ENVIRONMENTAL PRODUCT DECLARATION

IN ACCORDANCE WITH ISO 21930 & ISO 14025

ethos® modular carpet tile with Dynex face fiber

Tarkett's holistic approach to sustainability is woven into the fabric of how we do business and sits at the heart of our day-to-day decision making. For decades, we've been scrutinizing every detail of our business for its impact on life-sustaining resources like soil, water, and air, because when you're trailblazing a more sustainable future, every step matters. That's why, at Tarkett, you'll find sustainable solutions throughout our portfolio with Proof in Every Step™ of our design and manufacturing process. To learn more, visit www.commercial.tarkett.com/sustainability

Embodied Carbon (Cradle to Gate A1-A3)	4.11 kg CO_2 eq. per m^2 of flooring

with renewable energy certificates

EPD HUB, HUB-4896

Published on 21.01.2026, last updated on 12.03.2026, valid until 21.07.2027

Life Cycle Assessment study has been performed in accordance with the requirements of the EPD Hub Core PCR 1.2 (24 Mar 2025), ISO 21930 & ISO 14025, and UL PCR Guidance for Building-Related Products and Services Part A version 4.0 (March 28 2022) and Part B: Flooring EPD Requirements version 2.0 (Sept 28 2018)

GENERAL INFORMATION

MANUFACTURER

Manufacturer	Tarkett Inc
Address	30000 Aurora Road, Solon, Ohio 44139, United States
Contact details	sustainability.support@tarkett.com
Website	https://www.tarkett.com

EPD STANDARDS, SCOPE AND VERIFICATION

Program Operator	EPD Hub, hub@epdhub.com
Reference standard	ISO21930, ISO14025
PCR	EPD Hub Core PCR version 1.2, 24 Mar 2025
cPCR	UL PCR Guidance for Building-Related Products and Services Part A version 4.0 (March 28 2022) and Part B: Flooring EPD Requirements version 2.0 (Sept 28 2018)
Sector	Construction product
Category of EPD	Design phase EPD
Parent EPD number	-
Scope of the EPD	Cradle to gate with options, A4-B7, and modules C1-C4, D
EPD author	Namitha Kumar Swamy
EPD verification	Independent verification of this EPD and data, according to ISO 14025: ☐ Internal verification ☑ External verification
EPD verifier	HaiHa Nguyen, as an authorized verifier acting for EPD Hub Limited
This EPD is intended for business-to-business and/or business-to-consumer communication. The manufacturer has the sole ownership, liability, and responsibility for the EPD. EPDs within the same product category but from different programs may not be comparable. EPDs of construction products may not be comparable if they do not comply with ISO 21930 and if they are not compared in a building context.	

PRODUCT

Product Name	Ethos Dynex Modular Carpet Tile
Additional labels	-
Product reference	UNSPSC Class Code 30161709/CSI Code 096800
Place(s) of origin	USA/Europe
Place of production	Georgia, USA
Place(s) of installation and use	North America
Period for data	November 2025
Averaging in EPD	No grouping
Variation in GWP-fossil for A1-A3 (%)	n/a
GTIN (Global Trade Item Number)	-
A1-A3 Specific data (%)	70

ENVIRONMENTAL DATA SUMMARY

Declared unit	1 m^2 of floor covering
Declared unit mass	3.3266 kg
Mass of packaging	0.13567 kg
GWP-TRACI, A1-A3 ($kgCO_2e$)	4.11E+00
Secondary material, inputs (%)	51.9
Secondary material, outputs (%)	9.44
Total energy use, A1-A3 (kWh)	18.7
Net freshwater use, A1-A3 (m^3)	0.04
Biogenic Carbon Content in product, kg C	0.00
Biogenic Carbon Content in packaging kg C	0.053

1. PRODUCT AND MANUFACTURER

1.1 ABOUT THE MANUFACTURER

With flooring surfaces and accessories designed to both perform and inspire, Tarkett has supported the creation of thoughtful, people-centered spaces for more than 140 years. Our products are designed to promote healthier materials, improved indoor air quality, and responsible, high-performance solutions.

Sustainability is the foundation of everything we do. Tarkett has established Science Based Targets initiative (SBTi)-approved climate goals and continues to be recognized by EcoVadis for strong performance in environmental and social responsibility. Tarkett also reports transparently through CDP, demonstrating continued progress on climate action. Current ratings and updates can be found at www.tarkett.com.

Tarkett's long-term ambition is to advance a circular economy by designing out waste and pollution, keeping materials in use, and regenerating natural systems for the good of people and the planet. Further information can be found at www.tarkett.com

1.2 PRODUCT DESCRIPTION

This Environmental Product Declaration (EPD) covers Ethos Dynex modular carpet tile manufactured in Dalton, Georgia, USA, with Tarkett's ethos® non-PVC backing and Dynex SD® recycled nylon 6 face fiber. The ethos backing contains up to 79% post-consumer recycled content sourced from PVB in recycled windshields and architectural glass, is Cradle to Cradle (C2C) Certified®, and can be fully recycled into new ethos backing through Tarkett's ReStart® take-back and recycling program, supporting Tarkett's circularity strategy. All styles using ethos backing with Dynex SD nylon are included in this EPD. Products range from 407 to 1,424 g/m² yarn weight; a medium yarn weight of 678 g/m² is modelled, with Global Warming Potential values provided for all other yarn weights. Ethos tiles include Tarkett's Omnicoat® Technology to help address moisture, pH, and residual adhesives during installation. Dynex SD is a recycled cationic nylon fiber with inherent stain resistance, treated with EcoEnsure®, a fluorine-free soil-resistant technology with a C2C Material Health Certificate and low-VOC formulation.

