ENVIRONMENTAL PRODUCT DECLARATION

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

Tate Forte LEC – Structural Ceiling System

EPD HUB, HUB-3264

Publishing date 1 May 2025, last updated on 1 May 2025, valid until 30 April 2030.

GENERAL INFORMATION EUROPE

MANUFACTURER

Manufacturer	Tate
Address	Unit 2, Kylemore Park West Ballyfermot, Dublin, Ireland
Contact details	info@tateeurope.com
Website	https://www.tateeurope.com/eu/en/

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	Sister EPD
Parent EPD number	HUB-1731
Scope of the EPD	Cradle to gate with options, A4-A5, and modules C1-C4, D
EPD author	Pierre Kerhascoet, Kingspan Data Solutions
EPD verification	Independent verification of this EPD and data, according to ISO 14025: o 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	Tate Forte LEC
Additional labels	-
Product reference	Tate Forte LEC
Place of production	Unit 2, Kylemore Park West Ballyfermot, Dublin, Ireland
Period for data	Calendar year 2024
Averaging in EPD	No averaging
Variation in GWP-fossil for A1-A3	-

ENVIRONMENTAL DATA SUMMARY

Declared unit	1 m2
Declared unit mass	4.74 kg
GWP-fossil, A1-A3 ($kgCO_2e$)	2,09E+01
GWP-total, A1-A3 ($kgCO_2e$)	2,00E+01
Secondary material, inputs (%)	26,4
Secondary material, outputs (%)	61
Total energy use, A1-A3 (kWh)	162
Net freshwater use, A1-A3 (m^3)	0,74

PRODUCT AND MANUFACTURER

ABOUT THE MANUFACTURER

For over 60 years, Tate has been an industry leading global manufacturer of data centre solutions. We work collaboratively with our data centre clients to provide structural ceilings, containment systems, airflow grills and security cages that are reliable, innovative, and high performing.

Our team of professional and highly qualified technical engineers are on hand to support our clients with their specific data centre project requirements. We have a long-term commitment to delivering a sustainable agenda as part of Kingspan Group's 10-year Planet Passionate programme, which addresses climate change, circularity and protection of our natural world.

We believe these can only be met through true collaboration and partnership and are delighted that together our initiatives have been recognised by global environmental impact non-profit CDP since 2016, for driving climate change. As a member of RE100, together with Kingspan Group, we are actively committed to 100% renewable electricity and have joined as a key global partner with the World's GBC's.

PRODUCT DESCRIPTION

Tate Forte LEC is engineered to support evolving demands of modern data centres, ensuring seamless integration with liquid-cooled IT infrastructure, providing enhanced scalability. It is fully compatible with the needs of Liquid Cooling Infrastructure and the future of AI. Designed to meet high deflection standards, ensuring your systems stay stable and secure, with the ability to suspend a uniform load of 6.1 kN/m^2. Features a continuously threaded M10 bottom slot to allow multiple containment configurations. It is built with a safety factor of 2 to provide unparalleled reliability.

This EPD is based on 1 m2 of Tate Forte LEC with a 1200mm x 600mm configuration. The Tate Forte LEC structural ceiling belongs to the UN CPC class 4219.
This EPD describes a specific product, with no consideration of varied sizes or configurations. Tate Forte LEC is a design update of the Tate Grid LEC structural ceiling product which also had an existing and available EPD.

Tate Forte LEC is made with lower carbon aluminium, which is produced using renewable electricity, predominantly hydroelectric power. This product has been optimised to give superior environmental and structural performance.

PRODUCT RAW MATERIAL MAIN COMPOSITION

Raw material category	Amount, mass %	Material origin
Metals	100%	EU
Minerals	-	-
Fossil materials	-	-
Bio-based materials	-	-

BIOGENIC CARBON CONTENT

Product's biogenic carbon content at the factory gate

Biogenic carbon content in product, kg C	0
Biogenic carbon content in packaging, kg C	0.262

FUNCTIONAL UNIT AND SERVICE LIFE

Declared unit	1 m^2
Mass per declared unit	4.74 kg
Functional unit	-
Reference service life	50 years

