Environmental Product Declaration

Tate Access Floors, Inc.

This Environmental Product Declaration (EPD) provides a detailed account of Tate's cradle to grave environmental footprint for ConCore access floor panels and is based on a Life Cycle Assessment (LCA) that conforms with ISO 14040 series.

Tate's LCA calculated the environment footprint at each stage of the supply chain, from raw material extraction and processing, manufacturing and shipping processes, to product use, and end of life. Life cycle environmental impacts associated with the ConCore line of products, including resource use, wastes, and materials for recycling, were reported based on the requirements of the Product Category Rule (PCR).

Tate is part of the Kingspan Group plc, the world's largest manufacturer of access floor panels, and is committed to corporate transparency and minimizing the environmental impact of our business operations, products, and services on the communities we work with.

Learn more about Tate's sustainability mission at: www.TateInc.com/Green

EPD Number and Period of Validity
SCS-EPD-04777
EPD Valid December 15, 2017 through December 14, 2022

Declaration Owner
Tate Access Floors, Inc.
7510 Montevideo Rd. Jessup, MD 20794
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https://www.tateinc.com

Product
ConCore™ Access Floor Systems:
ConCore™ 1000, ConCore™ 1250, ConCore™ 1500, ConCore™ 2000, ConCore™ 2500, and ConCore™ 3000

Functional Unit
1 m^2 of access floor system over a 30 year period

Product Category Rule
IBU Part A: Calculation Rules for the Life Cycle Assessment and Requirements on the Project Report. Version 1.5, 2016.
IBU Part B: Requirements on the EPD for System floors. Version 1.1, 2016.

Program Operator
SCS Global Services
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Disclaimers: This EPD conforms to ISO 14025, 14040, 14044 and EN 15804.

Scope of Results Reported: The PCR requirements limit the scope of the LCA metrics such that the results exclude environmental and social performance benchmarks and thresholds, and exclude impacts from the depletion of natural resources, land use ecological impacts, ocean impacts related to greenhouse gas emissions, risks from hazardous wastes and impacts linked to hazardous chemical emissions.

Accuracy of Results: Due to PCR constraints, this EPD provides estimations of potential impacts that are inherently limited in terms of accuracy.

Comparability: The PCR this EPD was based on was not written to support comparative assertions. EPDs based on different PCRs, or different calculation models, may not be comparable. When attempting to compare EPDs or life cycle impacts of products from different companies, the user should be aware of the uncertainty in the final results, due to and not limited to, the practitioner's assumptions, the source of the data used in the study, and the specifics of the product modeled.

PCR review, was conducted by	Institut Bauen und Umwelt e.V., (IBU).
Approved Date: December 15, 2017 – End Date: December 14, 2022	
Independent verification of the declaration and data, according to ISO 14025:2006. EN 15804 serves as the core PCR	☐ internal ☑ external
Third party verifier	Tom Gloria, Ph.D., Industrial Ecology Consultants

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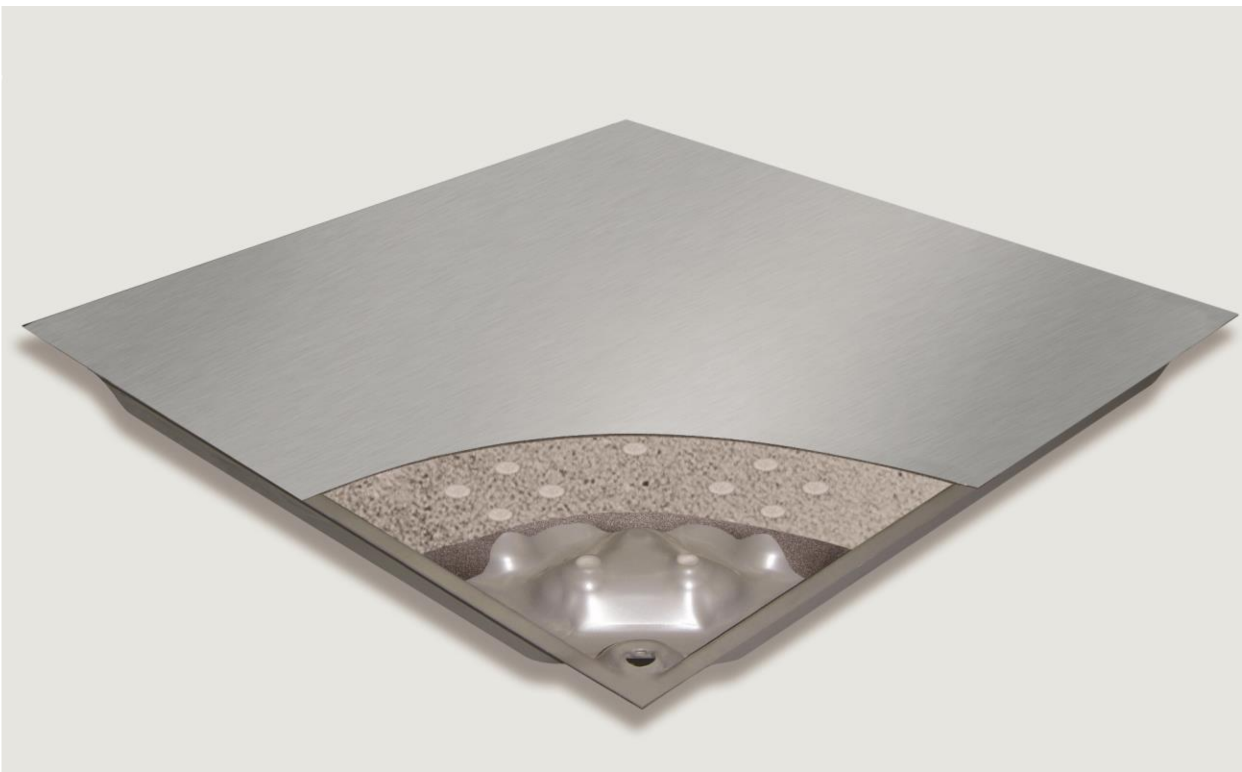


1. ABOUT TATE ACCESS FLOORS, INC

Tate Access Floors, Inc. provides high performance and sustainable solutions for commercial buildings, offering a wide range of products to improve efficiency and indoor environmental quality through the use of underfloor service distribution. The products include access floors and wide range of integrated high-end architectural finishes.

2. PRODUCT

2.1 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 solid panels deliver the ultimate in design, performance, plenum integrity, service, and usability. There are six panel grades (ConCore™ 1000, ConCore™ 1250, ConCore™ 1500, ConCore™ 2000, ConCore™ 2500, and ConCore™ 3000) and an extensive selection of understructure supports to meet specific performance requirements. The understructure includes two different support structures for different load requirements including Bolted Stringer and PosiLock Cornerlock. The table below presents the representative panel and understructure combination for each ConCore™ access floor system declared in this EPD.

Table 1. *Representative panel and understructure combination for each ConCore™ access floor system.*

Product	Percent Sold with Bolted Stringer	Percent Sold with Cornerlock
ConCore™ 1000	30%	70%
ConCore™ 1250	60%	40%
ConCore™ 1500	80%	20%
ConCore™ 2000	100%	0%
ConCore™ 2500	100%	0%
ConCore™ 3000	100%	0%

2.2 Application

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. Finishes and the materials required for their installation and use are not included in this EPD.

2.3 Technical Data

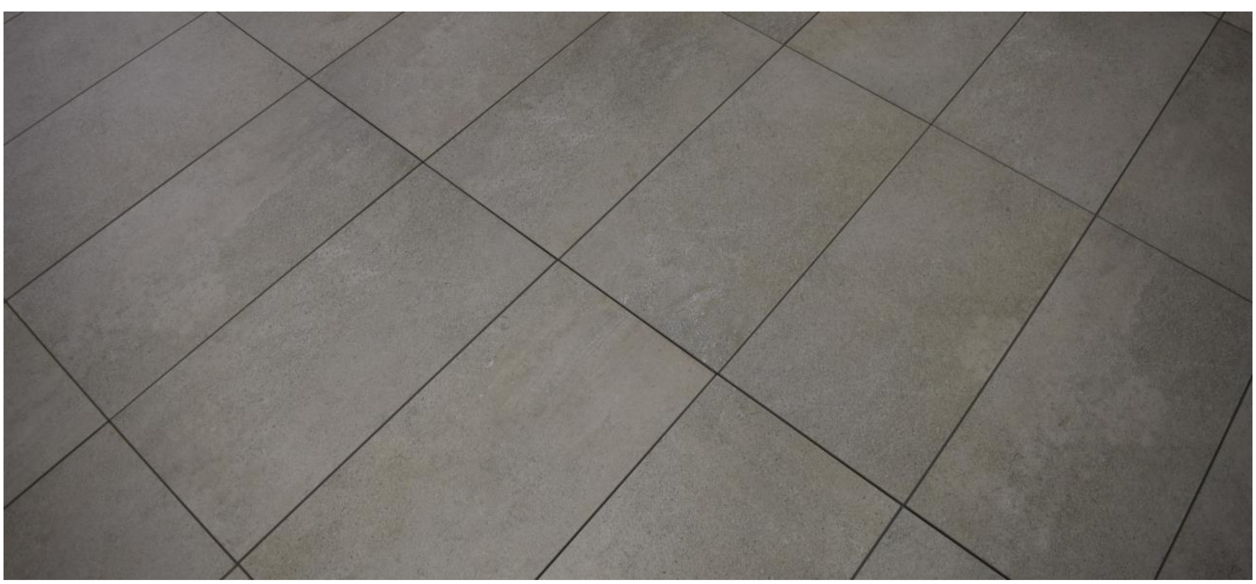
System performance criteria for each ConCore™ access floor system is presented below. System design load is based on permanent set ≤ 0.010" and is verified by loading panels in accordance with the Ceilings & Interior Systems Construction Association (CISCA) Standards and Procedures for concentrated load methods, but with panels installed on actual understructure instead of steel blocks. Ultimate, rolling, and impact load tests are performed using CISCA test procedures.

Table 2. *System performance criteria for each ConCore™ access floor system.*

Panel	Understructure	Static Loads			Rolling Loads		Impact Loads
		Design Loads	Ultimate Loads	Safety Factor	10 Passes	10,000 Passes	
ConCore™ 1000	Posilock	1000 lb 454 kg	Min. 2000 lb Min. 908 kg	Min. 2	800 lb 363 kg	600 lb 272 kg	150 lb 68 kg
	Bolted Stringer	1000 lb 454 kg	Min. 2000 lb Min. 908 kg	Min. 2	800 lb 363 kg	600 lb 272 kg	150 lb 68 kg
ConCore™ 1250	Posilock	1250 lb 567 kg	Min. 2500 lb Min. 1134 kg	Min. 2	1125 lb 510 kg	875 lb 397 kg	150 lb 68 kg
	Bolted Stringer	1250 lb 567 kg	Min. 2500 lb Min. 1134 kg	Min. 2	1000 lb 454 kg	800 lb 363 kg	150 lb 68 kg
ConCore™ 1500	Posilock	1500 lb 680 kg	Min. 3000 lb Min. 1360 kg	Min. 2	1250 lb 567 kg	1000 lb 454 kg	150 lb 68 kg
	Bolted Stringer	1500 lb 680 kg	Min. 3000 lb Min. 1360 kg	Min. 2	1250 lb 567 kg	1000 lb 454 kg	150 lb 68 kg
ConCore™ 2000	Bolted Stringer	2000 lb 907 kg	Min. 4000 lb Min. 1814 kg	Min. 2	1500 lb 680 kg	1250 lb 567 kg	200 lb 91 kg
ConCore™ 2500	Bolted Stringer	2500 lb 1134 kg	Min. 5000 lb Min. 2268 kg	Min. 2	2000 lb 907 kg	2000 lb 907 kg	200 lb 91 kg
ConCore™ 3000	Bolted Stringer	3000 lb 1361 kg	Min. 6000 lb Min. 2722 kg	Min. 2	2700 lb 1225 kg	2400 lb 1089 kg	200 lb 91 kg

Table 3. *Additional system product performance requirements for all ConCore™ Access Floor Systems.*

Flammability	Combustibility	Perforated Airflow Panel (without damper)	Perforated Airflow Panel (with damper)	Perforated Direction Airflow Panel	Directional Airflow Panels	Cornerlock Height	Bolted Stringer Height
Class A, ASTM E84-1998	ASTM E136, @750° C	746 cfm @0.1-inch H_2O	515 cfm @0.1-inch H_2O	765 cfm @0.1-inch H_2O	2,594 cfm @0.1-inch H_2O	15cm – 40cm	30cm – 90cm



2.4 Delivery Status

ConCore™ panels are delivered as 2 ft x 2 ft (60cm x 60 cm) along with the supporting understructure for installation. Cornerlock and Bolted Stringer height ranges are declared in Table 3. The respective packaging types and amounts are declared in Section 2.5.