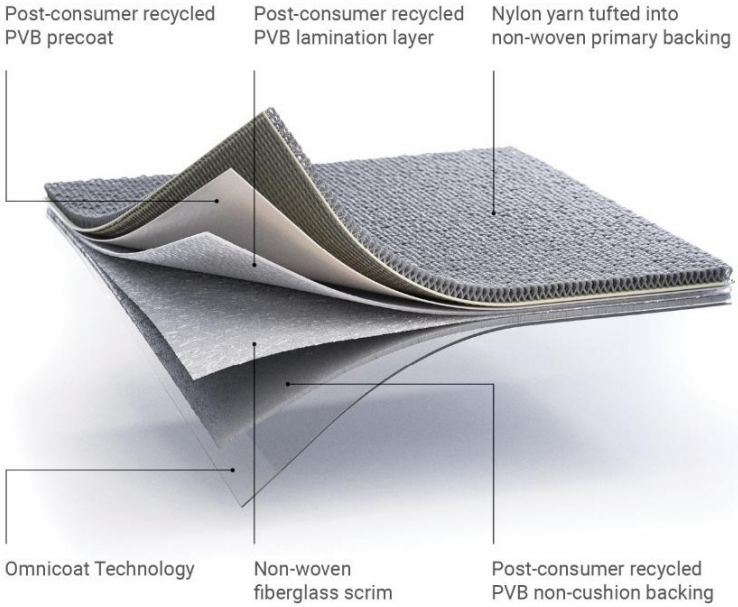

Figure 1. Cross section of Ethos Modular Carpet Tile with Dynex

1.3 PRODUCT

The production data used in this EPD considers the Ethos Dynex Modular Carpet Tile manufactured during the month of November 2025. The product is manufactured in Dalton, Georgia and Calhoun, Georgia.

1.4 APPLICATION

The product provides the primary function of flooring for interior applications. The flooring products are used in various commercial and residential applications including workplace, education, multi-family, hospitality, and healthcare.

1.5 DECLARATION OF METHODOLOGICAL FRAMEWORK

The scope of the EPD is cradle to grave, including raw material extraction and processing, transportation, product manufacture, product delivery, installation and use, and product disposal. The assessment is conducted following an attributional LCA approach. Reference service life for this product is 15 years. There are no known flows excluded from this EPD.

1.6 TECHNICAL DATA

The table below presents technical data and properties for the Ethos Dynex modular carpet tile.

Table 1. Technical data and properties for the ethos modular carpet tile with Dynex

Name	Value	Unit
Yarn type	nylon 6 (100% post-industrial recycled)	
Primary backing	polyester	
Secondary backing	polyvinyl Butyral (PVB) (100% post-consumer recycled); fiber glass	
Product size	60.96 X 60.96 ; optional sizes available	cm
Backing thickness	1.3	mm
Backing weight	2.6485	kg/m^2
Surface pile thickness	2.08 - 8.38	mm
Surface pile weight	0.339 - 0.915	kg/m^2
VOC emissions test method	CRI Green Label plus	
Product weight	3.3266	kg/m^2
CRI rating	3-4.5	
Additional characteristics	NSF 140 Gold; ISO 14001 certified; Cradle to Cradle certified	

1.7 MARKET PLACEMENT / APPLICATION RULES

The technical specifications of the product are summarized in the table above. This product is made in the USA, in an ISO 9001 and ISO 14001 certified facility. Additional information can be found on the manufacturer's website www.tarkett.com.

1.8 PRODUCT MATERIAL COMPOSITION

Table 2. Raw materials in ethos modular carpet tile with Dynex

Product layer	% recycled content	Chemical	% product weight
Face fiber	100	nylon 6	20.66
Primary backing	29	polyester	3.35
Precoat	100	polyvinyl butyral calcium carbonate alumina trihydrate	22.52
Secondary backing	100 95 100	polyvinyl butyral calcium carbonate recycled ethos backing	51.41
Others		fiberglass	2.07
		Omnicoat	0.71
		pigment	0.61
Product total			**100**

Totals may not sum exactly due to rounding of individual values.

No substances required to be reported as hazardous are associated with the production of this product.

1.9 MANUFACTURING

Ethos Dynex modular carpet tiles are manufactured at Tarkett's U.S. production facilities in Dalton, Georgia and Calhoun, Georgia, through a multi-stage process beginning with fiber extrusion. Nylon 6 fiber is extruded in-house and tufted into a polyester primary backing. A precoat is applied to ensure maximum tuft bind, after which the ethos® modular backing system—with a secondary fiberglass layer—is laminated to the tufted carpet. A topical Omnicoat™ finish is then applied. The finished carpet is cut into tiles, packaged in cardboard cartons, and shipped to end users.