SUBSTANCES, REACH - VERY HIGH CONCERN

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

PRODUCT LIFE-CYCLE

SYSTEM BOUNDARY

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

Product stage			Assembly stage		Use stage							End of life stage				Beyond the system boundaries		
A1	A2	A3	A4	A5	B1	B2	B3	B4	B5	B6	B7	C1	C2	C3	C4	D		
x	x	x	x	x	MND	MND	MND	MND	MND	MND	MND	x	x	x	x	x		
Raw materials	Transport	Manufacturing	Transport	Assembly	Use	Maintenance	Repair	Replacement	Refurbishment	Operational energy use	Operational water use	Deconstruction/ demolition	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 profiles for the Tate Forte LEC structural ceiling are made from aluminium produced with renewable energy. The transport of the raw material from supplier to the factory site is composed of 244 km by road transport, assuming it is done by a >32-ton EURO6 lorry and 1,689 km by sea transport via container ship.

The production of the Tate Forte LEC takes place at the facility in Dublin, Ireland. The Tate Dublin site is using 100% renewable energy, verified with Guarantees of Origin. The electricity suppliers' fuel mix is composed of the following: 80.4% generated by wind power and 19.6% produced from biogas through a Combined Heat and Power (CHP) system. Transmission and distribution losses are modelled, assuming 8% losses as per World Bank data. As per World Bank, the definition encompasses all stages between generation and final distribution, implying that high to medium voltage transformation losses are included in this measure.

The data from the Tate Dublin manufacturing site, such as energy and ancillary resources consumption and waste generation for the year 2024 was considered and allocated to the Tate Forte LEC product as per the site's annual production volumes.

The manufacturing production losses incurred on the Tate Dublin site are all from amending the aluminium profiles (amounting to 5%) and are sent to a third party for recycling. As per co-product allocation, such aluminium manufacturing losses are excluded for the main product.
There is no other manufacturing losses modelled - as only other wastes are lubrication oil and saw blades which are considered minor waste streams that are individually less than 1% of the total product weight and well below 5% cumulatively.

The finished product is packaged in carboard boxes, loaded onto a wooden crate, and secured with pallet wrap clear.

Installation parts such as the turnbuckle, screws and connectors are considered in the module A5 installation as they enter the system's scope at

the installation stage.

TRANSPORT AND INSTALLATION (A4-A5)

Transportation impacts incurred 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 transportation distance is based on the weighted average distance of sales made in 2024.

The installation parts are made of carbon steel and ductile iron. The installation is carried out with electrical machinery. No construction losses are considered other than packaging waste, as none of the system's parts are amended on site The following recommended EU scenarios are considered for the packaging end of life:

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)

This EPD does not cover the use phase.
Air, soil, and water impacts during the use phase have not been studied.
The reference service life is 50 years, based on the average lifetime of commercial buildings (as per the Building Cost Information Service 2018 study).

PRODUCT END OF LIFE (C1-C4, D)

It is assumed that the deconstruction of the product requires 0.01kWh of electricity per kg of product disassembled, as per industry standard, which is considered to be a conservative choice.
The transportation distance to the treatment site is assumed to be 50 km and the mode is assumed to be the transportation method is assumed to be a >32ton EURO6 lorry. The system's parts end of life are modelled following the most likely scenarios for the type of material and the region.

