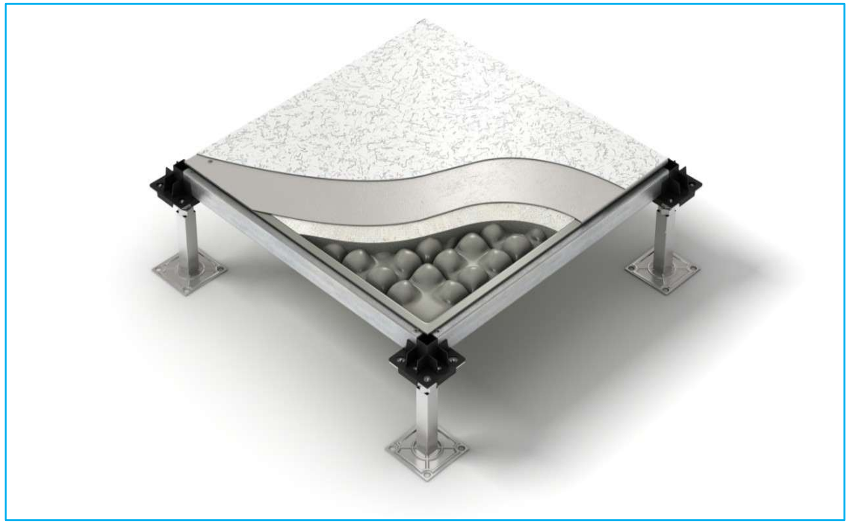
ENVIRONMENTAL PRODUCT DECLARATION

IN ACCORDANCE WITH EN 15804+A2: 2019/AC:2021 & ISO 14025:2006

ConCore Raised Access Floor Panel

Tate Asia Pacific Pty Ltd



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Revision Date: -
Geographical Scope: Australia, Asia-Pacific

This is an EPD of multiple products, based on the average results of the product groups Concore 800 and Concore 1000.

Life Cycle Assessment study has been performed in accordance with the requirements of EN 15804, PCR 2019:14 Construction Products, version 2.0.0 and JRC characterization factors EF 3.1.

An EPD may be updated or depublished if conditions change. To find the latest version of the EPD and to confirm its validity, see www.environdec.com.

GENERAL INFORMATION

EPD PROFILE

Tate.	**EPD owner:** Tate APAC **LCA Author:** Fergal Cassin **Email:** fergal.cassin@kingspan.com **Website:** https://www.tateinc.com/au/en/
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EPD STANDARDS, SCOPE

Reference standard	EN 15804:2012+A2:2019/AC:2021 and ISO 14025; CEN standard EN 15804 serves as the Core Product Category rules (PCR)
PCR	PCR 2019:14 Construction Products, version 2.0.1
	PCR review was conducted by: The Technical Committee of the International EPD® System.
Sector	Construction product
Category of EPD	Third party verified EPD
Scope of the EPD	Cradle to gate with options, modules C1-C4, Module D and optional Modules A4-A5

VERIFICATION

Third party verification	Independent verification of this EPD and data, according to ISO 14025: 2006 ☑ External verification
Third party verifier	Viktor Hakkarainen, CHM Analytics AB, Drottninggatan 69,411 07, Göteborg, Sweden Viktor Hakkarainen

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Website:	https://chm-analytics.com/
Verifier approved by:	The International EPD System
Accredited by:	EPD Australasia
Individual EPD verification without a pre-verified LCA/EPD too	Yes ☑
Procedure for follow-up of data during EPD validity involved third-party verifier	No ☑

This Environmental Product Declaration has been developed in accordance with ISO 14025 and the applicable Product Category Rules; the EPD owner is solely responsible for its content, and the programme operator is not liable for the data, results, or interpretations presented.

EPDs within the same product category but registered in different EPD programmes, or not compliant with EN 15804, may not be comparable. For two EPDs to be comparable, they must be based on the same PCR (including the same version number) or be based on fully-aligned PCRs or versions of PCRs; cover products with identical functions, technical performances and use (e.g. identical declared/functional units); have equivalent system boundaries and descriptions of data; apply equivalent data quality requirements, methods of data collection, and allocation methods; apply identical cut-off rules and impact assessment methods (including the same version of characterisation factors); have equivalent content declarations; and be valid at the time of comparison.

The results for EN15804+A1 compliant EPDs are not comparable with EN15804+A2 compliant studies as the methodologies are different. For further information about comparability, see EN 15804 and ISO 14025.

This EPD can help projects to achieve points under Green Building Council Australia (GBCA) Green Star rating tools, specifically Material credits (up to 7 credits total) and Responsible Building Material Credits (up to 3 credits) in the Green Star Design & As Built too.

PRODUCT

Product name	ConCore Raised Access Floor Panel
Additional labels	Concore 800, Concore 1000, Concore 1250, Concore 1500, Concore 2000, Concore 2500, Concore 3000
UN CPC Code	41230
Place(s) of raw material origin	China
Place of production	China
Place(s) of installation and use	Australia
Period for data	2024

PRODUCT AND MANUFACTURER

ABOUT THE MANUFACTURER

Tate Asia-Pacific Pty Ltd provides high performance solutions for commercial buildings and Data Centres, offering a wide range of products. The products include access floors and wide range of integrated high-end architectural finishes.

Tate has been an industry leading global provider of innovative next generation products for both commercial and data centre applications for over 50 years. Our world-class manufacturing plants have the flexibility to create modular solutions quickly with up-front cost optimization and Tate's in-house engineering team has the experience and industry knowledge to design effective solutions from concept to completion.

Our Asia Pacific address is 3 Herbert Place, Smithfield New South Wales 2164, Australia.

The manufacturing location for the concore products is in Wujin District, Changzhou City, Jiangsu Province, China.

PRODUCT DESCRIPTION

ConCore access floor panels are epoxy coated unitized shells. The shells consist of a flat steel top sheet welded to a formed steel bottom sheet. The panels are then filled with a highly controlled mixture of lightweight cement. Manufactured to exact tolerances, these non-combustible, rigid panels deliver the ultimate in design, performance, plenum integrity, service, and usability.

The understructure includes two different support structures for different load requirements including Bolted Stringer and Cornerlock.

UNDESTRUCTURE DESCRIPTION

Corner Lock:

This understructure features;

- precision pin design, provides self-engagement and positive positioning of floor panels,
- 4mm thick steel pedestal head provides maximum strength.
- Pedestal nut provides anti-vibration and locking features.
- Typical floor heights from 15cm-60cm

Bolted Stringers:

This understructure features;

- Designed for data centres and commercial applications with high-end finishes.
- Allows floors to be built over 60cm high. Panels can be gravity-held in understructure for fast removal and replacement
- Stringers provide lateral resistance to heavy rolling loads and seismic loading
- Typical floor heights from 60cm-90cm
- Heavy Duty Bolted Stringer options are available

ConCore access floor systems can be used for any commercial or data center application. They are expected to last at least 30 years after the initial installation. ConCore access floor systems can be used with a variety of finishes, including porcelain, terrazzo, wood, various soft tile, high pressure laminate, and carpet. HPL finishes only, and its impacts are included in this EPD.