2.5 Base Materials

Table 4. *Material composition of ConCore™ 1000 panel and its packaging, including percent of pre- and post-consumer material.*

Material	Amount (kg/m^2)	Percent of Total Weight	Percent Pre-consumer Recycled Content	Percent Post-consumer Recycled Content
ConCore™ 1000 Panel				
Portland cement	16	51%	20%	0.0%
Steel	16	48%	8.6%	42%
Epoxy resin	0.12	0.36%	0.0%	0.0%
Epoxy paste	$5.1X10^{-2}$	0.16%	0.0%	0.0%
Synthetic detergent	$9.8X10^{-3}$	0.030%	0.0%	0.0%
Polyethylene	$3.7X10^{-3}$	0.011%	0.0%	0.0%
Urethane acrylic copolymer	$3.7X10^{-3}$	0.011%	0.0%	0.0%
Total	32	100%	14%	20%
ConCore™ 1000 Packaging				
Wood pallet	0.57	83%	0.0%	0.0%
Corrugated board	0.11	17%	0.0%	0.0%
Total	0.68	100%	0.0%	0.0%

Table 5. *Material composition of ConCore™ 1250 panel and its packaging, including percent of pre- and post-consumer material.*

Material	Amount (kg/m^2)	Percent of Total Weight	Percent Pre-consumer Recycled Content	Percent Post-consumer Recycled Content
ConCore™ 1250 Panel				
Steel	17	51%	8.6%	42%
Portland cement	16	49%	20%	0.0%
Epoxy resin	0.12	0.34%	0.0%	0.0%
Epoxy paste	$5.1x10^{-2}$	0.15%	0.0%	0.0%
Synthetic detergent	$9.8x10^{-3}$	0.029%	0.0%	0.0%
Polyethylene	$3.7x10^{-3}$	0.011%	0.0%	0.0%
Urethane acrylic copolymer	$3.7x10^{-3}$	0.011%	0.0%	0.0%
Total	34	100%	14%	21%
ConCore™ 1250 Packaging				
Wood pallet	0.57	83%	0.0%	0.0%
Corrugated board	0.11	17%	0.0%	0.0%
Total	0.68	100%	0.0%	0.0%

Table 6. *Material composition of ConCore™ 1500 panel and its packaging, including percent of pre- and post-consumer material.*

Material	Amount (kg/m²)	Percent of Total Weight	Percent Pre-consumer Recycled Content	Percent Post-consumer Recycled Content
ConCore™ 1500 Panel				
Steel	21	56%	8.6%	42%
Portland cement	16	44%	20%	0.0%
Epoxy resin	0.12	0.31%	0.0%	0.0%
Epoxy paste	5.1×10^{-2}	0.14%	0.0%	0.0%
Synthetic detergent	9.8×10^{-3}	0.026%	0.0%	0.0%
Polyethylene	3.7×10^{-3}	0.010%	0.0%	0.0%
Urethane acrylic copolymer	3.7×10^{-3}	0.010%	0.0%	0.0%
Total	38	100%	14%	23%
ConCore™ 1500 Packaging				
Wood pallet	0.57	83%	0.0%	0.0%
Corrugated board	0.11	17%	0.0%	0.0%
Total	0.68	100%	0.0%	0.0%

Table 7. *Material composition of ConCore™ 2000 panel and its packaging, including percent of pre- and post-consumer material.*

Material	Amount (kg/m²)	Percent of Total Weight	Percent Pre-consumer Recycled Content	Percent Post-consumer Recycled Content
ConCore™ 2000 Panel				
Steel	25	60%	8.6%	42%
Portland cement	16	40%	20%	0.0%
Epoxy resin	0.12	0.28%	0.0%	0.0%
Epoxy paste	5.1×10^{-2}	0.13%	0.0%	0.0%
Synthetic detergent	9.8×10^{-3}	0.024%	0.0%	0.0%
Polyethylene	3.7×10^{-3}	0.0089%	0.0%	0.0%
Urethane acrylic copolymer	3.7×10^{-3}	0.0089%	0.0%	0.0%
Total	41	100%	13%	25%
ConCore™ 2000 Packaging				
Wood pallet	0.57	83%	0.0%	0.0%
Corrugated board	0.11	17%	0.0%	0.0%
Total	0.68	100%	0.0%	0.0%

Table 8. *Material composition of ConCore™ 2500 panel and its packaging, including percent of pre- and post-consumer material.*

Material	Amount (kg/m^2)	Percent of Total Weight	Percent Pre-consumer Recycled Content	Percent Post-consumer Recycled Content
ConCore™ 2500 Panel				
Steel	31	65%	8.6%	42%
Portland cement	16	34%	20%	0.0%
Epoxy resin	0.12	0.24%	0.0%	0.0%
Epoxy paste	5.1×10^{-2}	0.11%	0.0%	0.0%
Synthetic detergent	9.8×10^{-3}	0.020%	0.0%	0.0%
Polyethylene	3.7×10^{-3}	0.0076%	0.0%	0.0%
Urethane acrylic copolymer	3.7×10^{-3}	0.0076%	0.0%	0.0%
Total	48	100%	12%	27%
ConCore™ 2500 Packaging				
Wood pallet	0.57	83%	0.0%	0.0%
Corrugated board	0.11	17%	0.0%	0.0%
Total	0.68	100%	0.0%	0.0%

Table 9. *Material composition of ConCore™ 3000 panel and its packaging, including percent of pre- and post-consumer material.*

Material	Amount (kg/m^2)	Percent of Total Weight	Percent Pre-consumer Recycled Content	Percent Post-consumer Recycled Content
ConCore™ 3000 Panel				
Steel	33	67%	8.6%	42%
Portland cement	16	33%	20%	0.0%
Epoxy resin	0.12	0.23%	0.0%	0.0%
Epoxy paste	5.1×10^{-2}	0.10%	0.0%	0.0%
Synthetic detergent	9.8×10^{-3}	0.020%	0.0%	0.0%
Polyethylene	3.7×10^{-3}	0.0074%	0.0%	0.0%
Urethane acrylic copolymer	3.7×10^{-3}	0.0074%	0.0%	0.0%
Total	50	100%	12%	28%
ConCore™ 3000 Packaging				
Wood pallet	0.57	83%	0.0%	0.0%
Corrugated board	0.11	17%	0.0%	0.0%
Total	0.68	100%	0.0%	0.0%

Table 10. *Material composition of Cornerlock and its packaging, including percent of pre- and post-consumer material.*

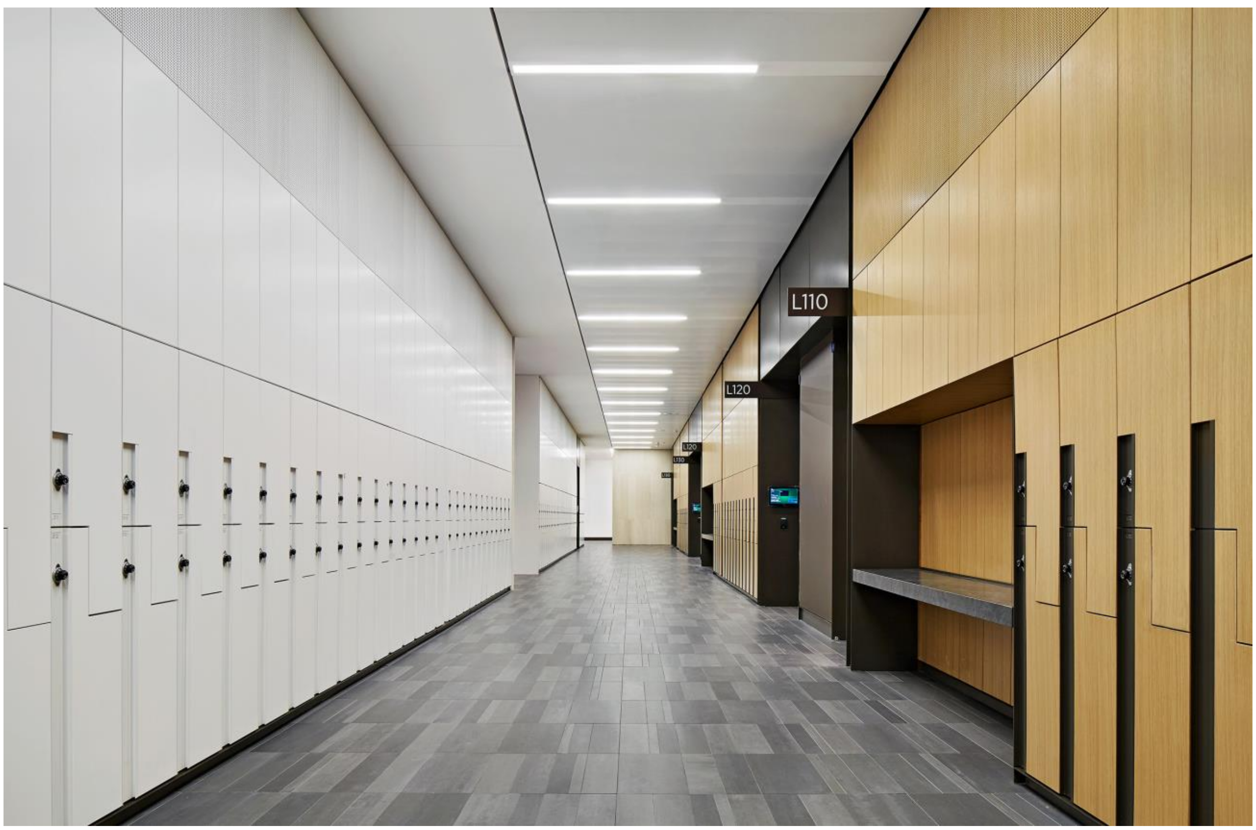
Material	Amount (kg/m^2)	Percent of Total Weight	Percent Pre-consumer Recycled Content	Percent Post-consumer Recycled Content
Cornerlock Understructure				
Galvanized steel	3.1	98%	18%	59%
Stainless steel	$6.3x10^{-2}$	2.00%	31%	57%
Grey phosphate steel	$1.4x10^{-2}$	0.44%	31%	57%
Total	3.2	100%	18%	59%
Cornerlock Understructure Packaging				
Wood pallet	$5.7x10^{-2}$	83%	0.0%	0.0%
Corrugated board	$1.1x10^{-2}$	17%	12%	57%
Total	$6.9x10^{-2}$	100%	2.0%	10%

Table 11. *Material composition of Bolted Stringer and its packaging, including percent of pre- and post-consumer material.*

Material	Amount (kg/m^2)	Percent of Total Weight	Percent Pre-consumer Recycled Content	Percent Post-consumer Recycled Content
Bolted Stringer Understructure				
Galvanized steel	6.1	84%	12%	41%
Steel	1.1	15%	31%	57%
Grey phosphate steel	0.11	1.5%	31%	57%
Total	7.3	100%	15%	43%
Bolted Stringer Understructure Packaging				
Wood pallet	0.22	88%	0.0%	0.0%
Corrugated board	$3.0x10^{-2}$	12%	12%	57%
Total	0.25	100%	1.4%	6.8%

2.6 Product Manufacture

The manufacturing of ConCore™ access floor systems is done at the Tate, Inc. facility in Red Lion, Pennsylvania. First, the steel top sheet is uncoiled and stamped into a 2 ft x 2 ft square. The bottom pan goes through a proprietary three-step process to form the same square dimension with an "egg-carton" texture. The top sheet is then welded to the bottom pan before the panel is sent to a trim die to be sized within ten-thousands of an inch. The panel is pre-treated to remove any residue and then painted via an electrophoretic deposition process before being cured in an oven. The panel is then fed into a continuous punching process to allow for the injection of Portland cement, reclaimed water, and foaming material into the panel cavity. The panel is then plugged after filling and the excess material is sent to a collecting bin that reclaims the water to be used in the filling process again. The panel is then hydrated and subsequently dried using propelled plastic pellets at the panel to remove any cement residue. The panel is put into a corrugated board sleeve before being shipped for customer use.