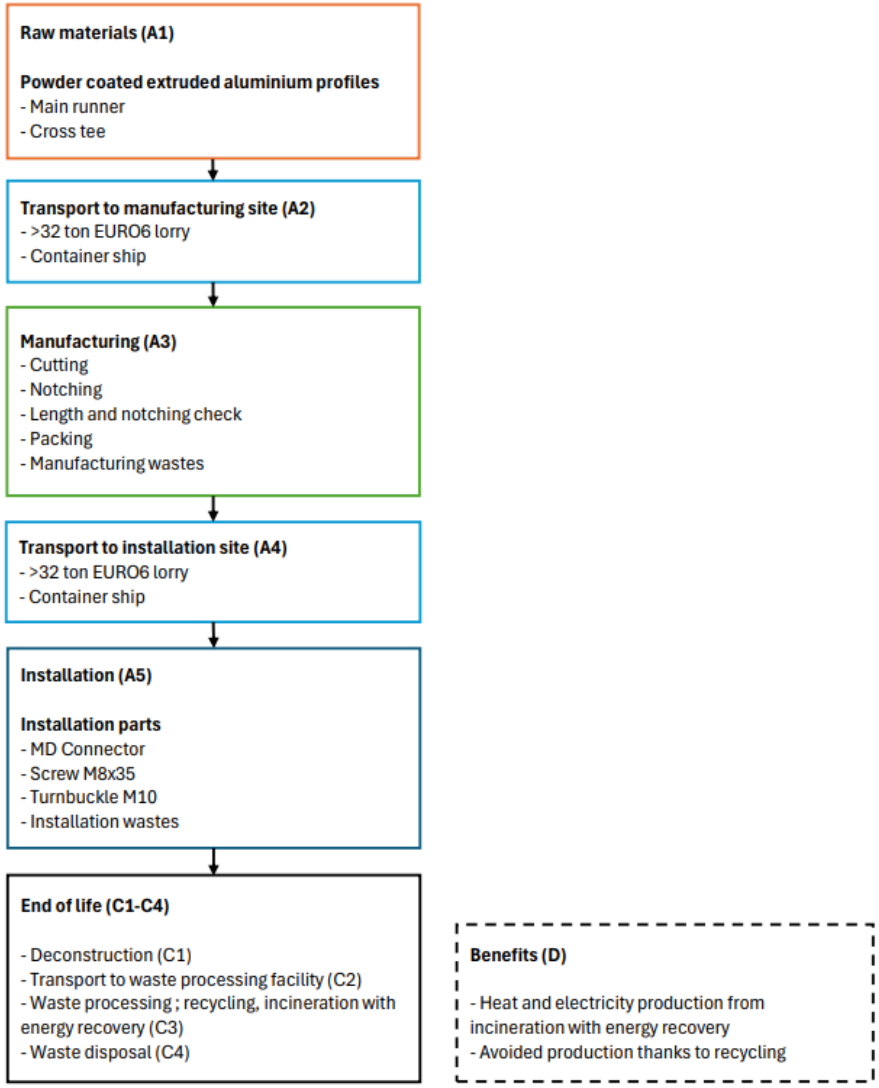
The table below shows the used waste processing scenarios for the accumulated product materials and installation parts. The systems parts are either aluminium or steel, the following recommended EU scenarios were considered for the End of Life:

Resource	Scenario	Reference
Aluminium	95% recycled 5% landfill	European Aluminium Association
Steel	85% recycled 15% landfill	World Steel Association

The scope of the end of life for recycling ends after the preparation steps for recycling.

The benefits considered for the system parts are the avoided production of aluminium and steel thanks to recycling (while discounting the recycled content of the parts to avoid double accounting). The loads considered are from the recycling of such parts.
The same logic is applied to the packaging with the addition of recovered energy from the incineration with ER. The benefits and loads of product and packaging material recycling are included in Module D.

MANUFACTURING PROCESS



LIFE-CYCLE ASSESSMENT

CUT-OFF CRITERIA

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

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 material	No allocation
Ancillary materials	Allocated by annual production volume
Manufacturing energy and waste	Allocated by annual production volume