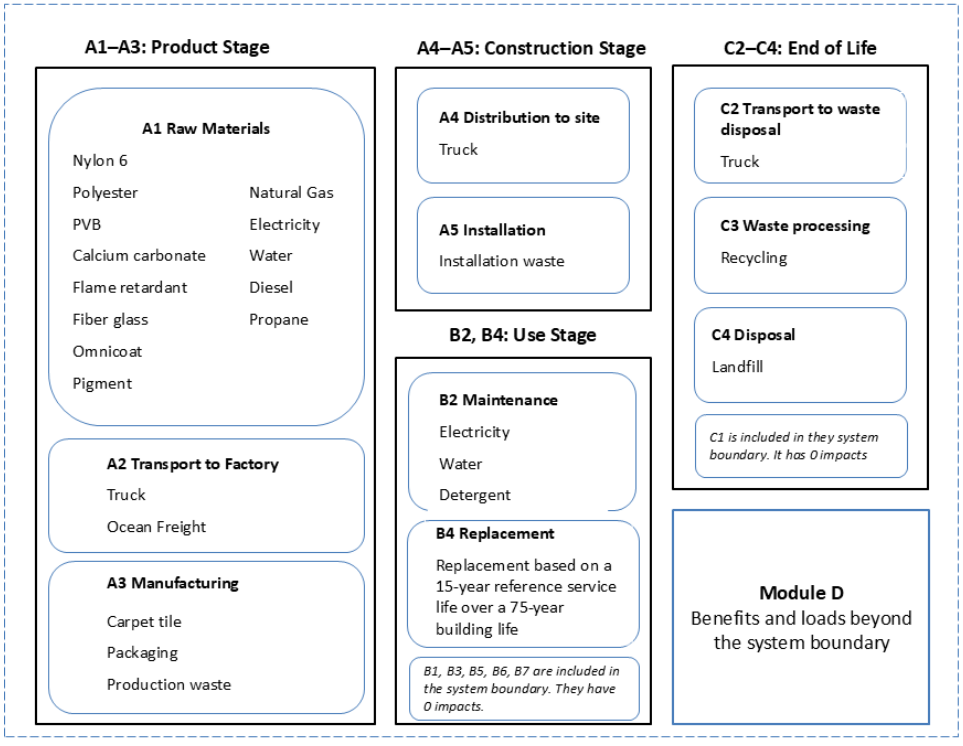

Figure 2. Flow diagram of system boundary and production process for ethos modular carpet tile with Dynex

1.10 PACKAGING

The products are packaged for shipment in corrugated cardboard boxes, wrapped with polyethylene shrink wrap, and packaged in wood pallets. These materials contain recycled content and are provided by local packaging suppliers. Disposal of packaging is modeled in conformance with PCR (UL) requirements. Landfill emissions from paper, plastic, and wood packaging are allocated to installation.

1.11 PRODUCT INSTALLATION

This study includes transportation of the product to the construction site by truck and installation within the building. Installation is performed using standard hand tools for measuring, cutting, and fitting the flooring. Approximately 4% of the total material is assumed to be trimmed and discarded as installation waste. Although a portion of this waste may be recyclable in practice, the model conservatively assumes that all installation scrap is disposed of in landfill.

1.12 USE CONDITIONS

The service life of the carpet varies based on the actual level of floor traffic and the type and frequency of maintenance. The recommended cleaning regime depends on the use conditions of the premises and may differ by manufacturer's warranty requirements. For the purpose of this EPD, average maintenance data is applied.

Indoor emissions during the use stage have been assessed through indoor air quality testing in accordance with the Green Label Plus program. No health-related concerns are identified during the normal use of the flooring.

1.13 REFERENCE SERVICE LIFE (RSL) AND BUILDING SERVICE LIFE

The reference service life (RSL) of the product varies based on the manufacturer's warranted lifetime. For this EPD, an RSL of 15 years is applied, based on the manufacturer's warranty, indicating that the product is expected to meet its functional performance requirements for an average of 15 years before replacement. The building service life is assumed to be 75 years, as specified by the PCR (UL).

1.14 RE-USE PHASE

At the end of its service life, the ethos dynex modular carpet tile can enter Tarkett's ReStart® take-back program, which facilitates the collection, reuse, and recycling of post-consumer flooring. Products returned through this program are either reused or recycled into new materials, supporting circularity and reducing landfill disposal.

1.15 DISPOSAL

The end-of-life scenario reflects prevailing waste management practices for commercial carpet. The majority of material is assumed to be disposed of in landfill (Module C4). Carpet returned through Tarkett's take-back program undergoes recycling treatment processes, modeled in Module C3. Because the resulting secondary material is accounted for as post-consumer input in Module A1, no additional recycling benefit is included in Module D.

1.16 FURTHER INFORMATION

For further information, visit https://www.tarkett.com

2. LIFE CYCLE ASSESSMENT CALCULATION RULES

2.1 FUNCTIONAL UNIT

In accordance with the PCR (UL), the functional unit is 1 m² of installed floor covering over a period of 75 years. Ethos Dynex modular carpet tile is assumed to have a reference service life (RSL) of 15 years with installation losses of 4%. Over a 75-year building service life, this results in four product installations. The installed product mass is 3.3266 kg per m².

Table 3. Functional unit, Reference flow and RSL

Declared unit	1 m² of installed floor covering
Mass per declared unit	3.3266 kg
Functional unit	1 m² of floor covering over a period of 75 years
Reference service life	15
Replacement cycles	4
Total # of life cycles	5

2.2 SYSTEM BOUNDARY

This EPD is cradle-to-grave in scope. See Figure 3. for the life-cycle modules included. Modules B1, B3, B5, B6, and B7 are not applicable for this product and are therefore excluded from the results tables for readability.

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

Figure 3. Description of system boundary modules

X = included in the LCA. Modules not declared = MND. Modules not relevant = MNR

A1 – A3 Product Manufacturing and Packaging

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.

Electricity consumed in the manufacturing facilities was modeled using a market-based approach. The facilities procure 100% wind-based Renewable Energy Certificates (RECs), and this procurement was reflected in the primary modeled scenario. Results are presented both with and without the application of RECs to align with UL PCR requirements. The scenario without RECs reflects market-based grid electricity without renewable attribute claims. Natural gas consumption at the facilities was also included within the A1–A3 system boundary.