Further information can be found at: https://www.tateinc.com/au/en/

CONTENT DECLARATION (PER 1M2 OF PRODUCT)

Product Content:	Mass (kg) /m2	Post consumer recycled material, mass % of product	Biogenic material, mass-% of product
Steel (top & bottom)	7.40	5	-
Portland Cement	14.89	2	-
Water	7.44	-	-
Epoxy Powdercoating	0.21	-	-
PVC screw sleeve and plugs	0.39	-	-
Steel understructure	2.05	1	-
Galvanising (zinc)	0.09	-	-
Total	32.49	8%	

CONTENT DECLARATION (HPL FINISH)

Product Content:	Mass (kg) /m2	Post consumer recycled material, mass % of product	Biogenic material, mass-% of product
Kraft Paper	1.38	-	100%
Aluminum Oxide	0.03	-	-
Melamine Formaldehyde Resin	0.81	-	-
Polychloroprene Rubber Adhesive	0.22	-	-
Total	2.44	-	57%

HPL content not included in the declared unit. Please see Appendix for details.

Please refer to **APPENDIX** 1 for raw material composition of product variants, including understructure and finish.

CONTENT DECLARATION OF PACKAGING (PER 1M2 OF PRODUCT)

Product Components:	Weight (kg) /m2	Mass-% (versus the product)	Biogenic material, kg C/product or declared unit
Timber pallet	0.044	0.1	0.109
Polyethylene film	0.021	0.1	-
Cardboard	0.379	1.20	0.215
Steel strips	0.098	0.3	-
Total	**0.543**	**1.7**	**0.324**

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	0,32

DECLARED UNIT AND SERVICE LIFE

Declared unit	1 m2 of concore access floor system installed
Mass per declared unit	32,49 kg
Functional unit	-
Reference service life	-

SUBSTANCES, REACH - VERY HIGH CONCERN

The product does not have declaration according to the Globally Harmonized System of Classification and Labelling of Chemicals (GHS)2. REACH is used instead.

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		
	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
Module	A1	A2	A3	A4	A5	B1	B2	B3	B4	B5	B6	B7	C1	C2	C3	C4	D		
Modules declared	x	x	x	x	x	MND	MND	MND	MND	MND	MND	MND	x	x	x	x	X		
Geography	Asia	Global	Asia	Asia	AU	x	x	x	x	x	x	x	AU	AU	AU	AU	AU		

Modules not declared = MND. Modules not relevant = MNR

It should be noted for this EPD that the maximum deviation in GWP-GHG over A1-A3 for the product is for Concore 3000 with HPL, which is 366% with conversion factor of 3.46 versus the representative product, with 1.06 then multiplied for the HPL finish.

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 electricity mix utilized in the factory, is modelled using a residual mix for the country.

For module A3, the electricity consumption was converted into GWP-GHG using an emission factor of 1.23 kg CO_2-eq per kWh, consistent with the regional electricity mix dataset applied.

The Concore raised access floor system is manufactured in China on behalf of Tate. The product is composed of raw materials sourced from Asian based suppliers. The product is composed of powder-coated steel top and bottom panels, filled with lightweight cement, supported with steel under-structures. Raw materials are delivered to the manufacturing facility by truck. Transport distances are based on supplier site locations.

Production losses are modelled according to site data and allocation principles. All production losses are collected and sent for recycling, landfill or incineration for energy recovery, as dependent on material type.

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 specific distance from the production plant to our distribution site in Australia has been modelled in A4. This is 230km by road and 8430km by sea. Average distance of transportation from the distribution site to the site location, is compiled from specific sales data for 2024.
The average weighted sales distance is calculated as 1200km by road and 3130km by sea. To be conservative, empty returns are included in this study as implemented through an average load factor in the Ecoinvent transport datapoints. Transportation does not cause losses as the product is packaged properly.

The installation energy is minimal due to manual labour involved in the installation of the panels. The installation scenario involves battery operated screwdrivers. The installation losses are estimated at 1.5%.

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.

PRODUCT END OF LIFE (C1-C4, D)

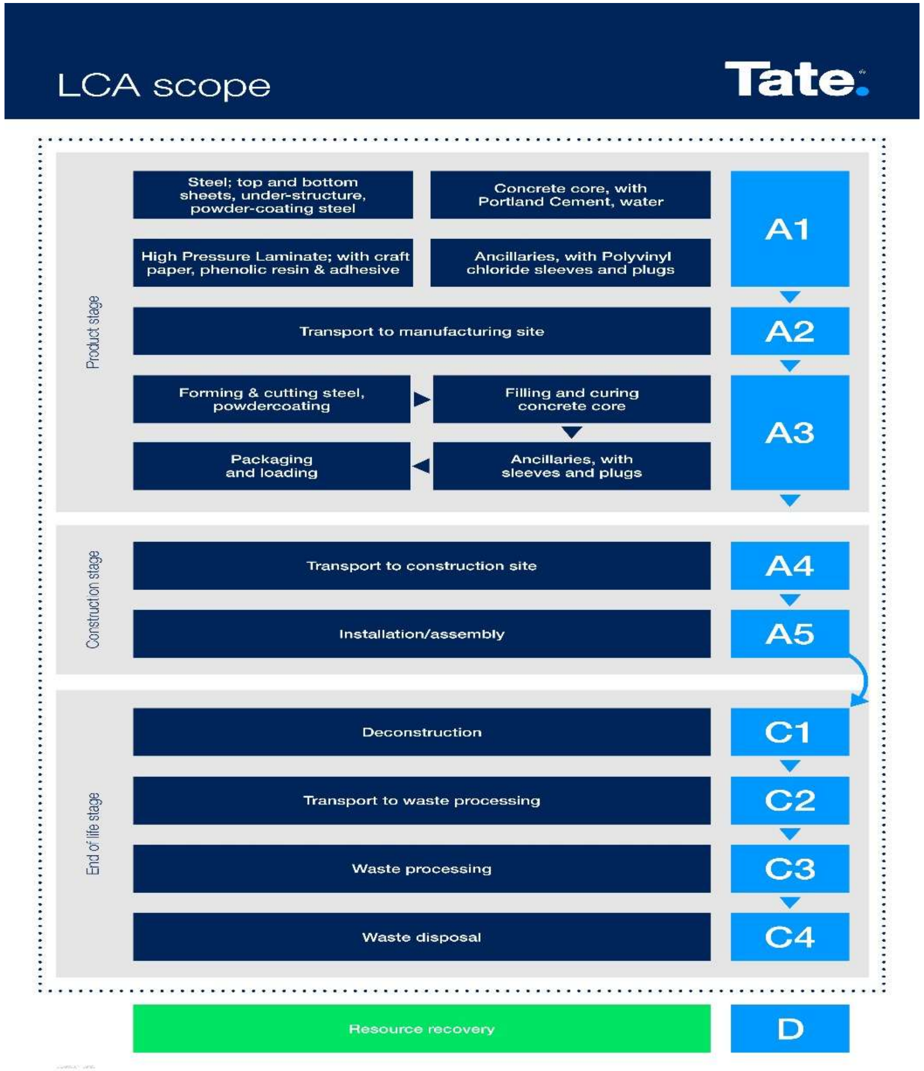
At the end of its service life, the concore access floor system is assumed to be dismantled manually on site. This deconstruction process (C1) is carried out without the use of heavy demolition equipment and results in separated components suitable for downstream sorting and processing.

