

kinetex®

 FLOORING GROUP

Environmental Product Declaration

Kinetex® *Textile Composite Flooring*



Kinetex® is an advanced textile composite flooring that combines key attributes of soft-surface floor covering with the long-wearing performance characteristics of hard-surface flooring. Created as a unique floor covering alternative to hard surface products, J+J Flooring Group's Kinetex encompasses an unprecedented range of performance attributes for healthcare, retail, education, and institutional environments.



kinetex

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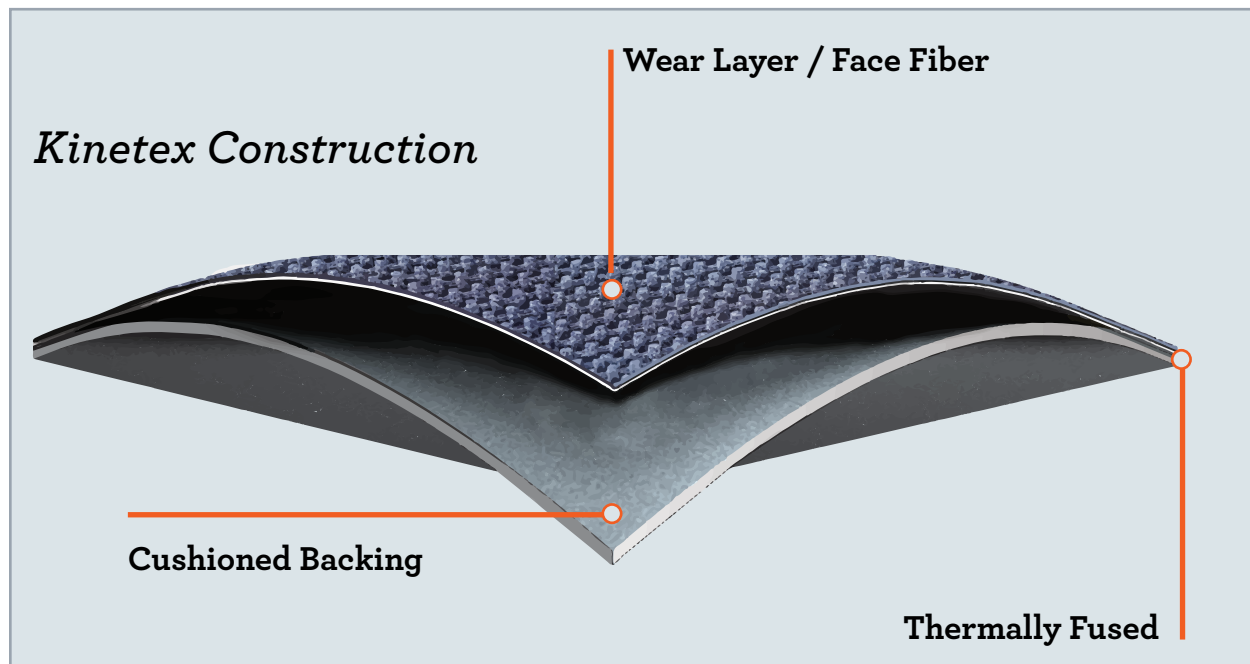
Environmental Product Declaration Verification