A4 – A5 Transport and Installation

Transportation impacts (A4) include delivery of the finished product from the manufacturing site to the construction site. These impacts account for direct fuel combustion emissions, upstream fuel production, and associated transport infrastructure emissions. Installation impacts (A5) include the installation process and disposal of installation waste, based on an assumed 4% installation loss.

B1 Use

Indoor emissions during the use phase have been evaluated through indoor air quality testing in accordance with the Green Label Plus program. No health-related concerns are associated with the normal use of the flooring, and Module B1 is declared with no impacts.

B2 Maintenance

Maintenance includes routine cleaning of the flooring over its reference service life, based on the manufacturer's recommended procedures for vacuuming and periodic hot water extraction.

B3 Repair

Repair activities are not required during the reference service life of the carpet flooring under normal conditions of use. Hence Module B3 is declared with no impact (0).

B4 Replacement

This phase represents the impacts associated with replacing the flooring over the 75-year building service life. Based on a reference service life (RSL) of 15 years, the flooring is replaced four times. The impacts for Module B4 are calculated as the total life-cycle impacts per installation multiplied by the number of replacements.

B5 Refurbishment

Refurbishment activities (e.g., recoating, resurfacing, or treatment) are not applicable to this product. Hence Module B5 is declared with no impact (0).

B6 Operational energy use

The carpet flooring does not consume operational energy during the use phase. Hence Module B6 is declared with no impact (0).

B7 Operational water use

The carpet flooring does not require operational water use during the use phase. Hence Module B7 is declared with no impact (0).

C1 Deconstruction/Demolition

This phase includes tearing of the product from the building at the end of its Reference Service Life (RSL).

C2 Transportation to end of life

This phase includes the transportation of the flooring product to an end-of-life facility.

C3 Waste Processing

This phase includes any additional waste processing necessary before material recovery.

C4 Disposal

This disposal phase includes any impacts associated with landfilling or incineration of the product at the end of its useful life.

D Reuse Recovery Recycling Potential

The environmental benefits and burdens associated with the incineration of manufacturing waste are included in Module D, reflecting the treatment of material leaving the product system boundary.

2.3 ESTIMATES AND ASSUMPTIONS

Electricity consumption at the manufacturing facility is allocated to the product based on its share of total production area, consistent with the PCR (UL). When an exact LCI dataset was not available for a specific raw material or process, a technologically representative proxy dataset was used.

Electricity use at Dalton and Calhoun facilities was modeled using a market-based approach. The facilities procure 100% wind-based Renewable Energy Certificates (RECs), and this procurement was reflected in the primary modeled scenario. For transparency, results are presented both with and without the application of RECs. The scenario without RECs reflects market-based grid electricity without renewable attribute claims, based on region specific electricity mix using dataset from the U.S. Energy Information Administration (US EIA).

Transport distances for delivery to the installation site and for waste transport are based on PCR (UL) assumptions. The product is assumed to be transported 800 km by diesel-powered truck from the point of purchase to the building site, and 161 km by diesel-powered truck from the building site to waste processing. Waste generated from production losses is transported from the manufacturing site to local waste management facilities using site-specific transport distances.

Product and packaging end-of-life treatment follows the PCR (UL) allowance for national disposal scenarios. Disposal rates are based on U.S. municipal solid waste statistics for packaging materials and represent average national treatment routes (see Table 3.).

Table 4. Estimated disposal scenarios for packaging waste from product installation in the U.S. Source: (U.S. EPA 2022)

Component	Recycled (%)	Landfilled (%)	Incinerated (%)
Paper	80.9	15.4	3.7
Wood	26.9	58.8	14.3
Plastics	13.6	69.5	16.9

2.4 CUT-OFF CRITERIA

The study does not exclude any modules or processes which are stated mandatory in the reference standard and the applied PCR (UL). The study does not exclude any hazardous materials or substances. The study includes all major raw material and energy consumption. All inputs and outputs of the unit processes, for which data is available for, are included in the calculation. There is no neglected unit

process more than 1% of total mass or energy flows. The module specific total neglected input and output flows also do not exceed 5% of energy usage or mass.

The 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.

2.5 DATA SOURCES

Primary data from Tarkett's Dalton and Calhoun manufacturing sites were used for production processes, energy use, and material inputs. When primary data were not available, high-quality secondary data were used. Secondary LCI data were sourced from the ecoinvent v3.11 and v3.10.1 database, US EIA, and supplier-specific LCA datasets selected to match the material or process as closely as possible.

2.6 DATA QUALITY

Data quality was evaluated following ISO 14044 and PCR (UL) requirements. Primary data reflect November 2025 U.S. production at Tarkett facilities, with secondary data sourced from ecoinvent v3.11. v3.10.1, US EIA, and supplier LCAs selected based on technological and geographic relevance. The datasets are current, representative, and complete for the defined system boundaries. Consistent modeling approaches were applied throughout, and sufficient transparency is provided to support reproducibility. Uncertainty due to proxy data is considered minor relative to the contribution of primary data.

This EPD incorporates updates to product composition, including increased recycled content, and electricity sourcing with Renewable Energy Certificates (RECs) and is based on one month of site-specific production data. The EPD will be updated once a full year of production data becomes available.

2.7 PERIOD UNDER REVIEW

Primary data collected represent production data for the month of November 2025.

2.8 ALLOCATION

Allocation is required when some material, energy, or waste flows cannot be measured separately for the product under investigation. All allocations in this study are performed in accordance with UL PCR Part B: Flooring (2018) and ISO 14044 to ensure consistency, reproducibility, and transparency.