Transport to the waste processing or recycling facility (C2) is assumed to occur by truck, with average distances modelled in accordance with standard practice. At the facility, materials undergo sorting and processing (C3). Steel is assumed to be recycled at high rates using established scrap recovery systems, in line with World Steel Association figures. The steel here is the bottom and top panels, along with the understructure support system.

Concrete from the panel cores is taken as recycled, and landfilled when recycling is not feasible. High pressure Laminate is landfilled, as due to adhesives and resins, recycling is not feasible.

Module D includes the benefits and burdens associated with the recycling of steel, concrete, and packaging at end of life. The benefits include the avoided production of raw materials, with steel and concrete being considered. The burdens modelled include the recycling of steel, along with concrete.

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 are no neglected unit processes 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.

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 1 and 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.

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 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	Allocated by mass
Packaging material	No allocation
Ancillary materials	Not applicable
Manufacturing energy and waste	Allocated by mass

PRODUCT & MANUFACTURING SITES GROUPING

Type of grouping	Multiple products
Grouping method	Based on a representative product

This EPD has been produced on a representative product basis. This is weighted from sales in the declared data period. The two product variants account for approximately 80% of the sales volume for this product category. The environmental impacts listed in the main results of this EPD are based on that representative basis only.

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 v3.10.1/3.11 and One Click LCA databases as sources of environmental data. Allocation used in Ecoinvent 3.10.1/3.11 environmental data sources follow the methodology 'allocation, Cut-off, EN 15804+A2'.

World Steel data sets have been used for Steel related scenarios.

DECLARATION OF DATA SOURCES, REFERENCE YEARS, DATA CATEGORIES, AND SHARE OF PRIMARY DATA

Process	Source type	Source	Reference year	Data Category	Share of primary data, of GWP-GHG results for A1-A3 (%)	Share of secondary data, of GWP-GHG results for A1-A3 (%)
Energy used in manufacturing of product						
Electricity	Collected data	EPD owner	2024	Primary data	2.62	
Gas	Collected data	EPD owner	2024	Primary data	0.65	
Other processes	Databases	Ecoinvent 3.10.1, Ecoinvent 3.11	2024	Primary data	0.03	
				Total:	**3.30**	
Steel	Databases	Ecoinvent 3.11	2024	Secondary data		58.0
Cement production	Databases	Ecoinvent 3.11	2024	Secondary data		29.0
				Total:		**87.0**

DATA QUALITY AND TEMPORAL SCOPE SUMMARY:

Module	Input/ Output	Database / Source	Quality	Temporal scope	Quality	Geographic scope	Quality
A1	Steel used for panels and understructure products Portland Cement Water Epoxy powdercoating Polyethylene screw sleeve and plug	Production manager Jiangsin Huilian Access Floors; Tate Asia Pacific Technical Team; ecoinvent 3.10.1	Medium	2024	High	Global	Medium
A2	Transport Distances	Production manager, Jiangsin Huilian Access Floors, google maps	Medium	2024	Medium	Asia	Medium
A3	Timber Pallet Packaging Film Cardboard packaging Steel straps	Production manager Jiangsin Huili Access Floors; ecoinvent 3.10.1	Medium	2024	Medium	Global	Medium
A4	Transport	Tate Asia Pacific Technical Team; ecoinvent 3.10.1	Medium	2024	Medium	Global	Medium
A5	Timber packaging waste Cardboard packaging waste Steel panel waste	Tate Asia Pacific Technical Team; ecoinvent 3.10.1	Medium	2024	Medium	Global	Medium

	Concrete core waste Steel strapping waste						
C1-C4	End of Life Scenarios	ecoinvent 3.10.1;	Medium	2024	Medium	Global	Medium
D	Benefits and Loads	ecoinvent 3.10.1; ecoinvent 3.11	Medium	2024	Medium	Global	Medium

ENVIRONMENTAL IMPACT DATA

The study does not consider long-term emissions (i.e., over 100 years). Characterization factors according to EN 15804:2012+A2:2019/AC:2021 and JRC EF 3.1 have been used throughout the study. Parameters used in the study are presented in the tables below.

Parameters describing environmental impacts: (EN 15804: 2012 +A2: 2019)

Impact category	Indicator	Unit (expressed per functional unit or per declared unit)
Climate change – total [a]	Global Warming Potential total (GWP-total)	kg CO_2 eq.
Climate change - fossil	Global Warming Potential fossil fuels (GWP-fossil)	kg CO_2 eq.
Climate change - biogenic	Global Warming Potential biogenic (GWP-biogenic)	kg CO_2 eq.
Climate change - land use and land use change [b]	Global Warming Potential land use and land use change (GWP-luluc)	kg CO_2 eq.
Ozone Depletion	Depletion potential of the stratospheric ozone layer (ODP)	kg CFC_{-11} eq.
Acidification	Acidification potential Accumulated Exceedance (AP)	mol H^+ eq.