EPD INFORMATION			
Program Operator		NSF International	
Declaration Holder		J+J Flooring Group 818 J&J Drive, Dalton GA 30722 PO Box 1287	
Product Kinetex®	Date of Issue June 7, 2013	Period of Validity Valid through 12/31/18	Declaration Number EPD10003
This EPD was independently verified by NSF International in accordance with ISO 14025:		Signature of Representative	
<input checked="" type="checkbox"/> Internal	<input type="checkbox"/> External	Name of Representative Thomas J. Bruursema	
		Contact Information for Representative bruursema@nsf.org	
This life cycle assessment was independently verified by in accordance with ISO 14044 and the reference PCR:		Signature of Representative	
		Name of Representative Jack Geibig	
		Contact Information for Representative jgeibig@ecoform.com	
LCA INFORMATION			
Basis LCA		Title of LCA: Kinetex LCA Report: Fiscal year 2012	
		Date of Issue: May 2013	
LCA Preparer		Name of Preparer: Brad McAllister	
		Organization of Preparer: WAP Sustainability Consulting	
		Contact Information for Preparer: brad@wapsustainability.com	
This life cycle assessment was critically reviewed in accordance with ISO 14044 by:		Name of Critical Reviewer: Jack Geibig	
		Organization of Reviewer: Ecoform	
		Contact Information for Reviewer: jgeibig@ecoform.com	
PCR INFORMATION			
Program Operator		NSF International	
Reference PCR		Flooring: Carpet, Resilient, Laminate, Ceramic, Wood	
Date of Issue		May 22, 2012	
PCR review was conducted by:		Dr. Michael Overcash	
		Environmental Clarity	
		mrovercash@earthlink.net	

kinetex[®]

Product Description

Innovative textile composite flooring tile product comprised of PET/Polyethylene blended backing and PET face fibers. Can be used in applications ranging from traditional carpet to resilient flooring. Product contains both pre-consumer and post-consumer recycled content for a total of 60% recycled content. Product is made in the United States.



Applicability

Product is intended for use as a flooring tile in medium-to-high traffic commercial applications

Product Characteristics

Type of manufacture	Mechanically bonded PET face thermally bound to PET cushion felt backing	
Yarn type	PET	
Additional characteristics per NSF/ANSI 140	Fully Recyclable	
Sustainable certifications	Certified to NSF/ANSI 140 Platinum	
VOC emissions test method	Green Label Plus (GLP)	
CRI- TARR rating	4.5	
CHARACTERISTICS	NOMINAL VALUE	UNIT
Total thickness	0.200	inch)
Product weight	4.9 t	oz/yd ²
Surface pile thickness	< 0.4	inch
Number of tufts or loops	> 100	in ²
Surface pile weight	4.1	oz/yd ²
Pile fiber composition	100 PET	%
Secondary backing	100 PET	%

List of Product Standards

TEST	RESULT
AATCC2 Test Method 134-2011 Electrostatic Propensity of Carpets (Normative value ≤ 3.5 KV)	≤ .7KV
AATCC2 Test Method 16-2004 Colorfastness to Light (minimum grade 4 at 40 AFU)	5
ASTM6 E648 Standard Test Method for Critical Radiant Flux of Floor-Covering Systems Using a Radiant Heat Energy Source	0.64
ASTM6 E662 Standard Test Method for Specific Optical Density of Smoke Generated by Solid Materials	Non-Flaming 49 Flaming 136
ASTM6 D5252 Standard Practice for the Operation of the Hexapod Tumble Drum Tester	4.5
ASTM6 D7330 Standard Test Method for Assessment of Surface Appearance Change in Pile Floor Coverings Using Standard Reference Scales	4.5
ISO14 2551/ ASTM6 Dimensional Stability (Modular Tiles Only)	Ct1 -0.012 Ct2 -0.190 Ct3 +0.002 Ct4 -0.023

Material Content

COMPONENT	MATERIAL	MASS %	AVAILABILITY			ORIGIN OF RAW MATERIALS
			RENEWABLE	NON-RENEWABLE	RECYCLED	
Pile Material	PET Yarn (Solution Dyed)	17.2%		Fossil resource, limited		US
Primary Backing	PE	15.4%		Fossil resource, limited		US
Secondary Backing	Recycled PET	60.4%			From both post- and pre-consumer source	US
	Virgin PET	6.7%		Fossil resource, limited		US

Production of main materials

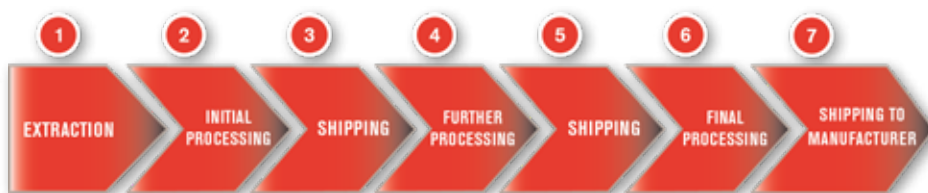
Polyethylene Terephthalate (PET): Polyethylene terephthalate is produced from ethylene glycol and dimethyl terephthalate or terephthalic acid. Recycled PET is sourced from a variety of sources including pre-consumer reclaimed fibers and post-consumer products, such as plastic bottles and textiles.

