MND	MND	MND	MND	0,00E+00	0,00E+00	-9,85E+01	-9,95E-01	0,00E+00
Total use of renew. PER	MJ	2,42E+02	1,42E-01	1,48E+01	2,57E+02	4,74E-02	-4,27E+00	MND	MND	MND	MND	MND	MND	MND	1,57E-01	9,79E-03	-9,83E+01	-9,94E-01	-1,20E+01
Non-re. PER as energy	MJ	8,12E+01	1,04E+01	5,68E+00	9,74E+01	3,85E+00	3,32E+00	MND	MND	MND	MND	MND	MND	MND	9,17E-01	7,57E-01	1,81E+00	8,95E-02	-6,39E+01
Non-re. PER as material	MJ	1,24E+01	0,00E+00	1,62E+00	1,40E+01	0,00E+00	-1,89E+00	MND	MND	MND	MND	MND	MND	MND	0,00E+00	0,00E+00	-1,19E+01	-2,31E-01	0,00E+00
Total use of non-re. PER	MJ	9,37E+01	1,04E+01	7,31E+00	1,11E+02	3,85E+00	1,43E+00	MND	MND	MND	MND	MND	MND	MND	9,17E-01	7,57E-01	-1,01E+01	-1,41E-01	-6,39E+01
Secondary materials	kg	6,96E+00	4,60E-03	3,38E-02	7,00E+00	1,15E-03	2,10E-01	MND	MND	MND	MND	MND	MND	MND	7,00E-05	2,13E-04	3,29E-03	2,16E-05	1,78E+00
Renew. secondary fuels	MJ	8,75E+00	2,63E-05	1,88E+00	1,06E+01	9,07E-06	3,19E-01	MND	MND	MND	MND	MND	MND	MND	3,64E-07	1,88E-06	5,33E-05	6,45E-07	-1,08E+00
Non-ren. secondary fuels	MJ	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	MND	MND	MND	MND	MND	MND	MND	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00
Use of net fresh water	m^3	8,90E-02	1,31E-03	5,89E-03	9,62E-02	4,83E-04	3,00E-03	MND	MND	MND	MND	MND	MND	MND	7,59E-04	1,00E-04	-1,11E-03	9,75E-05	-3,41E-02

8) PER = Primary energy resources.

END OF LIFE – WASTE

Impact category	Unit	A1	A2	A3	A1-A3	A4	A5	B1	B2	B3	B4	B5	B6	B7	C1	C2	C3	C4	D
Hazardous waste	kg	1,72E-01	1,54E-02	2,30E-02	2,11E-01	4,24E-03	7,07E-03	MND	MND	MND	MND	MND	MND	MND	3,22E-03	8,12E-04	5,61E-03	0,00E+00	-1,23E+00
Non-hazardous waste	kg	3,67E+00	2,11E-01	4,85E-01	4,37E+00	6,88E-02	4,41E-01	MND	MND	MND	MND	MND	MND	MND	2,09E-01	1,41E-02	7,72E+00	5,66E-01	-1,37E+01
Radioactive waste	kg	2,07E-04	7,25E-05	1,90E-05	2,98E-04	2,66E-05	1,13E-05	MND	MND	MND	MND	MND	MND	MND	6,67E-06	5,22E-06	4,83E-06	0,00E+00	-1,24E-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	MND	MND	MND	MND	MND	MND	MND	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00
Materials for recycling	kg	2,24E-04	0,00E+00	2,54E-01	2,54E-01	0,00E+00	1,32E-01	MND	MND	MND	MND	MND	MND	MND	0,00E+00	0,00E+00	2,78E+00	0,00E+00	0,00E+00
Materials for energy rec	kg	1,23E-07	0,00E+00	0,00E+00	1,23E-07	0,00E+00	2,37E-01	MND	MND	MND	MND	MND	MND	MND	0,00E+00	0,00E+00	7,54E+00	0,00E+00	0,00E+00
Exported energy	MJ	9,69E-05	0,00E+00	0,00E+00	9,69E-05	0,00E+00	1,04E+00	MND	MND	MND	MND	MND	MND	MND	0,00E+00	0,00E+00	2,88E+01	0,00E+00	0,00E+00

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

Impact category	Unit	A1	A2	A3	A1-A3	A4	A5	B1	B2	B3	B4	B5	B6	B7	C1	C2	C3	C4	D
Global Warming Pot.	kg CO_2e	5,60E+00	7,02E-01	3,91E-01	6,70E+00	2,45E-01	2,62E-01	MND	MND	MND	MND	MND	MND	MND	4,29E-02	4,69E-02	1,70E-01	8,25E-03	-5,89E+00
Ozone depletion Pot.	kg CFC-$_{11}$e	5,50E-07	1,20E-07	3,53E-08	7,06E-07	4,76E-08	2,52E-08	MND	MND	MND	MND	MND	MND	MND	1,87E-09	9,35E-09	1,30E-08	1,02E-09	-2,85E-07
Acidification	kg SO_2e	5,93E-02	6,29E-03	1,58E-03	6,71E-02	1,37E-03	2,15E-03	MND	MND	MND	MND	MND	MND	MND	1,98E-04	1,23E-04	1,49E-03	2,36E-05	-2,75E-02
Eutrophication	kg PO_4^3e	2,40E-02	9,23E-04	7,04E-04	2,56E-02	2,08E-04	1,00E-03	MND	MND	MND	MND	MND	MND	MND	1,60E-04	2,60E-05	1,20E-03	2,23E-04	-1,05E-02
POCP (“smog”)	kg C_2H_4e	2,73E-03	1,89E-04	1,77E-04	3,10E-03	4,68E-05	9,87E-05	MND	MND	MND	MND	MND	MND	MND	8,09E-06	5,71E-06	5,21E-05	2,04E-06	-2,70E-03
ADP-elements	kg Sbe	2,17E-04	1,68E-06	4,17E-06	2,22E-04	5,57E-07	6,99E-06	MND	MND	MND	MND	MND	MND	MND	1,02E-07	1,13E-07	8,47E-06	8,51E-09	-6,77E-05
ADP-fossil	MJ	9,76E+01	1,04E+01	7,57E+00	1,16E+02	3,85E+00	3,86E+00	MND	MND	MND	MND	MND	MND	MND	9,17E-01	7,57E-01	1,81E+00	8,94E-02	-6,32E+01