Impact category	Indicator	Unit (expressed per functional unit or per declared unit)
Eutrophication aquatic freshwater*	Eutrophication potential fraction of nutrients reaching freshwater end compartment (EP-freshwater)	kg P eq.
Eutrophication aquatic marine	Eutrophication potential fraction of nutrients reaching marine end compartment (EP-marine)	kg N eq.
Eutrophication terrestrial	Eutrophication potential Accumulated Exceedance (EP-terrestrial)	mol N eq.
Photochemical ozone formation	Formation potential of tropospheric ozone (POFP)	kg NMVOC eq.
Depletion of abiotic resources - minerals and metals [c d]	Abiotic depletion potential for nonfossil resources (ADPminerals&metals)	kg Sb eq.
Depletion of abiotic resources - fossil fuels [c]	Abiotic depletion for fossil resources potential (ADP-fossil)	MJ net calorific value
Water use	Water (user) deprivation potential deprivation-weighted water consumption (WDP)	m^3 world eq. deprived
The total global warming potential (GWP-total) is the sum of — GWP-fossil — GWP-biogenic — GWP-luluc The abiotic depletion potential is calculated and declared in two different indicators: — ADP-minerals & metals include all non-renewable abiotic material resources (i.e. except fossil resources); — ADP-fossil includes all fossil resources and includes uranium.		

Parameters describing additional environmental impacts: (EN 15804: 2012 +A2: 2019)

Impact category	Indicator	Unit (expressed per functional unit or per declared unit)
Particulate Matter	Potential incidence of disease due to PM emissions (PM)	Disease incidence
Ionizing radiation human health	Potential Human exposure efficiency relative to U235 (IRP)	kBq U235 eq.
Eco-toxicity (freshwater)	Potential Comparative Toxic Unit for ecosystems (ETP-fw)	CTUe

Human toxicity cancer effects	Potential Comparative Toxic Unit for humans (HTP-c)	CTUh
Human toxicity non-cancer effects	Potential Comparative Toxic Unit for humans (HTP-nc)	CTUh
Land use related impacts/ Soil quality	Potential soil quality index (SQP)	dimensionless

Parameters describing resource use:

Parameter	**Unit (expressed per functional unit or per declared unit)**
Use of renewable primary energy excluding renewable primary energy resources used as raw materials	MJ net calorific value
Use of renewable primary energy resources used as raw materials	MJ net calorific value
Total use of renewable primary energy resources (primary energy and primary energy resources used as materials)	MJ net calorific value
Use of non-renewable primary energy excluding non-renewable primary energy resources used as raw materials	MJ net calorific value
Use of non-renewable primary energy resources used as raw materials	MJ net calorific value
Total use of non-renewable primary energy resources (primary energy and primary energy resources used as materials)	MJ net calorific value
Use of secondary material	kg
Use of renewable secondary fuels	MJ net calorific value
Use of non-renewable secondary fuels	MJ net calorific value
Net use of fresh water	m^3

Other environmental information describing waste categories:

Parameter	Unit (expressed per declared unit)
Hazardous waste disposed*	kg
Non-hazardous waste disposed	kg
Radioactive waste disposed	kg
Components for re-use	kg
Materials for	kg
Materials for energy recovery	kg
Exported energy; thermal	MJ per energy carrier
Exported energy; electricity	MJ per energy carrier

For separating the use of primary energy into energy used as raw material and energy used as energy carrier, the software uses Option C under the PCR 2019:14. We therefore take the same approach.

The following tables show the results for 1 m2 of concore access floor installed, including cornerlock understructure.

The environmental performance results are relative expressions and do not predict impacts on category endpoints, the exceeding of thresholds, safety margins or risks.

The results of the end-of-life stage (modules C1-C4) should be considered when using the results of the product stage (modules A1-A3).

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[1)]	kg CO_2e	4,33E+01	1,79E+00	1,12E+00	4,62E+01	1,31E+01	3,06E+00	ND	ND	ND	ND	ND	ND	ND	3,00E-01	4,97E-01	2,55E-01	1,08E-01	-7,00E-02
GWP – fossil	kg CO_2e	4,33E+01	1,79E+00	3,19E+00	4,83E+01	1,31E+01	9,75E-01	ND	ND	ND	ND	ND	ND	ND	3,00E-01	4,97E-01	2,55E-01	1,08E-01	-6,99E-02
GWP – biogenic	kg CO_2e	1,55E-02	2,20E-05	-2,08E+00	-2,07E+00	2,65E-03	2,08E+00	ND	ND	ND	ND	ND	ND	ND	9,69E-05	1,11E-04	0,00E+00	-0,00E+00	0,00E+00
GWP – LULUC	kg CO_2e	9,38E-03	8,11E-04	9,99E-03	2,02E-02	6,28E-03	4,37E-04	ND	ND	ND	ND	ND	ND	ND	2,20E-04	2,25E-04	2,68E-04	6,20E-05	-8,80E-05
Ozone depletion pot.	kg $CFC\text{-}_{11}e$	4,02E-07	2,66E-08	2,66E-08	4,55E-07	1,92E-07	1,04E-08	ND	ND	ND	ND	ND	ND	ND	1,46E-09	7,37E-09	2,88E-09	3,14E-09	4,48E-10
Acidification potential	mol H^+e	1,21E-01	4,10E-03	1,71E-02	1,42E-01	1,37E-01	4,47E-03	ND	ND	ND	ND	ND	ND	ND	1,52E-03	1,14E-03	2,68E-03	7,69E-04	-4,12E-04
EP-freshwater[2)]	kg Pe	2,08E-03	1,40E-04	7,66E-04	2,99E-03	8,40E-04	7,11E-05	ND	ND	ND	ND	ND	ND	ND	1,05E-04	3,89E-05	1,23E-04	8,91E-06	-2,84E-05
EP-marine	kg Ne	2,52E-02	9,50E-04	4,41E-03	3,06E-02	3,38E-02	1,39E-03	ND	ND	ND	ND	ND	ND	ND	3,15E-04	2,64E-04	6,60E-04	2,93E-04	-8,35E-05
EP-terrestrial	mol Ne	2,71E-01	1,03E-02	4,55E-02	3,27E-01	3,74E-01	1,13E-02	ND	ND	ND	ND	ND	ND	ND	3,25E-03	2,85E-03	7,40E-03	3,20E-03	-1,01E-03
POCP ("smog")[3)]	kg NMVOCe	9,09E-02	5,74E-03	1,35E-02	1,10E-01	1,16E-01	3,76E-03	ND	ND	ND	ND	ND	ND	ND	9,10E-04	1,59E-03	2,19E-03	1,15E-03	-2,84E-04
ADP-minerals & metals[4)]	kg Sbe	1,37E-04	5,99E-06	6,34E-06	1,49E-04	3,44E-05	3,37E-06	ND	ND	ND	ND	ND	ND	ND	2,18E-07	1,66E-06	1,33E-05	1,72E-07	-4,01E-07
ADP-fossil resources	MJ	4,13E+02	2,52E+01	3,85E+01	4,77E+02	1,77E+02	1,05E+01	ND	ND	ND	ND	ND	ND	ND	3,26E+00	6,99E+00	3,05E+00	2,66E+00	-9,09E-01
Water use[5)]	m^3e depr.	8,38E+00	1,18E-01	8,25E-01	9,33E+00	7,37E-01	1,59E-01	ND	ND	ND	ND	ND	ND	ND	3,85E-02	3,28E-02	4,30E-02	7,68E-03	-1,04E-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.*

GWP-biogenic in module C3 and C4 is manually corrected to 0,00 as to not show a negative flow and that the contribution to GWP-total is negligible.