Polyethylene (PE): Class of synthetic fossil based polymers produced from the polymerization of ethylene.

Life Cycle Assessment Stages and Reported EPD Information

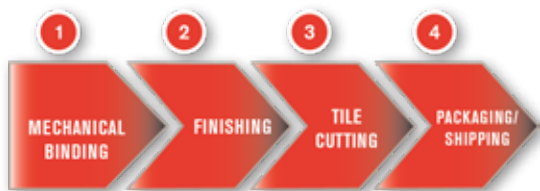
Sourcing/Extraction (Raw Material Acquisition) Stage

The exact route will vary based on each individual raw material's specific supply chain. In general, a material begins via extraction from the Earth or from pre- or post-consumer recycled feedstock and moves through a series of processing steps prior to being received at a manufacturing facility. Processing may include the addition or removal of supplemental materials and/or by-products. A series of transportation steps are required to move intermediate goods between facilities. Transportation modes may include truck, rail, sea freight and/or air.



Manufacturing Stage

The manufacturing process involves first mechanically binding PET face fiber onto the PE primary backing. This intermediate product is then laminated onto the PET secondary backing. The final product is then cut into carpet tiles and packaged for shipping to customer.



HEALTH, SAFETY, AND ENVIRONMENTAL ASPECTS DURING PRODUCTION

- ISO14001 Environmental Management System
- Compliance with local, state and federal regulations relating to the environment and workplace safety.
- Part of corporate Design for Environment program of J+J Flooring Group
- Meets requirements within the Public Health and Environment section of NSF140
- Corporate workplace safety program
- Utilization of LEAN manufacturing principles for the reduction of waste during production.

PRODUCTION WASTE

J+J Flooring Group strives to reduce all production waste through increased efficiency and utilization of raw materials. Any remaining waste that is generated is reclaimed and reused in the manufacturing process or sent to recycling partners. J+J Flooring Group has a strategic goal to be landfill free by 2020.

Delivery and installation stage

DELIVERY

J+J Flooring Group is provided to both the domestic and international marketplace. Domestic shipments are typically completed by truck, whereas international shipments utilize ocean freight and truck. The delivery distance to each job site is project specific and J+J Flooring Group requests that customers contact their sales representative for details regarding delivery options.

INSTALLATION

Installation of carpet can be accomplished through the use of J+J Flooring Groups' K-Tac™ Aqueous Adhesive. Full instructions regarding installation of carpet are provided in the J+J Flooring Groups' Kinetex Installation Instructions. The instructions are available for download at:

<http://www.jj-kinetex.com/technical/installation/>

HEALTH, SAFETY AND ENVIRONMENTAL ASPECTS DURING INSTALLATION

Adhesives used during installation meet the requirements of California South Coast Air Quality Management District Rule #1168 or are in accordance with the emissions requirements in California Department of Public Health Standard Method for the Testing and Evaluation of Volatile Organic Chemical Emissions from Indoor Sources Using Environmental Chambers, Version 1.1, February 2010 (also known as CA 01350 or may be referenced as FloorScore or Green Label Plus approved).

The MSDS's for installation adhesives can be viewed at:

<http://www.jj-kinetex.com/technical/adhesives/>

INSTALLATION WASTE

Packaging waste generated during the installation phase can be recycled with local recycling options. For more details regarding J+J Flooring Group's Carpet Reclamation program, please call **1.800.241.4586**

<http://www.jj-invision.com/pages/Carpet-Reclamation/>

PACKAGING

Prior to shipping, Kinetex tiles are packaged in cardboard boxes that contain recycled content. Boxes are stacked and shipped on wooden pallets. The boxes are secured to the pallet with thin film plastic wrap (LL-DPE). All materials are recyclable through local recycling options.