2.7 Environment and Health during Manufacture

The Tate facility is ISO 14001:2004 and OSHA 18001:2007 certified, demonstrating that they maintain an environmental management system and an occupational health and safety management system.

2.8 Product Processing/ Installation

The installation of ConCore™ access floor systems is completed using manual labor with hand tools and does not require any electricity or other resources.

2.9 Packaging

ConCore™ access floor systems are packaged for shipment with wood pallets and corrugated board. The material composition and amounts for product packaging are declared in Section 2.5.

2.10 Condition of Use

No special conditions of use are noted.

2.11 Environment and Health during use

No environmental or health impacts are expected as ConCore™ access floor systems are not exposed during their use.

2.12 Reference Service Life

The Reference Service Life (RSL) of the ConCore™ access floor system is 30 years.

2.13 Extraordinary Effects

No environmental or health impacts are expected due to extraordinary effects including fire and/or water damage and product destruction.

2.14 Re-Use Phase

ConCore™ access floor systems are not typically reused at end-of-life; however, the system can be uninstalled in their original location and be reused in other buildings. Recycling of the steel components are possible. Energy recovery at end-of-life is possible through waste incineration.

2.15 Disposal

Components of ConCore™ access floor systems that are not able to be recycled or incinerated for energy recovery may be disposed of in a landfill or via incineration. In this EPD, a 80% landfill and 20% incineration split is used and is a general disposal rate determined by the US Environmental Protection Agency in the "Solid Waste Management and Greenhouse Gases: A Life-Cycle Assessment of Emissions and Sinks: document, page 111, and is deemed to be an acceptable disposal rate of final material. Transportation of disposal packaging assumes a 20 mile (32 kilometer) distance based on the US Environmental Protection Agency WARM model.

2.16 Further Information

Further information on the product can be found on the manufacturers' website: https://www.tateinc.com/

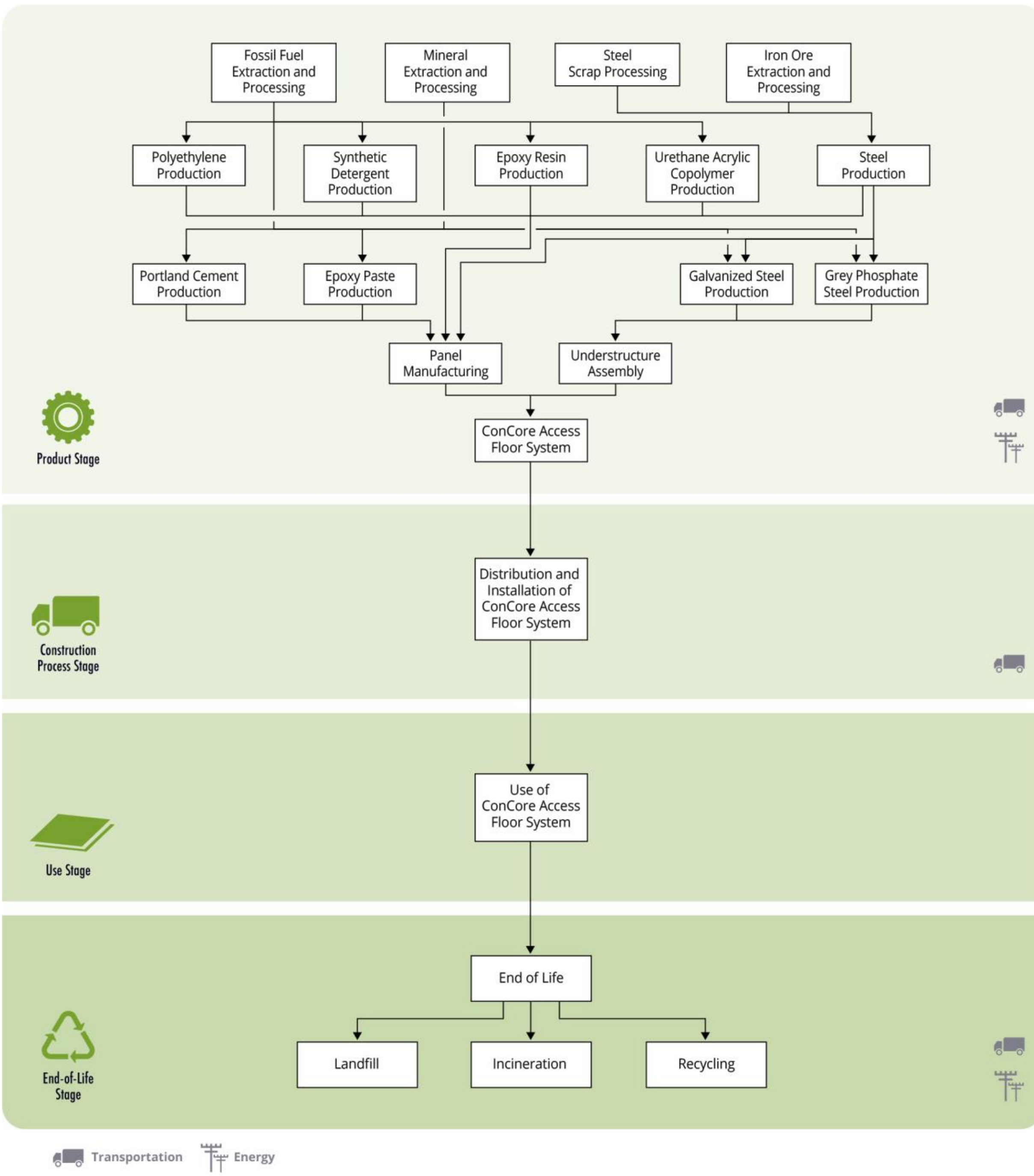
3. LCA: CALCULATION RULES

3.1 Functional Unit

ConCore™ access floor systems provide the primary function of a raised and accessible modular floor system. According to ISO 14044, the functional unit is "the quantified performance of a product system, for use as a reference unit." The functional unit used in this EPD, as specified in the PCR, is 1 m^2 of access floor system over a 30 year period. The access floor system includes the panel and its supporting undestructure.

3.2 System Boundary

The scope of this EPD is cradle-to-grave, including product stage (raw material extraction and processing, transport to the manufacturer, and manufacturing), construction (transport for use and installation), use (cleaning/maintenance, repair, replacement, and refurbishment), and end-of-life (de-construction/demolition, transport, waste processing, and disposal). The benefits and loads beyond the system boundary for reuse, recovery, and recycling potential (module D), are not included in this study. The diagram below is a representation of the most significant contributions to the life cycle of the ConCore™ access flooring system products.



3.3 Estimates and Assumptions

The assessment relied on several assumptions, described below.

- Representative inventory data were used to reflect the energy mix for electricity use. The Red Lion, Pennsylvania facility is located in the RFCE EPA NERC subregion. An Ecoinvent inventory dataset was modified to reflect the eGRID energy mix for RFCE to estimate resource use and emissions from electricity use at the Tate manufacturing facility.
- Repairing of the ConCore™ access floor systems is assumed to be irregular and to have negligible contribution to environmental impacts arising from normal product use over the 30 year time period.
- It should also be noted that LCIA results are relative expressions and do not predict impacts on category endpoints, the exceeding of thresholds, safety margins or risks.
- The PCR allows for the results for several inventory flows related to construction products to be reported as "other parameters". These are aggregated inventory flows and do not characterize any potential impact; results should be interpreted taking into account this limitation.
- Assumptions for the disposal of the product and packaging at end-of-life are based on 2014 statistics regarding municipal solid waste generation and disposal in the United States, from the US Environmental Protection Agency. For materials not recycled, it is assumed 20% are incinerated and 80% go to landfill. Transportation of waste materials at end-of-life assumed a 20 mile (32 km) distance to disposal, consistent with assumptions made in the US EPA WARM model.
- Recycled steel components were assumed to be Electric Arc Furnace (EAF) steel given the range in percent recycled content based on primary data received.

3.4 Cut-off criteria

The cut-off criteria for including or excluding materials, energy, and emissions data from the study are in accordance with the PCR and are listed below.

- Mass and energy flows that consist of less than 1% may be omitted from the inventory analysis
- Cumulative omitted mass or energy flows shall not exceed 5%

3.5 Background Data

Primary data were provided by Tate Access Floors, Inc. for the Red Lion, Pennsylvania facility and for the ConCore™ access floor systems. The sources of secondary LCI data are the Ecoinvent database (v3.3, 2016).

Table 12. *LCI datasets and associated databases used to model the ConCore™ access floor systems.*

Flow	Dataset	Data Source	Publication Date
Panel Materials			
Portland cement	Cement, Portland, 20% recycled content {US}| production | Alloc Rec, U	Ecoinvent	2017
Steel	Steel, low-alloyed {RoW}| steel production, electric, low-alloyed | Alloc Rec, U	Ecoinvent	2016
Epoxy resin	Epoxy resin, liquid {RoW}| production | Alloc Rec, U	Ecoinvent	2016
Epoxy paste[1]	Titanium dioxide {RoW}| market for | Alloc Rec, U; Aluminium oxide {GLO}| market for | Alloc Rec, U; Ethylene glycol monoethyl ether {RoW}| production | Alloc Rec, U; Silicone product {RoW}| production | Alloc Rec, U; Indium tin oxide powder, nanoscale, for sputtering target {RoW}| production | Alloc Rec, U; Carbon black {GLO}| market for | Alloc Rec, U; Epoxy resin, liquid {RoW}| production | Alloc Rec, U; Plaster mixing {GLO}| market for | Alloc Rec, U	Ecoinvent	2016
Synthetic detergent	Dipropylene glycol monomethyl ether {RoW}| production | Alloc Rec, U	Ecoinvent	2016
Polyethylene	Polyethylene, high density, granulate {RoW}| production | Alloc Rec, U	Ecoinvent	2016
Urethane acrylic colypolymer	Butyl acrylate {RoW}| production | Alloc Rec, U	Ecoinvent	2016
Understructure Materials			
Galvanized steel	Steel, low-alloyed {RoW}| steel production, electric, low-alloyed | Alloc Rec, U; Zinc coat, pieces {RoW}| zinc coating, pieces | Alloc Rec, U; Metal working, without steel input, average for steel product manufacturing {RoW}| processing | Alloc Rec, U	Ecoinvent; SCS	2016; 2017
Stainless steel	Steel, chromium steel 18/8 {RoW}| steel production, electric, chromium steel 18/8 | Alloc Rec, U; Metal working, without steel input, average for steel product manufacturing {RoW}| processing | Alloc Rec, U	Ecoinvent; SCS	2016; 2017
Grey phosphate steel	Steel, low-alloyed {RoW}| steel production, electric, low-alloyed | Alloc Rec, U; Zinc coat, pieces {RoW}| zinc coating, pieces | Alloc Rec, U; Metal working, without steel input, average for steel product manufacturing {RoW}| processing | Alloc Rec, U	Ecoinvent; SCS	2016; 2017
Steel	Steel, low-alloyed {RoW}| steel production, electric, low-alloyed | Alloc Rec, U; Metal working, without steel input, average for steel product manufacturing {RoW}| processing | Alloc Rec, U	Ecoinvent; SCS	2016; 2017
Packaging			
Wood pallet	EUR-flat pallet {RoW}| production | Alloc Rec, U	Ecoinvent	2016
Corrugated board	Corrugated board box {RoW}| production | Alloc Rec, U	Ecoinvent	2016
Ancillary Materials in Manufacturing			
Lubricating oil	Lubricating oil {RoW}| production | Alloc Rec, U	Ecoinvent	2016
Pretreatment coating[2]	Zirconium oxide {GLO}| market for | Alloc Rec, U; Chemical, organic {GLO}| market for | Alloc Rec, U	Ecoinvent	2016
Pretreatment cleaning solution[3]	Potassium hydroxide {GLO}| market for | Alloc Rec, U; Ethoxylated alcohol (AE7) {GLO}| market for | Alloc Rec, U; Sodium nitrite {GLO}| market for | Alloc Rec, U; Chemical, organic {GLO}| market for | Alloc Rec, U	Ecoinvent	2016
Heat treated lumber	Plywood, for outdoor use {RoW}| production | Alloc Rec, U	Ecoinvent	2016
Electricity/Heat/Resources for Manufacturing			
Electricity	Electricity, medium voltage, at grid/RFCE 2015 U	Ecoinvent; SCS	2015; 2017
Natural Gas	Heat, district or industrial, natural gas {GLO}| market group for | Alloc Rec, U	Ecoinvent	2016
Propane	Propane, burned in building machine {GLO}| propane, burned in building machine | Alloc Rec, U	Ecoinvent	2016
Water	Tap water {RoW}| market for | Alloc Rec, U	Ecoinvent	2016
Transportation			
Road	Transport, freight, lorry 16-32 metric ton, EURO4 {GLO}| market for | Alloc Rec, U	Ecoinvent	2016
Rail	Transport, freight train {US}| diesel | Alloc Rec, U	Ecoinvent	2016
Ship	Transport, freight, sea, transoceanic ship {GLO}| market for | Alloc Rec, U	Ecoinvent	2016