Regarding the Water depletion potential figure in our results, this figure is explained by the fact that water is recycled within the system. In this study, the net freshwater use is higher than the reported WDP because a significant proportion of process water is internally recycled and returned to the system, thereby reducing the net deprivation of freshwater resources.

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	3,62E-06	1,33E-07	3,70E-07	4,12E-06	7,98E-07	8,10E-08	ND	ND	ND	ND	ND	ND	ND	1,61E-08	3,70E-08	9,20E-08	1,75E-08	-5,52E-09
Ionizing radiation[6]	kBq U235e	4,36E-01	2,06E-02	1,32E-01	5,89E-01	1,27E-01	1,27E-02	ND	ND	ND	ND	ND	ND	ND	1,46E-02	5,71E-03	9,72E-03	1,67E-03	-8,39E-03
Ecotoxicity (freshwater)	CTUe	8,64E+01	4,00E+00	5,87E+01	1,49E+02	2,40E+01	1,01E+01	ND	ND	ND	ND	ND	ND	ND	7,14E-01	1,11E+00	1,56E+00	2,23E-01	-1,95E+00
Human toxicity, cancer	CTUh	1,42E-08	2,99E-10	3,10E-09	1,76E-08	2,37E-09	3,23E-10	ND	ND	ND	ND	ND	ND	ND	3,34E-11	8,32E-11	1,83E-10	2,00E-11	-1,81E-11
Human tox. non-cancer	CTUh	1,47E-07	1,59E-08	2,40E-08	1,87E-07	9,28E-08	6,14E-09	ND	ND	ND	ND	ND	ND	ND	1,74E-09	4,41E-09	1,16E-08	4,59E-10	-5,72E-10
SQP[7]	-	4,54E+01	1,52E+01	2,59E+02	3,20E+02	8,16E+01	6,78E+00	ND	ND	ND	ND	ND	ND	ND	5,46E-01	4,23E+00	5,06E+00	5,24E+00	-8,56E-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	9,46E+00	3,50E-01	2,31E+01	3,29E+01	2,16E+00	0,00E+00	ND	ND	ND	ND	ND	ND	ND	2,97E-01	9,71E-02	4,16E-01	2,57E-02	-1,19E-01
Renew. PER as material	MJ	0,00E+00	0,00E+00	1,80E+01	1,80E+01	0,00E+00	-1.80E+01	ND	ND	ND	ND	ND	ND	ND	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00
Total use of renew. PER	MJ	9,46E+00	3,50E-01	4,11E+01	5,09E+01	2,16E+00	-1.80E+01	ND	ND	ND	ND	ND	ND	ND	2,97E-01	9,71E-02	4,16E-01	2,57E-02	-1,19E-01
Non-re. PER as energy	MJ	3,96E+02	2,52E+01	3,64E+01	4,58E+02	1,77E+02	9,35E+00	ND	ND	ND	ND	ND	ND	ND	3,26E+00	6,99E+00	3,05E+00	2,66E+00	-9,09E-01
Non-re. PER as material	MJ	1,36E+01	0,00E+00	1,91E+00	1,55E+01	0,00E+00	-2,08E+00	ND	ND	ND	ND	ND	ND	ND	0,00E+00	0,00E+00	-6,72E+00	-6,67E+00	0,00E+00
Total use of non-re. PER	MJ	4,10E+02	2,52E+01	3,83E+01	4,73E+02	1,77E+02	7,28E+00	ND	ND	ND	ND	ND	ND	ND	3,26E+00	6,99E+00	-3,67E+00	-4,01E+00	-9,09E-01
Secondary materials	kg	7,42E-01	1,15E-02	9,20E-02	8,45E-01	8,16E-02	1,44E-02	ND	ND	ND	ND	ND	ND	ND	3,17E-04	3,18E-03	3,24E-03	6,69E-04	-5,33E-04

Impact category	Unit	A1	A2	A3	A1-A3	A4	A5	B1	B2	B3	B4	B5	B6	B7	C1	C2	C3	C4	D
Renew. secondary fuels	MJ	5,06E-03	1,46E-04	4,44E-01	4,49E-01	7,97E-04	6,75E-03	ND	ND	ND	ND	ND	ND	ND	1,84E-06	4,06E-05	1,40E-04	1,38E-05	1,44E-05
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^3	1,55E+01	3,44E-03	1,82E-02	1,55E+01	2,09E-02	2,31E-01	ND	ND	ND	ND	ND	ND	ND	9,97E-04	9,55E-04	1,19E-03	2,77E-03	-2,37E-03

8) PER = Primary energy resources.

Renewable energy as energy in A5 is manually adjusted to 0. This is 0 as to not show a negative flow and that the contribution to the final LCIA is not deemed as substantial.

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	6,27E-01	4,41E-02	3,58E-01	1,03E+00	2,90E-01	2,28E-02	ND	ND	ND	ND	ND	ND	ND	2,87E-02	1,23E-02	2,12E-02	2,94E-03	-7,16E-03
Non-hazardous waste	kg	2,84E+01	8,28E-01	5,80E+00	3,51E+01	5,09E+00	3,57E+00	ND	ND	ND	ND	ND	ND	ND	5,07E-01	2,30E-01	5,89E-01	6,72E-02	-1,55E-01
Radioactive waste	kg	6,56E-05	5,04E-06	3,22E-05	1,03E-04	3,10E-05	2,49E-06	ND	ND	ND	ND	ND	ND	ND	3,58E-06	1,40E-06	2,39E-06	4,08E-07	-1,63E-06

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	2,78E-01	ND	ND	ND	ND	ND	ND	ND	0,00E+00	0,00E+00	2,19E+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	MJ	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	1,91E-01	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	6,10E-02	ND	ND	ND	ND	ND	ND	ND	0,00E+00	0,00E+00	0,00E+00	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	1,30E-01	ND	ND	ND	ND	ND	ND	ND	0,00E+00	0,00E+00	0,00E+00	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[9)]	kg CO_2e	4,33E+01	1,79E+00	3,20E+00	4,83E+01	1,31E+01	9,75E-01	ND	ND	ND	ND	ND	ND	ND	3,00E-01	4,97E-01	2,55E-01	1,08E-01	-7,00E-02

DEVIATION OF IMPACT FACTORS

The results contained in the core environmental impact indicator tables are reflective of the representative product. The differences or variances in environmental impact indicators for different concore panels, are generally related to the thickness of steel panels. In accordance with requirements, the maximum deviation for the individual product types are now listed below, for modules A-C specifically.