Use Stage

USE OF THE FLOOR COVERING

The reference service life of J+J Flooring Group Kinetex is 15 years. Although J+J's Kinetex may be replaced sooner due to changes in fashion. We are proud to offer to the market a limited lifetime warranty on most of our products.

CLEANING AND MAINTENANCE

The LCA was modeled with the following cleaning and maintenance parameters:

LEVEL OF USE	CLEANING PROCESS	CLEANING FREQUENCY (TIMES / YEAR)	CONSUMPTION OF ENERGY AND RESOURCES
COMMERCIAL	Vacuum Cleaning	4 times / week	Electrical Energy
	Rinse Cleaning	2 times / year	Electrical Energy, Water
	Deep Cleaning (extraction)	2 times / year	Electrical Energy, Water, cleaning agent.

STRUCTURAL DAMAGE

Kinetex should not be installed until all structural damage has been adequately repaired and determined to be code compliant.

End of Life Stage

RECYCLE, REUSE, OR REPURPOSE

Due to the unique construction of Kinetex, the product is able to be recycled at much higher rates than standard flooring products. At the end of its useful life, J+J Flooring Group expects that all Kinetex to be reclaimed.

DISPOSAL

Recycling of J+J Flooring Group's flooring is recommended. Additionally, it is recommended that customers utilize J+J Flooring Group's flooring reclamation program for the recycling of J+J Flooring Group flooring. To initiate the carpet reclamation process, please call **1.800.241.4586**. However, flooring can be disposed of in municipal landfills or sent to waste-to-energy facilities (subject to local regulations).

Life Cycle Assessment (LCA)

General

A cradle-to-grave life cycle assessment (LCA) was conducted in accordance to the ISO14040/14044 series of standards. Additionally, external third parties critically reviewed the LCA study. The LCA assessed the Sourcing, Manufacturing, Delivery and Installation, Use, and End-of-life stages of the product's life cycle.

Description of the functional unit

The functional unit is 1 square meter of Kinetex flooring. The service life of Kinetex is 15 years.

Cut-off criteria

Excluded materials met the following criteria:

- Less than 1% of the total mass of the final product
- Less than 1% of the total energy flows
- Total excluded materials did not exceed 5% of final product.
- Were identified as not having disproportionately high environmental impact.

Allocation

Background data used in the LCA model may contain some allocation. Primary data for J+J Flooring Group production was not allocated.

Background data

The LCA was modeled using the GaBi 6 software platform. Background data was typically sourced from PE International datasets, although some data from PlasticsEurope and the USLCI database were utilized when appropriate PE datasets were not available.

Data quality

Time Related Coverage: All gate-to-gate manufacturing data was sourced from J+J Flooring Group's most recently completed fiscal year. The time coverage of background data is adopted from the specific datasets utilized in the model. Priority was given to the most up-to-date dataset available at the time the model was created. No background data is more than 10 years old.

Geographical Coverage: All gate-to-gate manufacturing data are specific to J+J Flooring Group's locations and have been verified through third-party certification programs. The Geographical Coverage background data is adopted through the use of the specific datasets utilized in the model. In general, domestic data were preferred, however the absence of US specific data required some international data to be utilized.

Technology coverage: Data utilized in the model represent the most current technology.

System boundaries

The LCA of 1 M² of J+J Flooring Group's Kinetex includes:

- Sourcing/Extraction Stage
- Manufacturing Stage
- Delivery and Installation Stage
- Use Stage
- End of Life Stage



Notes on use stage

Kinetex manufactured by J+J Flooring Group carries a limited lifetime warranty. While the actual lifetime of the flooring is contingent on several factors, including changing style preference and building traffic, J+J Flooring Group has assumed a 15 year service life in the LCA model. Results are presented for a single year of use, as well as for a 60-year reference service life of a building.