[1] Based on MSDS for "Powercron gray paste" produced by PPG Industries, Inc. Documentation provided by Tate.
[2] Based on MSDS for "Zircobond 4200DR" produced by Pretreatment and Specialty Products. Documentation provided by Tate.
[3] Based on MSDS for "Ultrax 92D" produced by Pretreatment and Specialty Products. Documentation provided by Tate.

3.6 Data Quality

Data Quality Parameter	Data Quality Discussion
Time-Related Coverage Age of data and the minimum length of time over which data is collected	Manufacturer data (primary data) are based on 2016 annual production. Representative datasets (secondary data) used for upstream and background processes are generally less than 5 years old. All primary data used represented an average of at least one year's worth of data collection.
Geographical Coverage Geographical area from which data for unit processes is collected to satisfy the goal of the study	The data used in the analysis provide the best possible representation available with current data. Representative data used in the assessment are representative of US, Global, or "Rest-of-World" (average for all countries in the world with uncertainty adjusted). Datasets chosen are considered sufficiently similar to actual processes.
Technology Coverage Specific technology or technology mix	For the most part, data are representative of the actual technologies used for processing, transportation, and manufacturing operations.
Precision Measure of the variability of the data values for each data expressed (e.g. variance)	Precision of results are not quantified due to a lack of data. Data collected for operations were typically averaged for one year and over multiple operations, which is expected to reduce the variability of results.
Completeness Percentage of flow that is measured or estimated	Except where noted, the LCA model included all known mass and energy flows. In some instances, surrogate data used to represent upstream operations may be missing some data which is propagated in the model. No known processes or activities contributing to more than 10% of the total environmental impact for each indicator are excluded; in total, these missing data represent less than cumulative omitted 5% of the mass or energy flows.
Representativeness Qualitative assessment of the degree to which the data set reflects the true population of interest (i.e. geographical coverage, time period and technology coverage)	Data used in the assessment represent typical or average processes as currently reported from multiple data sources, and are therefore generally representative of the range of actual processes and technologies for production of these materials. Considerable deviation may exist among actual processes on a site-specific basis; however, such a determination would require detailed data collection throughout the supply chain back to resource extraction. Some proxy datasets are used to represent materials due to the lack of data available.
Consistency Qualitative assessment of whether the study methodology is applied uniformly to the various components of the analysis	The consistency of the assessment is considered to be high. Data sources of similar quality and age are used; with a bias towards Ecoinvent data. Different portions of the product life cycle are equally considered.
Reproducibility Qualitative assessment of the extent to which information about the methodology and data values would allow an independent practitioner to reproduce the results reported in the study	Based on the description of data and assumptions used, this assessment would be reproducible by other practitioners. All assumptions, models, and data sources are documented.
Sources of the Data Description of all primary and secondary data sources	For manufacturing and packaging, primary data were provided by Tate. Similarly, the upstream transport of materials is based on primary data provided by Tate. For the distribution of product from manufacturing facility to customer, a weighted average was calculated based on primary shipment data provided by Tate. Where primary upstream data were unavailable, secondary data were used. The principal source of secondary LCI data is Ecoinvent.
Uncertainty of the Information Uncertainty related to data, models, and assumptions	Uncertainty related to the product materials and packaging is low. Data for upstream operations relied upon use of existing representative datasets. These datasets contained relatively recent data (<5 years), but lacked specific geographical representativeness. Uncertainty related to the impact assessment methods used in the study are high. The impact methods required by the PCR include impact potentials, which lack characterization of providing and receiving environments or tipping points.

3.7 Period under review

The period of review is calendar year 2016.

3.8 Allocation

Manufacturing resource use was allocated to the products based on mass. Impacts from transportation were allocated based on the mass of material and distance transported.

3.9 Comparability

The PCR this EPD was based on was not written to support comparative assertions. EPDs based on different PCRs, or different calculation models, may not be comparable. When attempting to compare EPDs or life cycle impacts of products from different companies, the user should be aware of the uncertainty in the final results, due to and not limited to, the practitioner's assumptions, the source of the data used in the study, and the specifics of the product modeled.

4. LCA: SCENARIOS AND ADDITIONAL TECHNICAL INFORMATION

Delivery and Installation stage (A4 - A5)

This stage includes delivery of the ConCore™ access floor systems to the point of installation (downstream transportation), and installation. The installation of ConCore™ access floor systems is completed using manual labor and does not require any electricity or other resources. Downstream transportation was based on a weighted average distance per mode of transport to calculate the amount of freight per square meter of ConCore™ access floor system. The amount of freight transported, which includes the respective access floor system and its packaging, was calculated for module A5 and is provided below.

Access floor system	Road Freight (kg-km/m^2)	Rail Freight (kg-km/m^2)	Ship Freight (kg-km/m^2)
ConCore™ 1000	2.27×10^4	4.61×10^4	1.73×10^4
ConCore™ 1250	2.43×10^4	4.96×10^4	1.19×10^4
ConCore™ 1500	2.68×10^4	5.53×10^4	1.33×10^4
ConCore™ 2000	2.92×10^4	6.07×10^4	1.46×10^4
ConCore™ 2500	3.29×10^4	6.90×10^4	1.66×10^4
ConCore™ 3000	3.38×10^4	7.11×10^4	1.71×10^4

Use stage (B1)

The use stage includes environmental aspects and impacts arising from normal product use over the 30 year time period. There are no release of substances to indoor air, soil, and water from product use and results for this stage are reported as *zero*.

Maintenance stage (B2)

The maintenance stage includes cleaning, planned technical servicing, and the replacement of worn and damaged parts. ConCore™ access floor systems are not exposed during their use since they are covered by a finish and therefore require no cleaning schedule. No other servicing is required over the 30 year time period. Results for this stage are reported as *zero*.

Repair/Replacement/Refurbishment stage (B3 - B5)

Neither the panel nor understructure are expected to need any replacement or refurbishing during normal use over the 30 year product period. Furthermore, repairing of the ConCore™ access floor system is assumed to be irregular, and is assumed to have a negligible contribution to environmental impacts arising from normal product use over the 30 year time period. Results reported for these modules are reported as *negligible*.

Building operation stage (B6 – B7)

There is no operational energy or water use associated with the use of the product and the results for these modules are reported as *zero*.

Disposal stage (C1 - C4)

The end of life stage includes demolition of the products (C1), transport of the products to waste treatment facilities (C2), waste processing (C3) and associated emissions as the product degrades in a landfill or is burned in an incinerator (C4). For the ConCore™ access floor systems, no emissions are generated during de-construction since they are manually disassembled and results are reported as zero. Transportation of waste material assumes a 20 mile (32 kilometer) distance to disposal, consistent with assumptions made in the US EPA WARM model. Secondary data were used to represent the sorting and processing of recyclable material of disposed product; however, results indicate that these processes have a very small contribution to cradle-to-grave impacts. As such, results for C3 are reported as *negligible*. It is assumed that 75.4% of corrugated board packaging is recycled while 27.4% of steel in the product is recycled. Recycling rates for product and packaging were based on 2014 statistics regarding municipal solid waste generation and disposal in the United States, from the US EPA. For materials not recycled, it is assumed that 20% are incinerated and 80% are disposed of in a landfill.

5. LCA: RESULTS

Product Stage			Construction Process Stage		Use Stage							End-of-life Stage				Benefits and loads beyond the system boundary
A1	A2	A3	A4	A5	B1	B1	B3	B4	B5	B6	B7	C1	C2	C3	C4	D
Raw material extraction and processing	Transport to manufacturer	Manufacturing	Transport	Construction - installation	Use	Maintenance	Repair	Replacement	Refurbishment	Operational energy use	Operational water use	Deconstruction demolition	Transport	Waste processing	Disposal	Reuse, recovery and/or recycling potential
X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	MND

X = Included in system boundary

MND = Module not declared

The choice of categories and indicators used in the assessment are taken from the PCR. Impact category indicators are estimated using TRACI 2.1 and CML Baseline Method, Version 4.1 (CML-IA). All results are calculated using SimaPro software, version 8.3, and values are rounded to two significant digits. Results reported for Abiotic Depletion Potential (Fossil Fuels) are calculated using lower heating values.

Table 13. *List of impact categories, impact category acronyms, LCIA method, and units for reporting of results.*

Impact Category	Acronym	LCIA Method	Reporting Unit
Global Warming Potential	GWP	IPCC 2013, 100 years	Kilograms CO_2 eq
Acidification Potential	AP	TRACI 2.1	Kilograms SO_2 eq
Photochemical Ozone Creation Potential (Smog)	POCP	TRACI 2.1	Kilograms O_3 eq
Eutrophication Potential	EP	TRACI 2.1	Kilograms N eq
Ozone Depletion Potential	ODP	TRACI 2.1	Kilograms CFC-11 eq
Abiotic Depletion Potential (Elements)*	ADPE	CML-IA, v4.1	Kilograms antimony (Sb) eq
Abiotic Depletion Potential (Fossil Fuels)	ADPF	CML-IA, v4.1	Megajoules

*This indicator is based on assumptions regarding current reserves estimates. Users should use caution when interpreting results because there is insufficient information on which indicator is best for assessing the depletion of abiotic resources.