Energy, water, and ancillary materials
Resource use at Tarkett's manufacturing facilities, including electricity, water, other utilities, and ancillary materials, was allocated to products based on product area as a fraction of total facility production. Electricity consumption was modeled using region-specific ecoinvent v3.10 and v3.11 datasets, as well as U.S. EIA data, for scenarios both with and without Renewable Energy Certificates (RECs). The scenario without RECs uses conservative proxy values, verified against utility-supplied data. Final results are reported for both scenarios to align with UL PCR requirements.

Raw materials and recycled content
The product system incorporates materials with recycled content. Data on material composition, including recycled content, were obtained from the Bill of Materials in collaboration with R&D. Following PCR (UL) and ISO 14044 guidance, recycled materials do not carry environmental burdens from previous life cycles, except for energy and emissions associated with reprocessing. For materials with mixed virgin and recycled content, burdens were allocated based on mass fraction. Production

waste that is recycled or landfilled is allocated proportionally based on the mass of total waste streams.

Coproducts and other products in the facility
When multiple products are produced at the same facility, impacts from shared processes are allocated based on product area, which is appropriate for flooring products.

Transport
Impacts from transportation, including distribution to point of sale, were allocated based on mass × distance, consistent with ecoinvent LCI modeling practices.

All allocation choices, including mass- and area-based allocations, recycled content handling, and REC allocation, follow PCR (UL) and ISO guidance, with documentation of assumptions for transparency.

2.9 COMPARABILITY AND BENCHMARKING

This EPD does not include any product comparisons or benchmarking. LCA results from different EPDs may use different background databases, modeling assumptions, geographic scopes, or time periods, all of which are valid under the PCR (UL) and ISO standards. Caution should be exercised when comparing results across EPDs, as differences in methodology or data can affect outcomes.

3. LIFE CYCLE ASSESSMENT SCENARIOS AND ADDITIONAL TECHNICAL INFORMATION

3.1 PRODUCT & MANUFACTURING SITES GROUPING

Since modules B1, B3, B5, B6, B7 are declared as having no environmental impacts, no technical information has been provided for those modules.

Table 5. Manufacturing energy scenario documentation (A3)

Energy parameter	Value
Electricity data source and quality	Site specific electricity data provided by utility companies
Electricity emission factor (CO_2e/kWh)	**Scenario modeled with RECs:** 0.0136 kg CO_2e/kWh (Green e-certified RECs from wind energy) **Scenario modeled without RECs:** 0.46 kg CO_2e/kWh (SERC regional grid mix as per US EIA)
District heating data source and quality	US Environmental Protection Agency (EPA)
District heating emission factor (CO_2e/kWh)	0.113 kg CO_2e/kWh (converted from 0.0313 kg CO_2e/MJ)

Table 5. Transport to the building site (A4)

Name	Value
Fuel type	Diesel
Liters of fuel (l/100 km)	18.7
Vehicle type	Diesel truck
Capacity utilization (%)	76
Transport distance (km)	800
Gross mass transported (kg)	3.418

Table 6. Installation parameters for the flooring product, per 1m² (A5)

Name	Value
Ancillary materials	0.00
Net freshwater consumption	0.00
Electricity consumption	0.00
Product loss per functional unit at 4% (kg)	0.133
Waste materials generated by product installation (kg)	0.269
Output materials from on-site waste processing	n/a
Mass of packaging waste - cardboard(kg)	0.0554
Mass of packaging waste – plastic (kg)	0.00112
Mass of packaging waste – wood (kg)	0.0791
Biogenic carbon contained in packaging (kg CO_2)	n/a

Table 7. Reference service life

Name	Value
Reference Service life (years)	15

Table 8. Maintenance (B2)

Name	Value	Unit
Maintenance process	**Vacuuming**	
Maintenance cycle	cycles/RSL	1560
Maintenance cycle	cycles/ESL	7800
Electricity	kWh/m²/yr	1.08
Maintenance process	**Extraction cleaning**	
Maintenance cycle	cycles/RSL	30
Maintenance cycle	cycles/ESL	150
Electricity	kWh/m²/yr	0.20
Water	l/m²/yr	12.1
Detergent	kg/m²/yr	0.016

Table 9.Replacement (B4)

Name	Value	Unit
Reference service life	15	years
Number of replacements	4	(ESL/RSL)-1
Energy input	0	kWh
Freshwater consumption	0	m^3
Ancillary materials	negligible	kg
Replacement of worn parts – carpet tile	3.2825	kg

Table 10. End of life (C1-C4)

Name	Value	Unit
Collected as mixed construction waste	3.3266	kg/m^2
Recycling	0.314	kg/m^2
Energy recovery	0	kg/m^2
Landfilling	3.01	kg/m^2
Removal of biogenic carbon (excluding packaging)	0	kg CO_2/m^2

4. LIFE CYCLE ASSESSMENT RESULTS

The estimated impact results are only relative statements which do not indicate the end points of the impact categories, exceeding threshold values, safety margins or risks. Modules B1, B3, B5, B6, and B7 have no impacts (0) for this product and are therefore excluded from the results tables for readability.