ENVIRONMENTAL IMPACTS – FRENCH NATIONAL COMPLEMENTS

Impact category	Unit	A1	A2	A3	A1-A3	A4	A5	B1	B2	B3	B4	B5	B6	B7	C1	C2	C3	C4	D
ADP-elements	kg Sbe	1,86E-05	1,68E-06	4,17E-06	2,44E-05	5,57E-07	1,05E-06	MND	MND	MND	MND	MND	MND	MND	1,02E-07	1,13E-07	8,47E-06	8,51E-09	-6,77E-05
Hazardous waste disposed	kg	8,88E-02	1,54E-02	2,29E-02	1,27E-01	4,24E-03	4,57E-03	MND	MND	MND	MND	MND	MND	MND	3,22E-03	8,12E-04	5,61E-03	0,00E+00	-1,23E+00
Non-haz. waste disposed	kg	1,98E+00	2,11E-01	4,85E-01	2,68E+00	6,88E-02	3,91E-01	MND	MND	MND	MND	MND	MND	MND	2,09E-01	1,41E-02	7,72E+00	5,66E-01	-1,37E+01
Air pollution	m^3	9,32E+02	1,28E+02	9,33E+01	1,15E+03	4,17E+01	4,02E+01	MND	MND	MND	MND	MND	MND	MND	1,22E+01	7,87E+00	5,47E+01	7,75E-01	-2,48E+03
Water pollution	m^3	8,07E+00	8,44E-01	1,86E+00	1,08E+01	2,88E-01	6,57E-01	MND	MND	MND	MND	MND	MND	MND	8,16E-01	5,80E-02	2,70E+00	1,59E-01	6,86E+00

ENVIRONMENTAL IMPACTS – TRACI 2.1. / ISO 21930

Impact category	Unit	A1	A2	A3	A1-A3	A4	A5	B1	B2	B3	B4	B5	B6	B7	C1	C2	C3	C4	D
Global Warming Pot.	kg CO_2e	1,67E+00	7,02E-01	3,86E-01	2,76E+00	2,45E-01	1,43E-01	MND	MND	MND	MND	MND	MND	MND	4,25E-02	4,69E-02	1,73E-01	7,38E-03	-5,89E+00
Ozone Depletion	kg CFC_{-11}e	2,14E-07	1,20E-07	3,53E-08	3,70E-07	4,76E-08	1,51E-08	MND	MND	MND	MND	MND	MND	MND	1,85E-09	9,35E-09	1,30E-08	1,02E-09	-2,82E-07
Acidification	kg SO_2e	6,21E-01	3,69E-01	8,59E-02	1,08E+00	7,76E-02	4,02E-02	MND	MND	MND	MND	MND	MND	MND	1,01E-02	6,86E-03	9,92E-02	1,53E-03	-1,46E+00
Eutrophication	kg Ne	9,46E-04	4,25E-04	1,83E-04	1,55E-03	1,18E-04	7,31E-05	MND	MND	MND	MND	MND	MND	MND	5,40E-06	1,80E-05	4,77E-04	5,62E-06	-1,04E-03
POCP (“smog”)	kg O_3e	6,19E-03	5,41E-03	1,57E-03	1,32E-02	1,03E-03	5,18E-04	MND	MND	MND	MND	MND	MND	MND	8,06E-05	8,68E-05	1,88E-03	2,84E-05	-1,49E-02
ADP-fossil	MJ	4,02E+00	1,43E+00	8,97E-01	6,35E+00	5,34E-01	2,38E-01	MND	MND	MND	MND	MND	MND	MND	3,46E-02	1,05E-01	2,00E-01	1,24E-02	-4,35E+00

VERIFICATION STATEMENT

VERIFICATION PROCESS FOR THIS EPD

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

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

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

THIRD-PARTY VERIFICATION STATEMENT

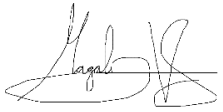
I hereby confirm that, following detailed examination, I have not established any relevant deviations by the studied Environmental Product Declaration (EPD), its LCA and project report, in terms of the data collected and used in the LCA calculations, the way the LCA-based calculations have been carried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

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

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

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

Magaly González Vázquez, as an authorized verifier acting for EPD Hub Limited
Updated 25.10.2024



VERIFIED ISO 14025