Table 14. *Impact category results reported by life cycle stage for 1 m² of ConCore™ 1000 maintained for a period of 30 years.*

Module	GWP (kg CO_2 eq)	AP (kg SO_2 eq)	POCP (kg O_3 eq)	EP (kg N eq)	ODP (kg CFC-11 eq)	ADPE* (kg Sb eq)	ADPF (MJ)
Total	77	0.36	4.9	0.27	$5.2x10^{-6}$	$1.9x10^{-3}$	780
	100%	100%	100%	100%	100%	100%	100%
A1	39	0.18	2.1	0.12	$1.9x10^{-6}$	$1.8x10^{-3}$	370
	51%	49%	42%	46%	37%	98%	48%
A2	4.2	$2.6x10^{-2}$	0.68	$5.9x10^{-3}$	$7.3x10^{-7}$	$1.0x10^{-5}$	65
	5.5%	7.3%	14%	2.2%	14%	0.55%	8.3%
A3	15	$9.7x10^{-2}$	0.59	$3.5x10^{-2}$	$1.0x10^{-6}$	$5.4x10^{-6}$	210
	20%	27%	12%	13%	20%	0.29%	27%
A4	6.2	$4.5x10^{-2}$	1.2	$9.4x10^{-3}$	$1.0x10^{-6}$	$1.4x10^{-5}$	94
	8.1%	12%	24%	3.5%	20%	0.73%	12%
A5	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
B1	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
B2	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
B3	Negligible	Negligible	Negligible	Negligible	Negligible	Negligible	Negligible
	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
B4	Negligible	Negligible	Negligible	Negligible	Negligible	Negligible	Negligible
	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
B5	Negligible	Negligible	Negligible	Negligible	Negligible	Negligible	Negligible
	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
B6	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
B7	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
C1	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
C2	1.6	$9.5x10^{-3}$	0.26	$1.3x10^{-3}$	$3.0x10^{-7}$	$1.1x10^{-6}$	25
	2.1%	2.6%	5.3%	0.50%	5.7%	0.058%	3.2%
C3	Negligible	Negligible	Negligible	Negligible	Negligible	Negligible	Negligible
	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
C4	10	$6.4x10^{-3}$	0.12	$9.4x10^{-2}$	$1.3x10^{-7}$	$3.1x10^{-6}$	11
	13%	1.8%	2.5%	35%	2.5%	0.17%	1.4%

*This indicator is based on assumptions regarding current reserves estimates. Users should use caution when interpreting results because there is insufficient information on which indicator is best for assessing the depletion of abiotic resources.

Table 15. *Impact category results reported by life cycle stage for 1 m² of ConCore™ 1250 maintained for a period of 30 years.*

Module	GWP (kg CO_2 eq)	AP (kg SO_2 eq)	POCP (kg O_3 eq)	EP (kg N eq)	ODP (kg CFC-11 eq)	ADPE* (kg Sb eq)	ADPF (MJ)
Total	82	0.40	5.4	0.29	5.6×10^{-6}	2.3×10^{-3}	860
	100%	100%	100%	100%	100%	100%	100%
A1	44	0.20	2.3	0.14	2.2×10^{-6}	2.2×10^{-3}	430
	53%	51%	44%	50%	39%	98%	50%
A2	4.6	2.9×10^{-2}	0.75	6.5×10^{-3}	8.0×10^{-7}	1.1×10^{-5}	71
	5.6%	7.3%	14%	2.3%	14%	0.50%	8.3%
A3	16	0.10	0.61	3.5×10^{-2}	1.1×10^{-6}	4.9×10^{-6}	220
	19%	25%	11%	12%	19%	0.22%	26%
A4	6.7	4.8×10^{-2}	1.2	1.0×10^{-2}	1.1×10^{-6}	1.5×10^{-5}	100
	8.1%	12%	23%	3.6%	20%	0.65%	12%
A5	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
B1	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
B2	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
B3	Negligible	Negligible	Negligible	Negligible	Negligible	Negligible	Negligible
	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
B4	Negligible	Negligible	Negligible	Negligible	Negligible	Negligible	Negligible
	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
B5	Negligible	Negligible	Negligible	Negligible	Negligible	Negligible	Negligible
	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
B6	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
B7	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
C1	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
C2	1.7	1.0×10^{-2}	0.28	1.4×10^{-3}	3.2×10^{-7}	1.2×10^{-6}	26
	2.1%	2.5%	5.1%	0.49%	5.6%	0.051%	3.1%
C3	Negligible	Negligible	Negligible	Negligible	Negligible	Negligible	Negligible
	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
C4	10	6.6×10^{-3}	0.13	9.1×10^{-2}	1.4×10^{-7}	3.5×10^{-6}	11
	12%	1.7%	2.4%	32%	2.4%	0.15%	1.3%

*This indicator is based on assumptions regarding current reserves estimates. Users should use caution when interpreting results because there is insufficient information on which indicator is best for assessing the depletion of abiotic resources.

Table 16. *Impact category results reported by life cycle stage for 1 m^2 of ConCore™ 1500 maintained for a period of 30 years.*

Module	GWP (kg CO_2 eq)	AP (kg SO_2 eq)	POCP (kg O_3 eq)	EP (kg N eq)	ODP (kg CFC-11 eq)	ADPE* (kg Sb eq)	ADPF (MJ)
Total	90	0.44	6.0	0.31	6.3×10^{-6}	2.5×10^{-3}	960
	100%	100%	100%	100%	100%	100%	100%
A1	49	0.23	2.7	0.16	2.5×10^{-6}	2.5×10^{-3}	490
	55%	52%	44%	53%	40%	98%	51%
A2	5.6	3.5×10^{-2}	0.91	7.9×10^{-3}	9.6×10^{-7}	1.4×10^{-5}	85
	6.2%	7.9%	15%	2.5%	15%	0.53%	8.9%
A3	17	0.11	0.63	3.5×10^{-2}	1.1×10^{-6}	4.7×10^{-6}	230
	18%	24%	10%	11%	18%	0.19%	24%
A4	7.5	5.4×10^{-2}	1.4	1.1×10^{-2}	1.2×10^{-6}	1.6×10^{-5}	110
	8.3%	12%	23%	3.7%	20%	0.6%	12%
A5	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
B1	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
B2	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
B3	Negligible	Negligible	Negligible	Negligible	Negligible	Negligible	Negligible
	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
B4	Negligible	Negligible	Negligible	Negligible	Negligible	Negligible	Negligible
	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
B5	Negligible	Negligible	Negligible	Negligible	Negligible	Negligible	Negligible
	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
B6	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
B7	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
C1	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
C2	1.8	1.1×10^{-2}	0.29	1.5E-03	3.3×10^{-7}	1.2×10^{-6}	28
	2.0%	2.4%	4.8%	0.5%	5.3%	0.048%	2.9%
C3	Negligible	Negligible	Negligible	Negligible	Negligible	Negligible	Negligible
	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
C4	9.2	7.2×10^{-3}	0.14	9.0×10^{-2}	1.5×10^{-7}	4.1×10^{-6}	12
	10%	1.6%	2.4%	29%	2.4%	0.16%	1.3%

*This indicator is based on assumptions regarding current reserves estimates. Users should use caution when interpreting results because there is insufficient information on which indicator is best for assessing the depletion of abiotic resources.

Table 17. *Impact category results reported by life cycle stage for 1 m² of ConCore™ 2000 maintained for a period of 30 years.*

Module	GWP (kg CO_2 eq)	AP (kg SO_2 eq)	POCP (kg O_3 eq)	EP (kg N eq)	ODP (kg CFC-11 eq)	ADPE* (kg Sb eq)	ADPF (MJ)
Total	99	0.50	6.8	0.33	7.1×10^{-6}	2.8×10^{-3}	1,100
	100%	100%	100%	100%	100%	100%	100%
A1	54	0.26	3.0	0.18	2.8×10^{-6}	2.8×10^{-3}	550
	55%	52%	44%	55%	40%	98%	51%
A2	6.5	4.1×10^{-2}	1.1	9.1×10^{-3}	1.1×10^{-6}	1.6×10^{-5}	99
	6.6%	8.2%	16%	2.7%	16%	0.55%	9.2%
A3	19	0.12	0.71	3.9×10^{-2}	1.3×10^{-6}	4.9×10^{-6}	260
	19%	24%	10%	12%	18%	0.17%	24%
A4	8.2	5.9×10^{-2}	1.5	1.2×10^{-2}	1.4×10^{-6}	1.8×10^{-5}	120
	8.3%	12%	23%	3.7%	19%	0.63%	11%
A5	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
B1	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
B2	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
B3	Negligible	Negligible	Negligible	Negligible	Negligible	Negligible	Negligible
	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
B4	Negligible	Negligible	Negligible	Negligible	Negligible	Negligible	Negligible
	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
B5	Negligible	Negligible	Negligible	Negligible	Negligible	Negligible	Negligible
	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
B6	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
B7	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
C1	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
C2	2.1	1.2×10^{-2}	0.33	1.7×10^{-3}	3.8×10^{-7}	1.4×10^{-6}	32
	2.1%	2.4%	4.9%	0.5%	5.3%	0.049%	2.9%
C3	Negligible	Negligible	Negligible	Negligible	Negligible	Negligible	Negligible
	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
C4	8.8	7.7×10^{-3}	0.16	8.8×10^{-2}	1.7×10^{-7}	4.7×10^{-6}	13
	8.9%	1.5%	2.3%	26%	2.3%	0.17%	1.2%

*This indicator is based on assumptions regarding current reserves estimates. Users should use caution when interpreting results because there is insufficient information on which indicator is best for assessing the depletion of abiotic resources.

Table 18. *Impact category results reported by life cycle stage for 1 m² of ConCore™ 2500 maintained for a period of 30 years.*

Module	GWP (kg CO_2 eq)	AP (kg SO_2 eq)	POCP (kg O_3 eq)	EP (kg N eq)	ODP (kg CFC-11 eq)	ADPE* (kg Sb eq)	ADPF (MJ)
Total	110	0.57	7.7	0.37	$8.2x10^{-6}$	$2.9x10^{-3}$	1,200
	100%	100%	100%	100%	100%	100%	100%
A1	60	0.29	3.3	0.21	$3.2x10^{-6}$	$2.8x10^{-3}$	620
	54%	51%	43%	56%	39%	98%	50%
A2	8.1	$5.1x10^{-2}$	1.3	$1.1x10^{-2}$	$1.4x10^{-6}$	$2.0x10^{-5}$	120
	7.4%	9.0%	17%	3.1%	17%	0.69%	10%
A3	22	0.14	0.81	$4.6x10^{-2}$	$1.4x10^{-6}$	$5.8x10^{-6}$	300
	20%	24%	10%	12%	18%	0.20%	24%
A4	9.3	$6.7x10^{-2}$	1.7	$1.4x10^{-2}$	$1.6x10^{-6}$	$2.0x10^{-5}$	140
	8.5%	12%	22%	3.8%	19%	0.72%	11%
A5	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
B1	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
B2	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
B3	Negligible	Negligible	Negligible	Negligible	Negligible	Negligible	Negligible
	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
B4	Negligible	Negligible	Negligible	Negligible	Negligible	Negligible	Negligible
	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
B5	Negligible	Negligible	Negligible	Negligible	Negligible	Negligible	Negligible
	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
B6	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
B7	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
C1	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
C2	2.4	$1.4x10^{-2}$	0.38	$1.9x10^{-3}$	$4.3x10^{-7}$	$1.6x10^{-6}$	36
	2.2%	2.4%	4.9%	0.5%	5.3%	0.056%	2.9%
C3	Negligible	Negligible	Negligible	Negligible	Negligible	Negligible	Negligible
	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
C4	8.9	$8.7x10^{-3}$	0.18	$8.9x10^{-2}$	$1.9x10^{-7}$	$5.6x10^{-6}$	15
	8.1%	1.5%	2.3%	24%	2.3%	0.20%	1.2%

*This indicator is based on assumptions regarding current reserves estimates. Users should use caution when interpreting results because there is insufficient information on which indicator is best for assessing the depletion of abiotic resources.