4.1 RESULTS OF THE LCA FOR 1M² OF FLOORING OVER ESL OF PRODUCT – WITH RENEWABLE ENERGY CERTIFICATES

Table 11. ENVIRONMENTAL IMPACTS – TRACI 2.1. / ISO 21930 - with Renewable Energy Certificates

Impact category	Unit	A1-A3	A4	A5	B2	B4	C1	C2	C3	C4	D
GWP	kg CO_2e	4.11E+00	2.94E-01	2.01E-01	1.10E+01	2.14E+01	0.00E+00	1.20E-01	3.36E-02	2.46E-01	-2.99E-01
ODP	kg CFC-11e	1.63E-06	4.64E-09	6.56E-08	1.18E-06	8.49E-06	0.00E+00	1.82E-09	9.41E-11	8.79E-10	-7.34E-10
AP	kg SO_2e	1.66E-02	9.03E-04	7.45E-04	3.69E-02	8.63E-02	0.00E+00	3.62E-04	8.56E-05	2.32E-04	-1.85E-03
EP	kg Ne	5.95E-03	9.52E-05	2.69E-04	2.38E-02	3.09E-02	0.00E+00	3.84E-05	2.44E-05	4.46E-04	-1.57E-04
SFP	kg O_3e	2.72E-01	2.30E-02	1.29E-02	5.39E-01	1.41E+00	0.00E+00	9.06E-03	1.59E-03	6.00E-03	-1.75E-02
ADP-fossil	MJ	4.40E+00	4.33E+00	4.64E-01	2.96E+01	2.29E+01	0.00E+00	1.72E+00	-1.44E+00	0.00E+00	0.00E+00

Key GWP= global warming potential; ODP = ozone depletion potential; AP=acidification potential; EP= eutrophication potential; SFP = smog formation potential; ADP-fossil = abiotic depletion potential for fossil resources

Table 12. USE OF NATURAL RESOURCES - with Renewable Energy Certificates

Impact category	Unit	A1-A3	A4	A5	B2	B4	C1	C2	C3	C4	D
RPRE	MJ	2.82E+01	5.93E-02	-7.27E-01	5.65E+01	1.47E+02	0.00E+00	2.36E-02	1.49E-02	1.01E-02	-3.41E-01
RPRM	MJ	1.90E+00	0.00E+00	-1.90E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
RPRT	MJ	3.01E+01	5.93E-02	-2.63E+00	5.65E+01	1.47E+02	0.00E+00	2.36E-02	1.49E-02	1.01E-02	-3.41E-01
NRPRE	MJ	3.91E+01	4.33E+00	-3.10E+00	1.78E+02	2.03E+02	0.00E+00	1.72E+00	-1.19E+01	-1.09E+02	-3.21E+00
NRPRM	MJ	7.98E+00	0.00E+00	-1.32E-01	0.00E+00	0.00E+00	0.00E+00	0.00E+00	-2.29E-01	-7.62E+00	0.00E+00
NRPRT	MJ	4.71E+01	4.33E+00	-3.23E+00	1.78E+02	2.03E+02	0.00E+00	1.72E+00	-1.22E+01	-1.16E+02	-3.21E+00
SM	kg	1.77E+00	1.84E-03	7.10E-02	2.71E-02	9.21E+00	0.00E+00	7.64E-04	8.32E-04	2.52E-04	-2.95E-04
RSM	MJ	4.19E-02	2.34E-05	1.68E-03	2.66E-04	2.18E-01	0.00E+00	9.72E-06	8.09E-06	5.06E-06	-1.82E-04
NRSF	MJ	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
RE	MJ	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
NFW	m^3	2.63E-02	6.40E-04	3.77E-04	1.12E+00	1.37E-01	0.00E+00	2.34E-04	7.27E-05	-1.11E-02	-5.57E-04

Key

RPRE = Renewable primary energy resources used as energy carrier; RPRM = Renewable primary energy as material; RPRT = Total use of renewable primary energy resources; NRPRE = Non-renewable primary resources used as an energy carrier; NRPRM = Non-renewable primary resources with energy content used as material; NRPRT: Total use of non-renewable primary energy resources; SM = Secondary materials; RSF = Renewable secondary fuels; NRSF = Non-renewable secondary fuels; RE = Recovered energy; NFW = Use of net fresh water resources

Table 13. END OF LIFE – WASTE AND OUTPUT FLOWS - with Renewable Energy Certificates

Impact category	Unit	A1-A3	A4	A5	B2	B4	C1	C2	C3	C4	D
HWD	kg	5.14E-01	7.33E-03	2.13E-02	3.86E-01	2.67E+00	0.00E+00	2.98E-03	2.29E-03	1.22E-03	-2.32E-02
NHWD	kg	1.29E+01	1.36E-01	1.04E+00	1.27E+01	6.69E+01	0.00E+00	5.57E-02	6.14E-02	7.96E+00	-4.78E-01
HLRW	kg	6.93E-06	2.71E-07	3.03E-07	2.54E-04	3.60E-05	0.00E+00	1.03E-07	6.07E-08	4.34E-08	-1.19E-06
ILLRW	kg	1.77E-05	6.52E-07	7.70E-07	1.10E-03	9.22E-05	0.00E+00	2.44E-07	1.95E-07	1.08E-07	-4.74E-06
CRU	kg	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
MR	kg	6.07E+00	0.00E+00	3.09E-01	0.00E+00	3.16E+01	0.00E+00	0.00E+00	3.14E-01	0.00E+00	0.00E+00
MER	kg	1.20E-01	0.00E+00	4.80E-03	0.00E+00	6.24E-01	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
EE	MJ	2.71E+00	0.00E+00	1.08E-01	0.00E+00	1.41E+01	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00

Key

HWD = Hazardous waste disposed; NHWD: Non-hazardous waste disposed; HLRW = High-level radioactive waste, conditioned, to final repository; ILLRW = Intermediate and low-level radioactive waste, conditioned to final repository; CRU = components for re-use; MR = Materials for recycling; MER = Materials for energy recovery; EE = Recovered energy exported from the product system