AVERAGES AND VARIABILITY

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

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

LCA SOFTWARE AND BIBLIOGRAPHY

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

ENVIRONMENTAL IMPACT DATA

CORE ENVIRONMENTAL IMPACT INDICATORS – EN 15804+A2, PEF

Impact category	Unit	A1	A2	A3	A1-A3	A4	A5	B1	B2	B3	B4	B5	B6	B7	C1	C2	C3	C4	D
GWP – total[1)]	kg CO_2e	2,04E+01	2,26E-01	-6,99E-01	2,00E+01	1,06E-01	4,33E+00	MND	MND	MND	MND	MND	MND	MND	1,54E-02	4,03E-02	7,21E-02	2,24E-03	-4,70E+01
GWP – fossil	kg CO_2e	2,04E+01	2,25E-01	2,59E-01	2,09E+01	1,06E-01	3,36E+00	MND	MND	MND	MND	MND	MND	MND	1,53E-02	4,03E-02	7,31E-02	2,43E-03	-4,59E+01
GWP – biogenic	kg CO_2e	0,00E+00	0,00E+00	-9,59E-01	-9,59E-01	0,00E+00	9,61E-01	MND	MND	MND	MND	MND	MND	MND	0,00E+00	0,00E+00	-1,12E-03	-1,97E-04	0,00E+00
GWP – LULUC	kg CO_2e	1,08E-02	9,21E-05	1,52E-03	1,24E-02	4,86E-05	2,40E-03	MND	MND	MND	MND	MND	MND	MND	4,76E-05	1,46E-05	8,50E-05	1,64E-06	-1,09E+00
Ozone depletion pot.	kg CFC_{-11}e	6,44E-08	4,15E-09	5,59E-09	7,41E-08	1,89E-09	2,59E-08	MND	MND	MND	MND	MND	MND	MND	2,66E-10	8,08E-10	7,27E-10	6,45E-11	-2,08E-07
Acidification potential	mol H^+e	1,32E-01	2,13E-03	1,50E-03	1,36E-01	1,57E-03	1,84E-02	MND	MND	MND	MND	MND	MND	MND	7,82E-05	8,54E-05	5,49E-04	1,70E-05	-5,28E-01
EP-freshwater[2)]	kg Pe	1,61E-03	1,30E-05	9,75E-05	1,72E-03	5,52E-06	1,13E-03	MND	MND	MND	MND	MND	MND	MND	1,37E-05	2,73E-06	3,80E-05	2,75E-07	-2,22E-02
EP-marine	kg Ne	1,57E-02	5,28E-04	3,94E-04	1,67E-02	3,93E-04	4,34E-03	MND	MND	MND	MND	MND	MND	MND	1,36E-05	2,08E-05	1,58E-04	6,35E-06	-6,81E-02
EP-terrestrial	mol Ne	1,69E-01	5,84E-03	4,06E-03	1,79E-01	4,35E-03	4,41E-02	MND	MND	MND	MND	MND	MND	MND	1,18E-04	2,25E-04	1,38E-03	6,92E-05	-7,14E-01
POCP ("smog")[3)]	kg NMVOCe	5,15E-02	1,91E-03	1,66E-03	5,51E-02	1,31E-03	1,39E-02	MND	MND	MND	MND	MND	MND	MND	3,91E-05	1,43E-04	4,00E-04	2,44E-05	-2,17E-01
ADP-minerals & metals[4)]	kg Sbe	1,76E-05	6,07E-07	1,58E-06	1,98E-05	2,11E-07	1,14E-05	MND	MND	MND	MND	MND	MND	MND	3,42E-08	1,32E-07	2,78E-06	4,68E-09	-5,42E-05
ADP-fossil resources	MJ	2,35E+02	3,06E+00	4,29E+00	2,42E+02	1,45E+00	3,70E+01	MND	MND	MND	MND	MND	MND	MND	3,63E-01	5,73E-01	7,95E-01	5,61E-02	-4,80E+02
Water use[5)]	m^3e depr.	6,61E+00	1,36E-02	1,43E-01	6,76E+00	6,05E-03	9,19E-01	MND	MND	MND	MND	MND	MND	MND	9,39E-03	2,86E-03	1,97E-02	2,08E-04	-3,79E+01

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

ADDITIONAL (OPTIONAL) ENVIRONMENTAL IMPACT INDICATORS – EN 15804+A2, PEF

Impact category	Unit	A1	A2	A3	A1-A3	A4	A5	B1	B2	B3	B4	B5	B6	B7	C1	C2	C3	C4	D
Particulate matter	Incidence	1,29E-07	1,39E-08	2,66E-08	1,69E-07	7,00E-09	3,36E-07	MND	MND	MND	MND	MND	MND	MND	2,73E-10	3,10E-09	8,01E-09	3,77E-10	-3,33E-06
Ionizing radiation[6)]	kBq U235e	9,07E-01	3,32E-03	3,31E-02	9,44E-01	1,30E-03	1,43E-01	MND	MND	MND	MND	MND	MND	MND	1,01E-02	7,31E-04	1,01E-02	6,20E-05	1,52E-01
Ecotoxicity (freshwater)	CTUe	1,77E+01	3,63E-01	1,31E+00	1,94E+01	1,45E-01	1,66E+01	MND	MND	MND	MND	MND	MND	MND	3,82E-02	7,49E-02	7,17E-01	5,02E-03	-6,66E+01
Human toxicity, cancer	CTUh	1,25E-09	4,05E-11	9,14E-10	2,20E-09	1,99E-11	5,79E-09	MND	MND	MND	MND	MND	MND	MND	3,19E-12	6,76E-12	7,32E-11	4,50E-13	-1,87E-08
Human tox. non-cancer	CTUh	2,59E-08	1,65E-09	3,14E-09	3,07E-08	6,99E-10	2,21E-07	MND	MND	MND	MND	MND	MND	MND	1,37E-10	3,63E-10	2,90E-09	1,13E-11	-5,08E-07
SQP[7)]	-	2,45E+01	1,46E+00	7,74E+01	1,03E+02	9,08E-01	1,57E+01	MND	MND	MND	MND	MND	MND	MND	6,17E-02	3,80E-01	3,36E+00	1,05E-01	-6,89E+01