Table 19. *Impact category results reported by life cycle stage for 1 m² of ConCore™ 3000 maintained for a period of 30 years.*

Module	GWP (kg CO_2 eq)	AP (kg SO_2 eq)	POCP (kg O_3 eq)	EP (kg N eq)	ODP (kg CFC-11 eq)	ADPE* (kg Sb eq)	ADPF (MJ)
Total	113	0.59	8.0	0.38	8.5×10^{-6}	2.9×10^{-3}	1,300
	100%	100%	100%	100%	100%	100%	100%
A1	61	0.30	3.4	0.21	3.3×10^{-6}	2.8×10^{-3}	640
	54%	51%	42%	56%	39%	98%	50%
A2	8.6	5.4×10^{-2}	1.4	1.2×10^{-2}	1.5×10^{-6}	2.1×10^{-5}	130
	7.5%	9.2%	18%	3.2%	17%	0.72%	10%
A3	22	0.14	0.84	4.7×10^{-2}	1.5×10^{-6}	6.0×10^{-6}	310
	20%	24%	10%	13%	18%	0.21%	24%
A4	9.6	6.9×10^{-2}	1.8	1.5×10^{-2}	1.6×10^{-6}	2.1×10^{-5}	150
	8.5%	12%	22%	3.9%	19%	0.74%	11%
A5	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
B1	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
B2	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
B3	Negligible	Negligible	Negligible	Negligible	Negligible	Negligible	Negligible
	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
B4	Negligible	Negligible	Negligible	Negligible	Negligible	Negligible	Negligible
	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
B5	Negligible	Negligible	Negligible	Negligible	Negligible	Negligible	Negligible
	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
B6	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
B7	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
C1	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
C2	2.5	1.4×10^{-2}	0.39	2.0×10^{-3}	4.5×10^{-7}	1.6×10^{-6}	37
	2.2%	2.4%	4.9%	0.53%	5.3%	0.057%	2.9%
C3	Negligible	Negligible	Negligible	Negligible	Negligible	Negligible	Negligible
	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
C4	9.0	8.9×10^{-3}	0.18	8.9×10^{-2}	2.0×10^{-7}	5.8×10^{-6}	15
	7.9%	1.5%	2.3%	24%	2.3%	0.20%	1.2%

*This indicator is based on assumptions regarding current reserves estimates. Users should use caution when interpreting results because there is insufficient information on which indicator is best for assessing the depletion of abiotic resources.

The key life cycle inventory data parameters are taken from the PCR, which include resource use, output flows, and waste categories. All results are calculated using SimaPro software, version 8.3, and values are rounded to two significant digits. Results reported in MJ are calculated using higher heating values. Results reported as *INA* represent "indicators not assessed" and results reported as *Neg* represent "negligible".

Table 20. *List of key life cycle inventory parameters, parameter acronyms, and units for reporting of results.*

Key Life Cycle Inventory Parameter	Acronym	Reporting Unit
Renewable primary energy as energy carrier	PERE	Megajoules
Renewable primary energy resources as material utilization	PERM	Megajoules
Total use of renewable primary energy resources	PERT	Megajoules
Non-renewable primary energy as energy carrier	PENRE	Megajoules
Non-renewable primary energy as material utilization	PENRM	Megajoules
Total use of non-renewable primary energy resources	PENRT	Megajoules
Use of secondary material	SM	Kilograms
Use of renewable secondary fuels	RSF	Megajoules
Use of non-renewable secondary fuels	NRSF	Megajoules
Use of net fresh water	FW	Cubic meters
Hazardous waste disposed	HWD	Kilograms
Non-hazardous waste disposed	NHWD	Kilograms
Radioactive waste disposed	RWD	Kilograms
Components for re-use	CRU	Kilograms
Materials for recycling	MFR	Kilograms
Materials for energy recovery	MER	Kilograms
Exported electric energy	EEE	Megajoules
Exported thermal energy	EET	Megajoules

Table 21. *Resource use results for 1m^2 of ConCore™ 1000 maintained for a period of 30 years.*

Module	PERE (MJ)	PERM (MJ)	PERT (MJ)	PENRE (MJ)	PENRM (MJ)	PENRT (MJ)	SM (kg)	RSF (MJ)	NRSF (MJ)	FW (m^3)
Total	61	0.0	61	INA	INA	980	14	Neg	Neg	2.6
A1	32	0.0	32	INA	INA	410	0.0	Neg	Neg	1.9
A2	1.0	0.0	1.0	INA	INA	66	0.0	Neg	Neg	5.6×10^{-2}
A3	24	0.0	24	INA	INA	370	14	Neg	Neg	0.56
A4	1.7	0.0	1.7	INA	INA	95	0.0	Neg	Neg	8.8×10^{-2}
A5	0.0	0.0	0.0	INA	INA	0.0	0.0	Neg	Neg	0.0
B1	0.0	0.0	0.0	INA	INA	0.0	0.0	0.0	0.0	0.0
B2	0.0	0.0	0.0	INA	INA	0.0	0.0	0.0	0.0	0.0
B3	Neg	Neg	Neg	INA	INA	Neg	Neg	Neg	Neg	Neg
B4	Neg	Neg	Neg	INA	INA	Neg	Neg	Neg	Neg	Neg
B5	Neg	Neg	Neg	INA	INA	Neg	Neg	Neg	Neg	Neg
B6	0.0	0.0	0.0	INA	INA	0.0	0.0	0.0	0.0	0.0
B7	0.0	0.0	0.0	INA	INA	0.0	0.0	0.0	0.0	0.0
C1	0.0	0.0	0.0	INA	INA	0.0	0.0	Neg	Neg	0.0
C2	0.11	0.0	0.11	INA	INA	25	0.0	Neg	Neg	8.5×10^{-3}
C3	Neg	Neg	Neg	INA	INA	Neg	Neg	Neg	Neg	Neg
C4	1.7	0.0	1.7	INA	INA	15	0.0	Neg	Neg	5.7×10^{-2}

Table 22. *Waste and outflows for 1m^2 of ConCore™ 1000 maintained for a period of 30 years.*

Module	HWD (kg)	NHWD (kg)	RWD (kg)	CRU (kg)	MFR (kg)	MER (kg)	EEE (MJ)	EET (MJ)	RMR (kg)
Total	4.1×10^{-3}	36	5.9×10^{-4}	0.0	5.6	Neg	Neg	Neg	Neg
A1	3.7×10^{-3}	4.3	1.6×10^{-4}	0.0	0.0	Neg	Neg	Neg	Neg
A2	4.3×10^{-5}	2.2	6.8×10^{-5}	0.0	0.0	Neg	Neg	Neg	Neg
A3	2.4×10^{-4}	1.3	2.1×10^{-4}	0.0	0.0	Neg	Neg	Neg	Neg
A4	6.5×10^{-5}	2.8	9.8×10^{-5}	0.0	0.0	Neg	Neg	Neg	Neg
A5	0.0	0.0	0.0	0.0	0.0	Neg	Neg	Neg	Neg
B1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
B2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
B3	Neg	Neg	Neg	Neg	Neg	Neg	Neg	Neg	Neg
B4	Neg	Neg	Neg	Neg	Neg	Neg	Neg	Neg	Neg
B5	Neg	Neg	Neg	Neg	Neg	Neg	Neg	Neg	Neg
B6	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
B7	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
C1	0.0	0.0	0.0	0.0	0.0	Neg	Neg	Neg	Neg
C2	8.0×10^{-6}	0.10	2.8×10^{-5}	0.0	0.0	Neg	Neg	Neg	Neg
C3	Neg	Neg	Neg	Neg	5.6	Neg	Neg	Neg	Neg
C4	2.3×10^{-5}	25	1.6×10^{-5}	0.0	0.0	Neg	Neg	Neg	Neg

Table 23. *Resource use results for 1m² of ConCore™ 1250 maintained for period of 30 years.*

Module	PERE (MJ)	PERM (MJ)	PERT (MJ)	PENRE (MJ)	PENRM (MJ)	PENRT (MJ)	SM (kg)	RSF (MJ)	NRSF (MJ)	FW (m^3)
Total	64	0.0	64	INA	INA	1,100	15	Neg	Neg	3.0
A1	37	0.0	37	INA	INA	470	0.0	Neg	Neg	2.2
A2	1.1	0.0	1.1	INA	INA	72	0.0	Neg	Neg	$6.1x10^{-2}$
A3	22	0.0	22	INA	INA	390	15	Neg	Neg	0.57
A4	1.8	0.0	1.8	INA	INA	100	0.0	Neg	Neg	$9.5x10^{-2}$
A5	0.0	0.0	0.0	INA	INA	0.0	0.0	Neg	Neg	0.0
B1	0.0	0.0	0.0	INA	INA	0.0	0.0	0.0	0.0	0.0
B2	0.0	0.0	0.0	INA	INA	0.0	0.0	0.0	0.0	0.0
B3	Neg	Neg	Neg	INA	INA	Neg	Neg	Neg	Neg	Neg
B4	Neg	Neg	Neg	INA	INA	Neg	Neg	Neg	Neg	Neg
B5	Neg	Neg	Neg	INA	INA	Neg	Neg	Neg	Neg	Neg
B6	0.0	0.0	0.0	INA	INA	0.0	0.0	0.0	0.0	0.0
B7	0.0	0.0	0.0	INA	INA	0.0	0.0	0.0	0.0	0.0
C1	0.0	0.0	0.0	INA	INA	0.0	0.0	Neg	Neg	0.0
C2	0.11	0.0	0.11	INA	INA	26	0.0	Neg	Neg	$9.1x10^{-3}$
C3	Neg	Neg	Neg	INA	INA	Neg	Neg	Neg	Neg	Neg
C4	1.9	0.0	1.9	INA	INA	16	0.0	Neg	Neg	$6.2x10^{-2}$

Table 24. *Waste and outflows for 1m² of ConCore™ 1250 maintained for a period 30 years.*

Module	HWD (kg)	NHWD (kg)	RWD (kg)	CRU (kg)	MFR (kg)	MER (kg)	EEE (MJ)	EET (MJ)	RMR (kg)
Total	$4.3x10^{-3}$	38	$6.4x10^{-4}$	0.0	6.4	Neg	Neg	Neg	Neg
A1	$3.9x10^{-3}$	4.8	$1.8x10^{-4}$	0.0	0.0	Neg	Neg	Neg	Neg
A2	$4.7x10^{-5}$	2.4	$7.4x10^{-5}$	0.0	0.0	Neg	Neg	Neg	Neg
A3	$2.5x10^{-4}$	1.3	$2.3x10^{-4}$	0.0	0.0	Neg	Neg	Neg	Neg
A4	$7.0x10^{-5}$	3.0	$1.0x10^{-4}$	0.0	0.0	Neg	Neg	Neg	Neg
A5	0.0	0.0	0.0	0.0	0.0	Neg	Neg	Neg	Neg
B1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
B2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
B3	Neg	Neg	Neg	Neg	Neg	Neg	Neg	Neg	Neg
B4	Neg	Neg	Neg	Neg	Neg	Neg	Neg	Neg	Neg
B5	Neg	Neg	Neg	Neg	Neg	Neg	Neg	Neg	Neg
B6	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
B7	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
C1	0.0	0.0	0.0	0.0	0.0	Neg	Neg	Neg	Neg
C2	$8.5x10^{-6}$	0.11	$3.0x10^{-5}$	0.0	0.0	Neg	Neg	Neg	Neg
C3	0.0	0.0	0.0	0.0	6.4	Neg	Neg	Neg	Neg
C4	$2.4x10^{-5}$	26	$1.8x10^{-5}$	0.0	0.0	Neg	Neg	Neg	Neg

Table 25. *Resource use results for 1m² of ConCore™ 1500 maintained for a period 30 years.*

Module	PERE (MJ)	PERM (MJ)	PERT (MJ)	PENRE (MJ)	PENRM (MJ)	PENRT (MJ)	SM (kg)	RSF (MJ)	NRSF (MJ)	FW (m^3)
Total	69	0.0	69	INA	INA	1,200	18	Neg	Neg	3.4
A1	43	0.0	43	INA	INA	540	0.0	Neg	Neg	2.5
A2	1.420	0.0	1.420	INA	INA	87	0.0	Neg	Neg	$7.4x10^{-2}$
A3	2.0	0.0	2.0	INA	INA	400	18	Neg	Neg	0.59
A4	0.0	0.0	0.0	INA	INA	114	0.0	Neg	Neg	0.11
A5	0.0	0.0	0.0	INA	INA	0.0	0.0	Neg	Neg	0.0
B1	0.0	0.0	0.0	INA	INA	0.0	0.0	0.0	0.0	0.0
B2	0.0	0.0	0.0	INA	INA	0.0	0.0	0.0	0.0	0.0
B3	Neg	Neg	Neg	INA	INA	Neg	Neg	Neg	Neg	Neg
B4	Neg	Neg	Neg	INA	INA	Neg	Neg	Neg	Neg	Neg
B5	Neg	Neg	Neg	INA	INA	Neg	Neg	Neg	Neg	Neg
B6	0.0	0.0	0.0	INA	INA	0.0	0.0	0.0	0.0	0.0
B7	0.0	0.0	0.0	INA	INA	0.0	0.0	0.0	0.0	0.0
C1	0.0	0.0	0.0	INA	INA	0.0	0.0	Neg	Neg	0.0
C2	0.12	0.0	0.12	INA	INA	28	0.0	Neg	Neg	$9.6x10^{-6}$
C3	Neg	Neg	Neg	INA	INA	Neg	Neg	Neg	Neg	Neg
C4	2.2	0.0	2.2	INA	INA	17	0.0	Neg	Neg	$2.5x10^{-5}$

Table 26. Waste and outflows for 1m² of ConCore™ 1500 maintained for a period 30 years.