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

Product	GWP Total	GWP – fossil	GWP – biogenic	GWP – LULUC	Ozone depletion pot.	Acidification pot.	EP freshwater	EP-marine	EP-terrestrial	POCP	ADP-minerals & metals	ADP-fossil resources	Water use
	kg CO2e	kg CO2e	kg CO2e	kg CO2e	kg CFC-11e	mol H+e	kg Pe	kg Ne	mol Ne	kg NMVOCe	kg Sbe	MJ	m3e depr
Concore 1250 with understructure	+69%	+69%	+92%	+125%	+44%	+60%	+65%	+53%	+52%	+59%	+64%	+80%	+98%
Concore 1500 panel with understructure	+116%	+129%	+91%	+174%	97%	+99%	+93%	+87%	+84%	+94%	+102%	+133%	+161%
Concore 2000 panel with understructure	+154%	+165%	+96%	+165%	+110%	+129%	+105%	+113%	+110%	+122%	+132%	+206%	+210%
Concore 2500 panel with understructure	+181%	+195%	+177%	+242%	+122%	152%	+131%	+134%	+130%	+144%	+155%	+206%	+250%
Concore 3000 panel with understructure	+213%	+242%	+190%	+330%	+144%	241%	+158%	+202%	+196%	+225%	+182%	+294%	+308%

The variances in the table above can be explained by the increase in weight of the panels. There is a minimum weight increase from the representative product of 10 kg/m2 and a maximum of 36kg/m2 across the product set, inclusive of understructure. This then means that the largest variance across the product set or group is for the concore 3000, which represents a 330% increase on the representative value or baseline figure.

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

Product	Particulate matter	Ionizing radiation	Ecotoxicity (freshwater)	Human toxicity, cancer	Human tox. non-cancer	SQP
	Incidence	kBq U235e	CTUe	CTUh	CTUh	-
Concore 1250 with understructure	+89%	+89%	+75%	+83%	+57%	+65%
Concore 1500 panel with understructure	+151%	+130%	+120%	+135%	+91%	+97%
Concore 2000 panel with understructure	+200%	+153%	+154%	+177%	+115%	+110%
Concore 2500 panel with understructure	+236%	+189%	+180%	+207%	+137%	144%
Concore 3000 panel with understructure	+277%	+218%	+211%	+242%	+160%	166%

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

Product	GWP Total	GWP – fossil	GWP – biogenic	GWP – LULUC	Ozone depletion pot.	Acidification pot.	EP freshwater	EP-marine	EP-terrestrial	POCP	ADP-minerals & metals	ADP-fossil resources	Water use
	kg CO2e	kg CO2e	kg CO2e	kg CO2e	kg CFC-11e	mol H+e	kg Pe	kg Ne	mol Ne	kg NMVOCe	kg Sbe	MJ	m3e depr
Representative with understructure & HPL	+115%	+114%	+10445%	+134%	+120%	+119%	+196%	+118%	+113%	+117%	+130%	+120%	+183%
Concore 1250 with understructure & HPL	+109%	+108%	+5495%	+115%	+111%	+112%	+158%	+112%	+107%	+111%	+118%	+111%	+142%
Concore 1500 panel with understructure & HPL	+107%	+106%	+5504%	+112%	+110%	+110%	+150%	+110%	+105%	+109%	+115%	+108%	+132%
Concore 2000 panel with understructure & HPL	+106%	+105%	+5378%	+113%	+110%	+108%	+147%	+109%	+104%	+108%	+113%	+107%	+127%
Concore 2500 panel with understructure & HPL	+105%	+105%	+3839%	+110%	+109%	+108%	+142%	+108%	+104%	+107%	+112%	+106%	+124%
Concore 3000 panel with understructure & HPL	+105%	+104%	+3792%	+109%	+109%	+107%	+138%	+107%	+103%	+106%	+111%	+106%	+121%

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

Product	Particulate matter	Ionizing radiation	Ecotoxicity (freshwater)	Human toxicity, cancer	Human tox. non-cancer	SQP
	Incidence	kBq U235e	CTUe	CTUh	CTUh	-
Representative with understructure & HPL	+113%	+135%	+140%	+222%	+124%	+187%
Concore 1250 with understructure & HPL	+107%	+118%	+123%	+167%	+142%	+153%
Concore 1500 panel with understructure & HPL	+105%	+115%	+118%	+152%	+112%	+144%
Concore 2000 panel with understructure & HPL	+104%	+114%	+116%	+144%	+111%	+141%
Concore 2500 panel with understructure & HPL	+104%	+112%	+114%	+140%	+110%	+136%
Concore 3000 panel with understructure& HPL	+103%	111%	+113%	+136%	+109%	+133%

END OF LIFE ; ALTERNATIVE SCENARIOS

The below scenarios reflect the other end of life scenarios as required, those being 100% landfill and associated C1-C4 and D results, along with 100% recycling respectively. This is in relation to the main representative results only.

100% LANDFILL

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

Module	GWP Total	GWP – fossil	GWP – biogenic	GWP – LULUC	Ozone depletion pot.	Acidification pot.	EP freshwater	EP-marine	EP-terrestrial	POCP	ADP-minerals & metals	ADP-fossil resources	Water use
C1	3,00E-01	3,00E-01	0,00E+00	2,20E-04	1,46E-09	1,52E-03	1,05E-04	3,15E-04	3,25E-03	9,10E-04	2,18E-07	3,26E+00	3,85E-02
C2	4,97E-01	4,97E-01	0,00E+00	2,25E-04	7,37E-09	1,14E-03	3,89E-05	2,64E-04	2,85E-03	1,59E-03	1,66E-06	6,98E+00	3,27E-02
C3	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00
C4	2,03E-01	2,03E-01	0,00E+00	1,16E-04	5,87E-09	1,44E-03	1,67E-05	5,48E-04	5,98E-03	2,14E-03	3,22E-07	4,97E+00	1,43E-02
D	-7,81E-03	-7,79E-03	0,00E+00	-2,13E-05	-1,06E-10	-4,76E-05	-4,29E-06	-7,61E-06	-7,57E-05	-2,62E-05	-1,48E-08	-1,30E-01	-2,40E-03

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

Module	Particulate matter	Ionizing radiation	Ecotoxicity (freshwater)	Human toxicity, cancer	Human tox. non-cancer	SQP
C1	1,61E-08	1,46E-02	7,14E-01	3,34E-11	1,74E-09	5,46E-01
C2	3,70E-08	5,71E-03	1,11E+00	8,31E-11	4,40E-09	4,23E+00
C3	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00
C4	3,27E-08	3,13E-03	4,17E-01	3,74E-11	8,58E-10	9,79E+00
D	-4,31E-10	-1,99E-03	-1,95E-02	-1,55E-12	-6,17E-11	-9,20E-02