4.2 RESULTS OF THE LCA FOR 1M² OF FLOORING OVER ESL OF PRODUCT – WITHOUT RENEWABLE ENERGY CERTIFICATES

Table 14. ENVIRONMENTAL IMPACTS – TRACI 2.1. / ISO 21930 - without Renewable Energy Certificates

Impact category	Unit	A1-A3	A4	A5	B2	B4	C1	C2	C3	C4	D
GWP	kg CO_2e	6.97E+00	2.94E-01	3.16E-01	1.10E+01	3.63E+01	0.00E+00	1.20E-01	3.36E-02	2.46E-01	-2.99E-01
ODP	kg CFC-11e	2.11E-06	4.64E-09	8.46E-08	1.18E-06	1.10E-05	0.00E+00	1.82E-09	9.41E-11	8.79E-10	-7.34E-10
AP	kg SO_2e	2.53E-02	9.03E-04	1.09E-03	3.69E-02	1.32E-01	0.00E+00	3.62E-04	8.56E-05	2.32E-04	-1.85E-03
EP	kg Ne	8.13E-03	9.52E-05	3.56E-04	2.38E-02	4.23E-02	0.00E+00	3.84E-05	2.44E-05	4.46E-04	-1.57E-04
SFP	kg O_3e	4.17E-01	2.30E-02	1.87E-02	5.39E-01	2.17E+00	0.00E+00	9.06E-03	1.59E-03	6.00E-03	-1.75E-02
ADP-fossil	MJ	9.70E+00	4.33E+00	6.76E-01	2.96E+01	5.04E+01	0.00E+00	1.72E+00	-1.44E+00	0.00E+00	0.00E+00

Key GWP= global warming potential; ODP = ozone depletion potential; AP=acidification potential; EP= eutrophication potential; SFP = smog formation potential; ADP-fossil = abiotic depletion potential for fossil resources

Table 15. USE OF NATURAL RESOURCES - without Renewable Energy Certificates

Impact category	Unit	A1-A3	A4	A5	B2	B4	C1	C2	C3	C4	D
RPRE	MJ	6.60E+00	5.93E-02	-1.59E+00	5.65E+01	3.43E+01	0.00E+00	2.36E-02	1.49E-02	1.01E-02	-3.41E-01
RPRM	MJ	1.90E+00	0.00E+00	-1.90E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
RPRT	MJ	8.50E+00	5.93E-02	-3.50E+00	5.65E+01	3.43E+01	0.00E+00	2.36E-02	1.49E-02	1.01E-02	-3.41E-01
NRPRE	MJ	1.03E+02	4.33E+00	-5.49E-01	1.78E+02	5.34E+02	0.00E+00	1.72E+00	-1.19E+01	-1.09E+02	-3.21E+00
NRPRM	MJ	7.98E+00	0.00E+00	-1.32E-01	0.00E+00	0.00E+00	0.00E+00	0.00E+00	-2.29E-01	-7.62E+00	0.00E+00
NRPRT	MJ	1.11E+02	4.33E+00	-6.80E-01	1.78E+02	5.34E+02	0.00E+00	1.72E+00	-1.22E+01	-1.16E+02	-3.21E+00
SM	kg	1.76E+00	1.84E-03	7.07E-02	2.71E-02	9.17E+00	0.00E+00	7.64E-04	8.32E-04	2.52E-04	-2.95E-04
RSM	MJ	4.19E-02	2.34E-05	1.68E-03	2.66E-04	2.18E-01	0.00E+00	9.72E-06	8.09E-06	5.06E-06	-1.82E-04
NRSF	MJ	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
RE	MJ	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
NFW	m^3	5.29E-02	6.40E-04	1.44E-03	1.12E+00	2.75E-01	0.00E+00	2.34E-04	7.27E-05	-1.11E-02	-5.57E-04

Key RPRE = Renewable primary energy resources used as energy carrier; RPRM = Renewable primary energy as material; RPRT = Total use of renewable primary energy resources; NRPRE = Non-renewable primary resources used as an energy carrier; NRPRM = Non-renewable primary resources with energy content used as material; NRPRT: Total use of non-renewable primary energy resources; SM = Secondary materials; RSF = Renewable secondary fuels; NRSF = Non-renewable secondary fuels; RE = Recovered Energy; NFW = Use of net fresh water resources

Table 16. END OF LIFE – WASTE - without Renewable Energy Certificates

Impact category	Unit	A1-A3	A4	A5	B2	B4	C1	C2	C3	C4	D
HWD	kg	4.93E-01	7.33E-03	2.04E-02	3.86E-01	2.56E+00	0.00E+00	2.98E-03	2.29E-03	1.22E-03	-2.32E-02
NHWD	kg	1.26E+01	1.36E-01	1.04E+00	1.27E+01	6.58E+01	0.00E+00	5.57E-02	6.14E-02	7.96E+00	-4.78E-01
HLRW	kg	1.27E-04	2.71E-07	5.11E-06	2.54E-04	6.61E-04	0.00E+00	1.03E-07	6.07E-08	4.34E-08	-1.19E-06
ILLRW	kg	5.41E-04	6.52E-07	2.17E-05	1.10E-03	2.81E-03	0.00E+00	2.44E-07	1.95E-07	1.08E-07	-4.74E-06
CRU	kg	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
MR	kg	6.07E+00	0.00E+00	3.09E-01	0.00E+00	3.16E+01	0.00E+00	0.00E+00	3.14E-01	0.00E+00	0.00E+00
MER	kg	1.20E-01	0.00E+00	4.80E-03	0.00E+00	6.24E-01	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
EE	MJ	2.71E+00	0.00E+00	1.08E-01	0.00E+00	1.41E+01	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00