Module	HWD (kg)	NHWD (kg)	RWD (kg)	CRU (kg)	MFR (kg)	MER (kg)	EEE (MJ)	EET (MJ)	RMR (kg)
Total	$4.6x10^{-3}$	42	$7.1x10^{-4}$	0.0	7.7	Neg	Neg	Neg	Neg
A1	$4.1x10^{-3}$	5.6	$2.1x10^{-4}$	0.0	0.0	Neg	Neg	Neg	Neg
A2	$5.7x10^{-5}$	2.9	$9.0x10^{-5}$	0.0	0.0	Neg	Neg	Neg	Neg
A3	$2.6x10^{-4}$	1.4	$2.4x10^{-4}$	0.0	0.0	Neg	Neg	Neg	Neg
A4	$7.8x10^{-5}$	3.3	$1.2x10^{-4}$	0.0	0.0	Neg	Neg	Neg	Neg
A5	0.0	0.0	0.0	0.0	0.0	Neg	Neg	Neg	Neg
B1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
B2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
B3	Neg	Neg	Neg	Neg	Neg	Neg	Neg	Neg	Neg
B4	Neg	Neg	Neg	Neg	Neg	Neg	Neg	Neg	Neg
B5	Neg	Neg	Neg	Neg	Neg	Neg	Neg	Neg	Neg
B6	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
B7	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
C1	0.0	0.0	0.0	0.0	0.0	Neg	Neg	Neg	Neg
C2	$9.0x10^{-6}$	0.11	$3.1x10^{-5}$	0.0	0.0	Neg	Neg	Neg	Neg
C3	Neg	Neg	Neg	Neg	7.7	Neg	Neg	Neg	Neg
C4	$2.5x10^{-5}$	29	$2.0x10^{-5}$	0.0	0.0	Neg	Neg	Neg	Neg

Table 27. *Resource use results for 1m² of ConCore™ 2000 maintained for a period of 30 years.*

Module	PERE (MJ)	PERM (MJ)	PERT (MJ)	PENRE (MJ)	PENRM (MJ)	PENRT (MJ)	SM (kg)	RSF (MJ)	NRSF (MJ)	FW (m^3)
Total	74	0.0	74	INA	INA	1,300	20	Neg	Neg	3.8
A1	48	0.0	48	INA	INA	610	0.0	Neg	Neg	2.9
A2	1.6	0.0	1.6	INA	INA	100	0.0	Neg	Neg	$8.6x10^{-2}$
A3	20	0.0	20	INA	INA	460	20	Neg	Neg	0.67
A4	2.2	0.0	2.2	INA	INA	130	0.0	Neg	Neg	0.12
A5	0.0	0.0	0.0	INA	INA	0.0	0.0	Neg	Neg	0.0
B1	0.0	0.0	0.0	INA	INA	0.0	0.0	0.0	0.0	0.0
B2	0.0	0.0	0.0	INA	INA	0.0	0.0	0.0	0.0	0.0
B3	Neg	Neg	Neg	INA	INA	Neg	Neg	Neg	Neg	Neg
B4	Neg	Neg	Neg	INA	INA	Neg	Neg	Neg	Neg	Neg
B5	Neg	Neg	Neg	INA	INA	Neg	Neg	Neg	Neg	Neg
B6	0.0	0.0	0.0	INA	INA	0.0	0.0	0.0	0.0	0.0
B7	0.0	0.0	0.0	INA	INA	0.0	0.0	0.0	0.0	0.0
C1	0.0	0.0	0.0	INA	INA	0.0	0.0	Neg	Neg	0.0
C2	0.14	0.0	0.14	INA	INA	32	0.0	Neg	Neg	$1.1x10^{-2}$
C3	Neg	Neg	Neg	INA	INA	Neg	Neg	Neg	Neg	Neg
C4	2.5	0.0	2.5	INA	INA	19	0.0	Neg	Neg	$7.7x10^{-2}$

Table 28. Waste and outflows for 1m² of ConCore™ 2000 maintained for a period of 30 years.

Module	HWD (kg)	NHWD (kg)	RWD (kg)	CRU (kg)	MFR (kg)	MER (kg)	EEE (MJ)	EET (MJ)	RMR (kg)
Total	$4.8x10^{-3}$	46	$8.0x10^{-4}$	0.0	8.9	Neg	Neg	Neg	Neg
A1	$4.3x10^{-3}$	6.4	$2.4x10^{-4}$	0.0	0.0	Neg	Neg	Neg	Neg
A2	$6.6x10^{-5}$	3.4	$1.0x10^{-4}$	0.0	0.0	Neg	Neg	Neg	Neg
A3	$2.9x10^{-4}$	1.5	$2.7x10^{-4}$	0.0	0.0	Neg	Neg	Neg	Neg
A4	$8.6x10^{-5}$	3.6	$1.3x10^{-4}$	0.0	0.0	Neg	Neg	Neg	Neg
A5	0.0	0.0	0.0	0.0	0.0	Neg	Neg	Neg	Neg
B1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
B2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
B3	Neg	Neg	Neg	Neg	Neg	Neg	Neg	Neg	Neg
B4	Neg	Neg	Neg	Neg	Neg	Neg	Neg	Neg	Neg
B5	Neg	Neg	Neg	Neg	Neg	Neg	Neg	Neg	Neg
B6	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
B7	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
C1	0.0	0.0	0.0	0.0	0.0	Neg	Neg	Neg	Neg
C2	$1.0x10^{-5}$	0.13	$3.6x10^{-5}$	0.0	0.0	Neg	Neg	Neg	Neg
C3	Neg	Neg	Neg	Neg	8.9	Neg	Neg	Neg	Neg
C4	$2.6x10^{-5}$	31	$2.3x10^{-5}$	0.0	0.0	Neg	Neg	Neg	Neg

Table 29. Resource use results for 1m² of ConCore™ 2500 maintained for a period 30 years.

Module	PERE (MJ)	PERM (MJ)	PERT (MJ)	PENRE (MJ)	PENRM (MJ)	PENRT (MJ)	SM (kg)	RSF (MJ)	NRSF (MJ)	FW (m^3)
Total	82	0.0	82	INA	INA	1,500	23	Neg	Neg	4.3
A1	54	0.0	54	INA	INA	680	0.0	Neg	Neg	3.2
A2	2.0	0.0	2.0	INA	INA	130	0.0	Neg	Neg	0.11
A3	21	0.0	21	INA	INA	520	23	Neg	Neg	0.77
A4	2.5	0.0	2.5	INA	INA	140	0.0	Neg	Neg	0.13
A5	0.0	0.0	0.0	INA	INA	0.0	0.0	Neg	Neg	0.0
B1	0.0	0.0	0.0	INA	INA	0.0	0.0	0.0	0.0	0.0
B2	0.0	0.0	0.0	INA	INA	0.0	0.0	0.0	0.0	0.0
B3	Neg	Neg	Neg	INA	INA	Neg	Neg	Neg	Neg	Neg
B4	Neg	Neg	Neg	INA	INA	Neg	Neg	Neg	Neg	Neg
B5	Neg	Neg	Neg	INA	INA	Neg	Neg	Neg	Neg	Neg
B6	0.0	0.0	0.0	INA	INA	0.0	0.0	0.0	0.0	0.0
B7	0.0	0.0	0.0	INA	INA	0.0	0.0	0.0	0.0	0.0
C1	0.0	0.0	0.0	INA	INA	0.0	0.0	Neg	Neg	0.0
C2	0.16	0.0	0.16	INA	INA	36	0.0	Neg	Neg	$1.2x10^{-5}$
C3	Neg	Neg	Neg	INA	INA	Neg	Neg	Neg	Neg	Neg
C4	3.0	0.0	3.0	INA	INA	22	0.0	Neg	Neg	$2.8x10^{-5}$

Table 30. *Waste and outflows for 1m² of ConCore™ 2500 maintained for a period of 30 years.*

Module	HWD (kg)	NHWD (kg)	RWD (kg)	CRU (kg)	MFR (kg)	MER (kg)	EEE (MJ)	EET (MJ)	RMR (kg)
Total	$5.0x10^{-3}$	53	$9.2x10^{-4}$	0.0	11	Neg	Neg	Neg	Neg
A1	$4.4x10^{-3}$	7.5	$2.6x10^{-4}$	0.0	0.0	Neg	Neg	Neg	Neg
A2	$8.2x10^{-5}$	4.2	$1.3x10^{-4}$	0.0	0.0	Neg	Neg	Neg	Neg
A3	$3.4x10^{-4}$	1.8	$3.1x10^{-4}$	0.0	0.0	Neg	Neg	Neg	Neg
A4	$9.7x10^{-5}$	4.1	$1.5x10^{-4}$	0.0	0.0	Neg	Neg	Neg	Neg
A5	0.0	0.0	0.0	0.0	0.0	Neg	Neg	Neg	Neg
B1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
B2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
B3	Neg	Neg	Neg	Neg	Neg	Neg	Neg	Neg	Neg
B4	Neg	Neg	Neg	Neg	Neg	Neg	Neg	Neg	Neg
B5	Neg	Neg	Neg	Neg	Neg	Neg	Neg	Neg	Neg
B6	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
B7	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
C1	0.0	0.0	0.0	0.0	0.0	Neg	Neg	Neg	Neg
C2	$1.2x10^{-5}$	0.15	$4.1x10^{-5}$	0.0	0.0	Neg	Neg	Neg	Neg
C3	Neg	Neg	Neg	Neg	11	Neg	Neg	Neg	Neg
C4	$2.8x10^{-5}$	35	$2.7x10^{-5}$	0.0	0.0	Neg	Neg	Neg	Neg

Table 31. *Resource use results for 1m² of ConCore™ 3000 maintained for a period of 30 years.*

Module	PERE (MJ)	PERM (MJ)	PERT (MJ)	PENRE (MJ)	PENRM (MJ)	PENRT (MJ)	SM (kg)	RSF (MJ)	NRSF (MJ)	FW (m^3)
Total	85	0.0	85	INA	INA	1,600	14	Neg	Neg	4.5
A1	55	0.0	55	INA	INA	700	0.0	Neg	Neg	3.3
A2	2.1	0.0	2.1	INA	INA	130	0.0	Neg	Neg	0.11
A3	21	0.0	21	INA	INA	540	14	Neg	Neg	0.79
A4	2.6	0.0	2.6	INA	INA	150	0.0	Neg	Neg	0.14
A5	0.0	0.0	0.0	INA	INA	0.0	0.0	Neg	Neg	0.0
B1	0.0	0.0	0.0	INA	INA	0.0	0.0	0.0	0.0	0.0
B2	0.0	0.0	0.0	INA	INA	0.0	0.0	0.0	0.0	0.0
B3	Neg	Neg	Neg	INA	INA	Neg	Neg	Neg	Neg	Neg
B4	Neg	Neg	Neg	INA	INA	Neg	Neg	Neg	Neg	Neg
B5	Neg	Neg	Neg	INA	INA	Neg	Neg	Neg	Neg	Neg
B6	0.0	0.0	0.0	INA	INA	0.0	0.0	0.0	0.0	0.0
B7	0.0	0.0	0.0	INA	INA	0.0	0.0	0.0	0.0	0.0
C1	0.0	0.0	0.0	INA	INA	0.0	0.0	Neg	Neg	0.0
C2	0.16	0.0	0.16	INA	INA	$1.3x10^{-2}$	0.0	Neg	Neg	$1.3x10^{-2}$
C3	Neg	Neg	Neg	INA	INA	Neg	Neg	Neg	Neg	Neg
C4	3.1	0.0	3.1	INA	INA	$9.1x10^{-2}$	0.0	Neg	Neg	$9.1x10^{-2}$