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

USE OF NATURAL RESOURCES

Impact category	Unit	A1	A2	A3	A1-A3	A4	A5	B1	B2	B3	B4	B5	B6	B7	C1	C2	C3	C4	D
Renew. PER as energy[8)]	MJ	3,02E+02	4,62E-02	9,56E+00	3,12E+02	1,85E-02	-5,17E+00	MND	MND	MND	MND	MND	MND	MND	8,48E-02	9,92E-03	1,54E-01	9,25E-04	-1,10E+02
Renew. PER as material	MJ	0,00E+00	0,00E+00	8,37E+00	8,37E+00	0,00E+00	-8,37E+00	MND	MND	MND	MND	MND	MND	MND	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00
Total use of renew. PER	MJ	3,02E+02	4,62E-02	1,79E+01	3,20E+02	1,85E-02	-1,35E+01	MND	MND	MND	MND	MND	MND	MND	8,48E-02	9,92E-03	1,54E-01	9,25E-04	-1,10E+02
Non-re. PER as energy	MJ	2,65E+02	3,06E+00	3,55E+00	2,71E+02	1,45E+00	3,68E+01	MND	MND	MND	MND	MND	MND	MND	3,63E-01	5,73E-01	7,95E-01	-2,51E+00	-4,80E+02
Non-re. PER as material	MJ	2,14E+00	0,00E+00	7,44E-01	2,88E+00	0,00E+00	-7,44E-01	MND	MND	MND	MND	MND	MND	MND	0,00E+00	0,00E+00	0,00E+00	-2,14E+00	0,00E+00
Total use of non-re. PER	MJ	2,67E+02	3,06E+00	4,30E+00	2,74E+02	1,45E+00	3,61E+01	MND	MND	MND	MND	MND	MND	MND	3,63E-01	5,73E-01	7,95E-01	-4,64E+00	-4,80E+02
Secondary materials	kg	1,25E+00	1,43E-03	3,33E-02	1,29E+00	6,56E-04	4,21E-01	MND	MND	MND	MND	MND	MND	MND	3,90E-05	2,63E-04	1,36E-03	1,47E-05	4,19E+00
Renew. secondary fuels	MJ	1,42E-03	1,44E-05	2,75E-01	2,77E-01	5,29E-06	1,26E-03	MND	MND	MND	MND	MND	MND	MND	1,60E-07	3,33E-06	9,67E-05	2,75E-07	-1,11E-03
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	7,38E-01	3,66E-04	3,45E-03	7,42E-01	1,67E-04	1,56E-02	MND	MND	MND	MND	MND	MND	MND	3,01E-04	7,90E-05	4,61E-04	5,58E-05	-8,59E-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	4,52E-01	4,35E-03	2,05E-02	4,76E-01	2,03E-03	6,71E-01	MND	MND	MND	MND	MND	MND	MND	8,27E-04	8,32E-04	7,51E-03	7,90E-05	-1,17E+01
Non-hazardous waste	kg	1,71E+01	8,43E-02	1,84E+00	1,90E+01	3,55E-02	1,51E+01	MND	MND	MND	MND	MND	MND	MND	6,73E-02	1,74E-02	3,39E-01	1,81E-03	-1,01E+02
Radioactive waste	kg	2,63E-03	8,23E-07	8,50E-06	2,64E-03	3,21E-07	3,55E-05	MND	MND	MND	MND	MND	MND	MND	2,61E-06	1,82E-07	2,60E-06	1,51E-08	4,44E-05