Key HWD = Hazardous waste disposed; NHWD: Non-hazardous waste disposed; HLRW = High-level radioactive waste, conditioned, to final repository; ILLRW = Intermediate and low-level radioactive waste, conditioned to final repository; CRU = components for re-use; MR = Materials for recycling; MER = Materials for energy recovery; EE = Recovered energy exported from the product system

4.3 A1–A3 LCA RESULTS FOR ADDITIONAL FACE FIBER WEIGHTS WITH RENEWABLE ENERGY CERTIFICATES – TRACI 2.1

Face fiber (kg/m^2)	Face fiber (oz/yd^2)	A1-A3 GWP ($kg\ CO_2e/m^2$)
0.339	10	3.16
0.373	11	3.25
0.407	12	3.35
0.441	13	3.44
0.475	14	3.54
0.509	15	3.63
0.542	16	3.73
0.576	17	3.82
0.610	18	3.92
0.644	19	4.01
0.678	20	4.11
0.712	21	4.21
0.746	22	4.30
0.780	23	4.40
0.814	24	4.49
0.848	25	4.59

Face fiber (kg/m^2)	Face fiber (oz/yd^2)	A1-A3 GWP ($kg\ CO_2e/m^2$)
0.882	26	4.68
0.915	27	4.78
0.949	28	4.87
0.983	29	4.97
1.017	30	5.07
1.051	31	5.16
1.085	32	5.26
1.119	33	5.35
1.153	34	5.45
1.187	35	5.54
1.221	36	5.64
1.255	37	5.73
1.288	38	5.83
1.322	39	5.92
1.356	40	6.02

5. LCA INTERPRETATION

Across all impact categories, the replacement phase (B4) is the dominant contributor to total life cycle impacts due to multiple replacements assumed over a 75-year building life. Excluding B4, the product stage (A1–A3) is the primary contributor, driven by raw material extraction and processing, as well as manufacturing energy use. Other life cycle phases have comparatively minor influence.

The results are influenced by assumptions on product service life, cleaning frequency, and electricity mix during use. Any changes in these assumptions may significantly affect the results at building scale. Improvement opportunities are focused on the A1–A3 stages, including reducing material intensity, increasing recycled content, and using renewable or low-carbon energy. Extending product life and expanding end-of-life recovery pathways could further reduce impacts associated with replacement and disposal.

6. ADDITIONAL INFORMATION

6.1 MANDATORY ENVIRONMENTAL INFORMATION

Ethos® Dynex carpet tile complies with recognized product health and indoor air quality criteria. The product is not expected to release hazardous substances to the environment during normal use, including emissions to air or leaching to water or soil. More detail is available on www.tarkett.com

6.2 LCA SOFTWARE

The LCA and EPD have been prepared according to the reference standards ISO 21930, ISO 14025, and ISO 14040/14044 and in alignment with the UL Flooring PCR, using the TRACI 2.1 methodology. The life cycle model was developed using OneClick LCA software with datasets sourced from the ecoinvent database (version 3.11 and 3.10.1), and the US EIA.

7. REFERENCES

Tarkett (2025). *Life Cycle Assessment of Tarkett Ethos® Modular Carpet Tile with Dynex SD®.* Prepared December 2025.

ISO (2006; amended 2020). *ISO 14040: Environmental Management — Life Cycle Assessment — Principles and Framework.*
ISO (2006). *ISO 14044: Environmental Management — Life Cycle Assessment — Requirements and Guidelines.*
ISO (2006). *ISO 14025: Environmental Labels and Declarations — Type III Environmental Declarations — Principles and Procedures.*

UL Environment (2024). *PCR Guidance for Building-Related Products and Services — Part A: Life Cycle Assessment Calculations and Reporting.*
UL Environment (2024). *PCR Guidance for Building-Related Products and Services — Part B: Flooring EPD Requirements.*

U.S. EPA (2023). *TRACI 2.1: Tools for the Reduction and Assessment of Chemicals and Other Environmental Impacts.*

ecoinvent Association (2023). *ecoinvent Database, Versions 3.10 and 3.11.*

U.S. EPA (2022). *Facts and Figures about Materials, Waste and Recycling: National Overview and Material-Specific Data.* Retrieved from https://www.epa.gov/facts-and-figures-about-materials-waste-and-recycling

One Click LCA Ltd. (2025). *One Click LCA: EPD/LCA Calculation Tool for Building Products. Cloud-based LCA software. Accessed December 2025.*

8. THIRD-PARTY VERIFICATION STATEMENT

EPD Hub declares that this EPD is verified in accordance with ISO 14025 by an independent, third-party verifier. The project report on the Life Cycle Assessment and the report(s) on features of environmental relevance are filed at EPD Hub. EPD Hub PCR and ECO Platform verification checklist are used.

EPD Hub is not able to identify any unjustified deviations from the PCR (UL), PCR and ISO 21930 in the Environmental Product Declaration and its project report.

The company-specific data and upstream and downstream data have been examined as regards plausibility and consistency. The publisher is responsible for ensuring the factual integrity and legal compliance of this declaration.

The software used in creation of this LCA and EPD is verified by EPD Hub to conform to the procedural and methodological requirements outlined in ISO 14025:2010, ISO 14040/14044, ISO 21930, and EPD Hub Core Product Category Rules and General Program Instructions.

Verified tools

Tool verifier: Magaly Gonzalez Vazquez

Tool verification validity: 27 March 2025 - 26 March 2028

HaiHa Nguyen, as an authorized verifier acting for EPD Hub Limited

21.01.2026