Table 32. *Waste and outflows for 1m² of ConCore™ 3000 maintained for a period of 30 years.*

Module	HWD (kg)	NHWD (kg)	RWD (kg)	CRU (kg)	MFR (kg)	MER (kg)	EEE (MJ)	EET (MJ)	RMR (kg)
Total	$5.0x10^{-3}$	55	$9.5x10^{-4}$	0.0	11	Neg	Neg	Neg	Neg
A1	$4.4x10^{-3}$	7.8	$2.7x10^{-4}$	0.0	0.0	Neg	Neg	Neg	Neg
A2	$8.7x10^{-5}$	4.4	$1.4x10^{-4}$	0.0	0.0	Neg	Neg	Neg	Neg
A3	$3.5x10^{-4}$	1.8	$3.2x10^{-4}$	0.0	0.0	Neg	Neg	Neg	Neg
A4	$1.0x10^{-4}$	4.3	$1.5x10^{-4}$	0.0	0.0	Neg	Neg	Neg	Neg
A5	0.0	0.0	0.0	0.0	0.0	Neg	Neg	Neg	Neg
B1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
B2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
B3	Neg	Neg	Neg	Neg	Neg	Neg	Neg	Neg	Neg
B4	Neg	Neg	Neg	Neg	Neg	Neg	Neg	Neg	Neg
B5	Neg	Neg	Neg	Neg	Neg	Neg	Neg	Neg	Neg
B6	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
B7	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
C1	0.0	0.0	0.0	0.0	0.0	Neg	Neg	Neg	Neg
C2	$1.2x10^{-5}$	0.15	$4.2x10^{-5}$	0.0	0.0	Neg	Neg	Neg	Neg
C3	Neg	Neg	Neg	Neg	11	Neg	Neg	Neg	Neg
C4	$2.9x10^{-5}$	36	$2.8x10^{-5}$	0.0	0.0	Neg	Neg	Neg	Neg

6. LCA: INTERPRETATION

The interpretation phase conforms to ISO 14044 with further guidance from the ILCD General Guide for Life Cycle Assessment. The interpretation included the use of evaluation and sensitivity checks to steer the iterative process during the assessment, and a final evaluation including completeness, sensitivity, and consistency checks, at the end of the study.

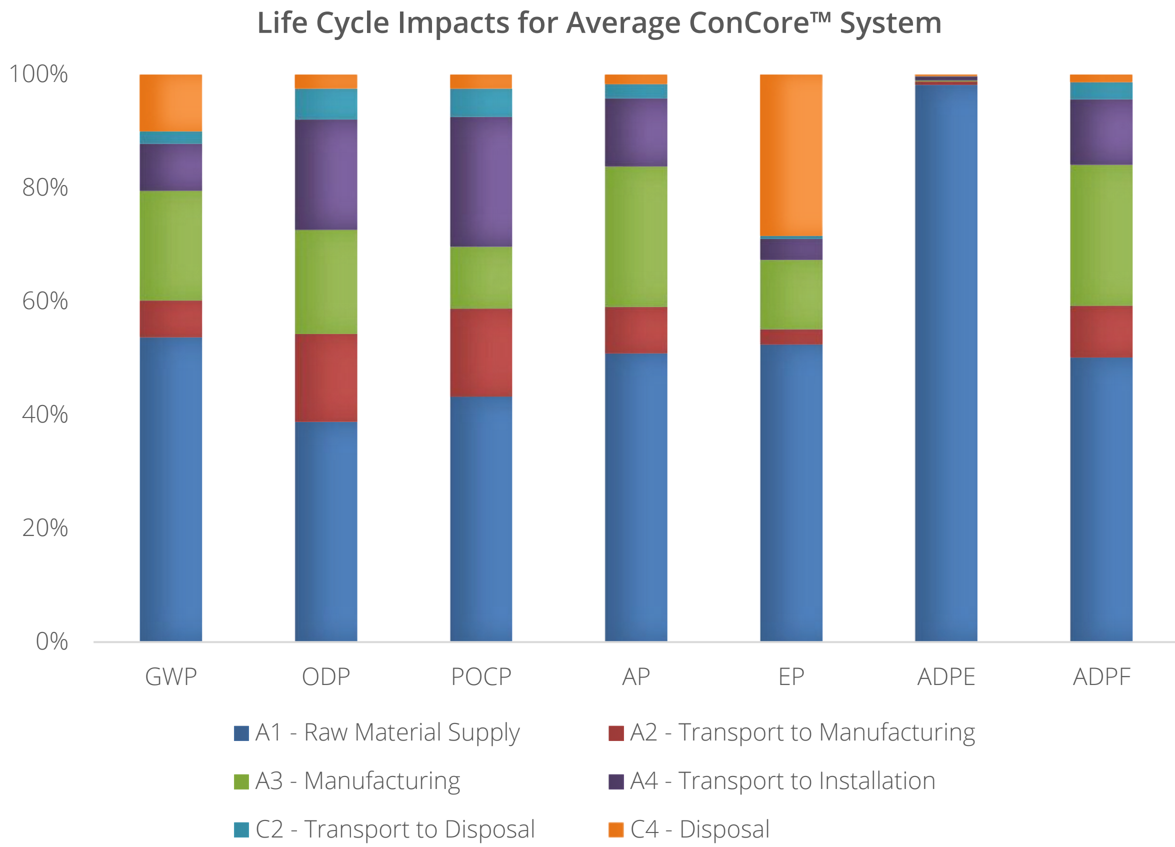
The main contributions to indicator results are from raw material extraction and processing (Module A1). This contribution is primarily due to the production of steel that is used for the access floor system. The largest contributing modules and processes for the life cycle of ConCore™ access floor systems are provided in Table 33 (ConCore™ 1000, 1250, 1500, and 2000) and Table 34 (ConCore™ 2500 and 3000). The contributing processes and modules are identical for ConCore™ 1000, 1250, 1500, and 2000 and are therefore reported in a single table. Similarly, the contributing processes and modules are identical for ConCore™ 2500 and 3000. The difference in contributions on a process level is a result of there being a larger amount of steel in ConCore™ 2500 and ConCore™ 3000.

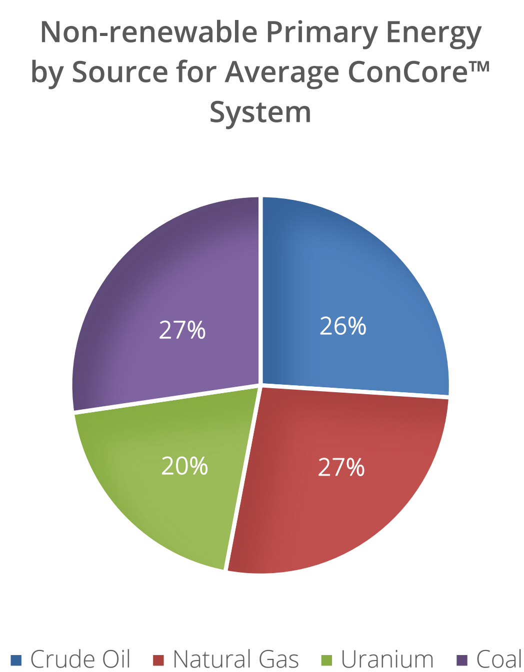
Table 33. *Largest contributors to impact categories for 1 m^2 of ConCore™ 1000, 1250, 1500, and 2000 for a period of 30 years.*

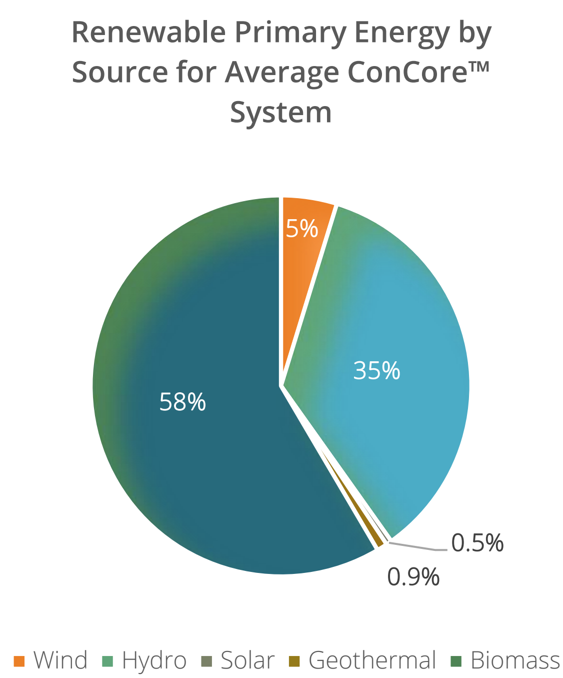
Impact Category	Largest Contributing Process	Largest Contributing Module
Global Warming Potential	Production of steel for panel	Raw Materials and Processing (A1)
Acidification Potential	Production of steel for panel	Raw Materials and Processing (A1)
Photochemical Ozone Creation Potential	Distribution of access floor system	Raw Materials and Processing (A1)
Eutrophication Potential	Landfilling of access floor system	Raw Materials and Processing (A1)
Ozone Depletion Potential	Distribution of access floor system	Raw Materials and Processing (A1)
Abiotic Depletion Potential (Elements)	Galvanizing of steel components for understructure	Raw Materials and Processing (A1)
Abiotic Depletion Potential (Fossil Fuels)	Production of steel for panel	Raw Materials and Processing (A1)

Table 34. *Largest contributors to impact categories for 1 m^2 of ConCore™ 2500 and 3000 for a period of 30 years.*

Impact Category	Largest Contributing Process	Largest Contributing Module
Global Warming Potential	Production of steel for panel	Raw Materials and Processing (A1)
Acidification Potential	Production of steel for panel	Raw Materials and Processing (A1)
Photochemical Ozone Creation Potential	Distribution of access floor system	Raw Materials and Processing (A1)
Eutrophication Potential	Production of steel for panel	Raw Materials and Processing (A1)
Ozone Depletion Potential	Production of steel for panel	Raw Materials and Processing (A1)
Abiotic Depletion Potential (Elements)	Galvanizing of steel components for understructure	Raw Materials and Processing (A1)
Abiotic Depletion Potential (Fossil Fuels)	Production of steel for panel	Raw Materials and Processing (A1)


Life Cycle Impacts for Average ConCore™ System
100%
80%
60%
40%
20%
0%
GWP
ODP
POCP
AP
EP
ADPE
ADPF
A1 - Raw Material Supply
A2 - Transport to Manufacturing
A3 - Manufacturing
A4 - Transport to Installation
C2 - Transport to Disposal
C4 - Disposal


Non-renewable Primary Energy by Source for Average ConCore™ System
27%
26%
20%
27%
Crude Oil
Natural Gas
Uranium
Coal


Renewable Primary Energy by Source for Average ConCore™ System
5%
35%
58%
0.5%
0.9%
Wind
Hydro
Solar
Geothermal
Biomass

7. REQUISITE EVIDENCE

7.1 VOC emissions

ConCore™ access floor systems are Indoor Advantage™ Gold certified, which conforms to the CDPH/EHLB Standard Method (CA 01350) v1.2-2017.

For more information, please see: https://www.scscertified.com/products/cert_pdfs/Tate_2017_SCS-IAQ-04647_s.pdf

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