USE OF NATURAL RESOURCES

Module	Renew. PER as energy	Renew. PER as material	Total use of renew. PER	Non-re. PER as energy	Non-re. PER as material	Total use of non-re. PER	Secondary materials	Renew. secondary fuels	Non-ren. secondary fuels	Use of net fresh water
C1	2,97E-01	0,00E+00	2,97E-01	3,26E+00	0,00E+00	3,26E+00	3,17E-04	1,84E-06	0,00E+00	9,97E-04
C2	9,71E-02	0,00E+00	9,71E-02	6,98E+00	0,00E+00	6,98E+00	3,18E-03	4,06E-05	0,00E+00	9,55E-04
C3	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00
C4	4,80E-02	0,00E+00	4,80E-02	4,97E+00	0,00E+00	4,97E+00	1,25E-03	2,59E-05	0,00E+00	5,17E-03
D	-3,59E-02	0,00E+00	-3,59E-02	-1,30E-01	0,00E+00	-1,30E-01	3,89E-04	2,11E-05	0,00E+00	-8,77E-05

END OF LIFE – WASTE

Module	Hazardous waste	Non-hazardous waste	Radioactive waste
C1	2,87E-02	5,07E-01	3,58E-06
C2	1,23E-02	2,30E-01	1,40E-06
C3	0,00E+00	0,00E+00	0,00E+00
C4	5,49E-03	1,26E-01	7,62E-07
D	-5,67E-04	-2,43E-02	-5,09E-07

END OF LIFE – OUTPUT FLOWS

Module	Components for re-use	Materials for recycling	Materials for energy rec	Exported energy	Exported energy – Electricity	Exported energy – Heat
C1	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00
C2	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00
C3	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00
C4	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00
D	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00

ADDITIONAL INDICATOR – GWP-GHG

Module	GWP-GHG
C1	0,00E+00
C2	0,00E+00
C3	0,00E+00
C4	0,00E+00

100% RECYCLING

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

Module	GWP Total	GWP – fossil	GWP – biogenic	GWP – LULUC	Ozone depletion pot.	Acidification pot.	EP freshwater	EP-marine	EP-terrestrial	POCP	ADP-minerals & metals	ADP-fossil resources	Water use
C1	3,00E-01	3,00E-01	9,69E-05	2,20E-04	1,46E-09	1,52E-03	1,05E-04	3,15E-04	3,25E-03	9,10E-04	2,18E-07	3,26E+00	3,85E-02
C2	3,11E-01	3,10E-01	6,92E-05	1,41E-04	4,61E-09	7,11E-04	2,43E-05	1,65E-04	1,78E-03	9,96E-04	1,04E-06	4,36E+00	2,05E-02
C3	3,63E-01	3,64E-01	-8,00E-04	3,21E-04	4,37E-09	3,73E-03	1,46E-04	1,05E-03	1,16E-02	3,45E-03	1,56E-05	4,42E+00	5,27E-02
C4	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00
D	-7,81E-03	-7,79E-03	0,00E+00	-2,13E-05	-1,06E-10	-4,76E-05	-4,29E-06	-7,61E-06	-7,57E-05	-2,62E-05	-1,48E-08	-1,30E-01	-2,40E-03

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

Module	Particulate matter	Ionizing radiation	Ecotoxicity (freshwater)	Human toxicity, cancer	Human tox. non-cancer	SQP
C1	1,61E-08	1,46E-02	7,14E-01	3,34E-11	1,74E-09	5,46E-01
C2	2,31E-08	3,57E-03	6,93E-01	5,19E-11	2,75E-09	2,64E+00
C3	2,34E-07	1,18E-02	1,88E+00	2,22E-10	1,37E-08	6,00E+00
C4	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00
D	-4,31E-10	-1,99E-03	-1,95E-02	-1,55E-12	-6,17E-11	-9,20E-02

USE OF NATURAL RESOURCES

Module	Renew. PER as energy	Renew. PER as material	Total use of renew. PER	Non-re. PER as energy	Non-re. PER as material	Total use of non-re. PER	Secondary materials	Renew. secondary fuels	Non-ren. secondary fuels	Use of net fresh water
C1	2,97E-01	0,00E+00	2,97E-01	3,26E+00	0,00E+00	3,26E+00	3,17E-04	1,84E-06	0,00E+00	9,97E-04
C2	6,07E-02	0,00E+00	6,07E-02	4,36E+00	0,00E+00	4,36E+00	1,99E-03	2,54E-05	0,00E+00	5,97E-04
C3	4,93E-01	0,00E+00	4,93E-01	4,42E+00	0,00E+00	4,42E+00	4,16E-03	1,66E-04	0,00E+00	1,45E-03
C4	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00
D	-3,59E-02	0,00E+00	-3,59E-02	-1,30E-01	0,00E+00	-1,30E-01	3,89E-04	2,11E-05	0,00E+00	-8,77E-05

END OF LIFE – WASTE

Module	Hazardous waste	Non-hazardous waste	Radioactive waste
C1	2,87E-02	5,07E-01	3,58E-06
C2	7,66E-03	1,44E-01	8,74E-07
C3	2,58E-02	7,05E-01	2,90E-06
C4	0,00E+00	0,00E+00	0,00E+00
D	-5,67E-04	-2,43E-02	-5,09E-07

END OF LIFE – OUTPUT FLOWS

Module	Components for re-use	Materials for recycling	Materials for energy rec	Exported energy	Exported energy – Electricity	Exported energy – Heat
C1	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00
C2	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00
C3	0,00E+00	5,52E+01	0,00E+00	0,00E+00	0,00E+00	0,00E+00
C4	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00
D	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00

ADDITIONAL INDICATOR – GWP-GHG

Module	GWP-GHG
C1	3,00E-01
C2	3,11E-01
C3	3,64E-01
C4	0,00E+00
D	-7.81E-03

APPENDIX 1

PRODUCT RAW MATERIAL MAIN COMPOSITION (SUMMARY)

	Concore panel only	Concore with cornerlock & bolted stringer	Concore with cornerlock and HPL	
Raw material category	**Amount, mass %**	**Amount, mass %**	**Amount, mass %**	**Material origin**
Metals	24	34	26	Asia
Minerals	73	64	64	Asia
Fossil materials	3	3	3	Asia
Bio-based materials	-	-	7	Asia