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	0,00E+00	0,00E+00	1,40E+00	1,40E+00	0,00E+00	2,36E-01	MND	MND	MND	MND	MND	MND	MND	0,00E+00	0,00E+00	4,27E+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	2,06E-01	MND	MND	MND	MND	MND	MND	MND	0,00E+00	0,00E+00	0,00E+00	1,80E-01	0,00E+00
Exported energy	MJ	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	1,51E+00	MND	MND	MND	MND	MND	MND	MND	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00
Exported energy – Electricity	MJ	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	4,82E-01	MND	MND	MND	MND	MND	MND	MND	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00
Exported energy –	MJ	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	1,03E+00	MND	MND	MND	MND	MND	MND	MND	0,00E+00	0,00E+00	0,00E+00	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	2,10E+01	2,24E-01	2,66E-01	2,15E+01	1,05E-01	3,48E+00	MND	MND	MND	MND	MND	MND	MND	1,54E-02	4,01E-02	9,52E-02	2,41E-03	-4,69E+01
Ozone depletion Pot.	kg $CFC_{-11}e$	3,01E-07	3,30E-09	4,54E-09	3,09E-07	1,50E-09	2,32E-08	MND	MND	MND	MND	MND	MND	MND	2,18E-10	6,43E-10	6,01E-10	5,13E-11	-1,92E-07
Acidification	kg SO_2e	1,09E-01	1,71E-03	1,18E-03	1,11E-01	1,25E-03	1,49E-02	MND	MND	MND	MND	MND	MND	MND	6,64E-05	6,85E-05	4,38E-04	1,27E-05	-4,53E-01
Eutrophication	kg PO_4^3e	1,27E-02	2,27E-04	7,11E-03	2,01E-02	1,53E-04	2,92E-03	MND	MND	MND	MND	MND	MND	MND	9,02E-06	1,73E-05	1,03E-04	3,79E-06	-3,11E-02
POCP (“smog”)	kg C_2H_4e	1,22E-02	1,00E-04	1,90E-04	1,24E-02	6,77E-05	1,47E-03	MND	MND	MND	MND	MND	MND	MND	3,73E-06	7,21E-06	3,42E-05	1,15E-06	-2,92E-02
ADP-elements	kg Sbe	4,12E-05	5,94E-07	1,54E-06	4,34E-05	2,06E-07	1,10E-05	MND	MND	MND	MND	MND	MND	MND	3,40E-08	1,29E-07	2,77E-06	4,61E-09	-4,75E-05
ADP-fossil	MJ	4,04E+02	3,01E+00	3,70E+00	4,11E+02	1,43E+00	3,47E+01	MND	MND	MND	MND	MND	MND	MND	1,84E-01	5,60E-01	6,18E-01	5,51E-02	-4,83E+02

ENVIRONMENTAL IMPACTS – GWP-GHG - THE INTERNATIONAL EPD SYSTEM

Impact category	Unit	A1	A2	A3	A1-A3	A4	A5	B1	B2	B3	B4	B5	B6	B7	C1	C2	C3	C4	D
GWP-GHG[9)]	kg CO_2e	2,04E+01	2,26E-01	2,60E-01	2,09E+01	1,06E-01	3,37E+00	MND	MND	MND	MND	MND	MND	MND	1,54E-02	4,03E-02	7,32E-02	2,44E-03	-4,70E+01

9) This indicator includes all greenhouse gases excluding biogenic carbon dioxide uptake and emissions and biogenic carbon stored in the product as defined by IPCC AR 5 (IPCC 2013). In addition, the characterisation factors for the flows - CH4 fossil, CH4 biogenic and Dinitrogen monoxide - were updated in line with the guidance of IES PCR 1.2.5 Annex 1. This indicator is identical to the GWP-total of EN 15804:2012+A2:2019 except that the characterization factor for biogenic CO2 is set to zero.

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

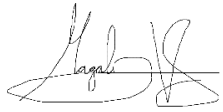
I hereby confirm that, following detailed examination, I have not established any relevant deviations by the studied Environmental Product Declaration (EPD), its LCA and project report, in terms of the data collected and used in the LCA calculations, the way the LCA-based calculations have been carried 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
01.05.2025



APPENDIX

ANNEX 1: GWP FOR DIFFERENT CEILING GRID CONFIGURATIONS

Grid configuration	System weight (kg/m^2)	A1-A3 GWP - TOTAL EN 15804+A2 (kgCO2e)	A1-A3 GWP - FOSSIL EN 15804+A2 (kgCO2e)	A1-A3 GWP - BIOGENIC EN 15804+A2 (kgCO2e)	A1-C4 GWP TOTAL EN 15804+A2 (kgCO2e)
0.6m x 1.2m	4.74	2,00E+01	2,08E+01	-9,59E-01	2,45E+01
1.2m x 1.2m	3.10	1,34E+01	1,40E+01	-6,28E-01	1,62E+01