BIOGENIC CARBON CONTENT

Product's biogenic carbon content at the factory gate, including variations

Raw material category:	1m2 of panel only	1m2 of system including HPL finish	1m2 of system including bolted stringer
Biogenic carbon content in product, kg C	0	0.675	0
Biogenic carbon content in packaging, kg C	0.385	0.415	0.443

CONTENT DECLARATION (PER 1M2 OF PRODUCT)

	Baseline	Concore with cornerlock and HPL	Concore with cornerlock and stringers
Product Components:	Weight (kg) /m2	Weight (kg) /m2	Weight (kg) /m2
Steel (top & bottom)	7.40	7.40	7.40
Portland Cement	14.89	14.89	14.89
Water	7.44	7.44	7.44
Epoxy Powdercoating	0.21	0.21	0.21
PVC screw sleeve and plugs	0.39	0.39	0.39
Steel understructure	2.05	2.05	6.90
Galvanising (zinc)	0.09	0.09	0.100
PVC Foam Tape	-	-	0.005
Kraft Paper	-	1.386	-
Aluminum Oxide	-	0.025	-
Melamine Formaldehyde Resin	-	0.805	-
Polychloroprene Rubber Adhesive	-	0.225	-
Total	**32.49**	**34.92**	**37.37**

Tate.

Guidance for calculating environmental impacts of panels and understructure:

The values presented in these tables are provided as additional information and are not part of the declared environmental impacts of the representative product model. These figures are based on indicative scaling or conversion factors and are included to support comparative understanding of product variants and finishes. This approach is in accordance with the principles of EN 15804+A2 and PCR 2019:14, which require that only impacts from the modeled representative product be included in the declared results. All supplementary data is presented transparently and separately to maintain compliance.

To calculate the combined environmental impact of a panel or understructure based on the lca scope of this environmental product declaration, multiply the impacts for an indicator of interest for module A1-A3, by the conversion factor . For example. The total GWP A1-3 of Concore with cornerlock understructure is 46.2 $kgCO_2e$ / m2.

So, for the total GWP impact for an access floor system with a concore 1500 panel and understructure is 46.2*2.33=107.64 $kgCO_2e$. Please refer to the conversion tables below for the product types, understructure types and associated packaging.

Variation for EN15804+A2 impact indicators; A1-A3

Product	GWP Total A1-A3	GWP Fossil A1-A3	GWP Biogenic A1-A3	GWP LULUC A1-A3	Ozone depletion pot	Acidification potential	EP-freshwater	EP-marine	EP-terrestrial	POCP	ADP-minerals & metals	ADP-fossil resources	Water use
	kg CO2e	kg CO2e	kg CO2e	kg CO2e	kg CFC-11e	mol H+e	kg Pe	kg Ne	mol Ne	kg NMVOCe	kg Sbe	MJ	m3e depr
Representative product	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Concore 1250	1.79	1.78	1.88	1.88	1.98	1.82	1.73	1.70	1.68	1.82	1.66	1.78	2.04
Concore 1500	2.33	2.32	2.20	3.12	2.13	2.33	2.00	2.13	2.09	2.27	2.04	2.62	2.70
Concore 2000	2.78	2.73	2.49	2.93	2.22	2.73	2.07	2.44	2.40	2.73	2.73	3.12	3.22
Concore 2500	3.09	3.04	2.67	3.91	2.33	3.06	2.38	2.73	2.68	2.93	2.56	3.50	3.63
Concore 3000	3.46	3.42	2.90	4.30	2.44	3.41	2.58	3.02	2.96	3.25	2.82	3.94	4.08

Tate.

Regarding the HPL finish, the impacts can be established from adding the values taken from the table on the previous page to those below. For example for Concore 1500, in order to calculate the value of the product variants, when the HPL finish is applied, please take the conversion total of 107.18, multiply it by the additional HPL conversion value of 1.09. Therefore 107.64 x 1.09 = 117.32 kg CO_2e / m2 in total.

Product	GWP Total A1-A3	GWP Fossil A1-A3	GWP Biogenic A1-A3	GWP LULUC A1-A3	Ozone depletion pot	Acidification potential	EP-freshwater	EP-marine	EP-terrestrial	POCP	ADP-minerals & metals	ADP-fossil resources	Water use
	kg CO2e	kg CO2e	kg CO2e	kg CO2e	kg CFC-11e	mol H+e	kg Pe	kg Ne	mol Ne	kg NMVOCe	kg Sbe	MJ	m3e depr
Representative product	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Concore 1250 with HPL	1.11	1.11	0.66	1.18	1.15	1.22	1.78	1.24	1.25	1.20	1.24	1.14	1.45
Concore 1500 with HPL	1.09	1.08	0.71	1.15	1.14	1.17	1.67	1.19	1.20	1.16	1.20	1.11	1.34
Concore 2000 with HPL	1.07	1.07	0.74	1.16	1.14	1.14	1.65	1.17	1.17	1.14	1.17	1.09	1.29
Concore 2500 with HPL	1.07	1.06	0.76	1.12	1.13	1.13	1.56	1.15	1.16	1.13	1.16	1.08	1.25
Concore 3000 with HPL	1.06	1.06	0.78	1.11	1.12	1.12	1.52	1.13	1.14	1.11	1.14	1.07	1.22

Please note that the above conversion values are taken from comparison to the product variants, then with additional HPL finish added. The conversion factor is applied to the already converted values for the product, to <u>only</u> add HPL finish impact.

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ABBREVIATIONS :

AU	Australia
CHN	China
CPC	Central Product Classification
EF	Environmental Footprint
EN	European Norm (Standard)
EPD	Environmental Product Declaration
GPI	General Programme Instructions
HPL	High Pressure Laminate
ISO	International Organization for Standardisation
LCA	Life Cycle Assessment
LCI	Life Cycle Inventory
LULUC	Land Use, Land Use Change
ND	Not Declared
PCR	Product Category Rules
PVC	Polyvinyl Chloride
PTY	Proprietary

REFERENCES :

- PCR: PCR 2019:14 Version 2.0.1
- GPI:

  International EPD System GPIs – Version 5.0.1

  EPD Australasia Regional Annex – Version 4.2
- ISO 14025:2010 Environmental labels and declarations – Type III environmental declarations Principles and procedures.
- ISO 14040:2006 Environmental management. Life cycle assessment. Principles and frameworks.
- ISO 14044:2006 Environmental management. Life cycle assessment. Requirements and guidelines.
- EN 15804:2012+A2:2019/AC:2021 Sustainability in construction works – Environmental product declarations – Core rules for the product category of construction products.
- Ecoinvent 3.10.1/3.11 database
- World Steel Database
- Department of Climate Change, Energy the Environment and Water (www.dcceew.gov.au)

VERSION HISTORY :

Version	Date	Changes Made / Notes
1.0	2025-12-11	Initial publication of the EPD