	Kinetex
Primary Energy - Non-Renewable (MJ)	632.31
Lignite (%)	1%
Mineral Coal (%)	49%
Natural Gas (%)	24%
Oil (%)	8%
Nuclear (%)	18%
Primary Energy - Renewable (MJ)	93.32
Hydropower (%)	12.10%
Windpower (%)	15.93%
Solar Energy (Solar Power, Biomass) (%)	71.83%
Geothermics (%)	0.14%
Secondary Fuels (MJ)	0
Non-Renewable Material Sources (kg)	64.06
Output Flows	
Hazardous Waste (kg)	0
Non-Hazardous Waste (kg)	64.33

LIFE CYCLE IMPACT ASSESSMENT CML2001 - NOV. 2010 RESULTS

Table A

The Flooring: Carpet, Resilient, Laminate, Ceramic, Wood PCR is currently under expert review. It is expected that this review will conclude that **Table A: Life Cycle Impacts for a One Year Use Stage** will no longer be necessary in future EPDs. The absence of Table A in this EPD is recognized by NSF as an appropriate deviation from the PCR.

Table B

Life Cycle Stage Impacts for a Building Life of 60 Years

CML IMPACT CATEGORIES	UNITS	TOTAL		SOURCING		MANUFACTURE		DELIVERY & INSTALLATION		USE		END OF LIFE	
		Value	%	Value	%	Value	%	Value	%	Value	%	Value	%
Global Warming (GWP)	kg CO ₂ eq.	55.05	100%	14.28	26%	1.35	2%	2.52	5%	36.90	67%	0.00	0%
Acidification (AP)	kg SO ₂ eq.	2.27E-01	100%	8.80E-02	39%	1.46E-03	1%	5.76E-03	3%	1.32E-01	58%	1.03E-05	0%
Ozone Depletion (ODP)	kg CFC-11 eq.	1.02E-06	100%	1.01E-06	99%	1.65E-10	0%	1.79E-10	0%	1.46E-08	1%	6.28E-14	0%
Smog (POCP)	kg C ₂ H ₄ eq.	1.66E-02	100%	7.40E-03	45%	3.38E-04	2%	1.20E-04	1%	8.76E-03	53%	-3.23E-06	0%
Eutrophication (NP)	kg PO ₄ eq.	1.46E-02	100%	6.84E-03	47%	2.08E-04	1%	9.72E-04	7%	6.54E-03	45%	2.34E-06	0%
Abiotic Depletion (ADP)	kg SB eq.	1.12E-05	100%	6.16E-06	55%	1.18E-06	11%	1.13E-06	10%	2.74E-06	24%	2.92E-10	0%

Breakdown of Use Stage Impacts

	TOTAL %	ANNUAL ACTIVITIES	INTERMITTENT ACTIVITIES
Global Warming	100%	100%	0%
Acidification	100%	100%	0%
Ozone Depletion	100%	100%	0%
Smog	100%	100%	0%
Eutrophication	100%	100%	0%
Abiotic Depletion	100%	100%	0%

TRACI RESULTS

Table A

The Flooring: Carpet, Resilient, Laminate, Ceramic, Wood PCR is currently under expert review. It is expected that this review will conclude that **Table A: Life Cycle Impacts for a One Year Use Stage** will no longer be necessary in future EPDs. The absence of Table A in this EPD is recognized by NSF as an appropriate deviation from the PCR.

Table B

Life Cycle Stage Impacts for a Building Life of 60 Years

TRACI IMPACT CATEGORIES	UNITS	TOTAL		SOURCING		MANUFACTURE		DELIVERY & INSTALLATION		USE		END OF LIFE	
		Value	%	Value	%	Value	%	Value	%	Value	%	Value	%
Global Warming (GWP)	kg CO ₂ eq.	60.51	100%	19.80	33%	1.35	2%	2.46	4%	36.90	61%	0.00	0%
Acidification (AP)	kg SO ₂ eq.	2.14E-01	100%	8.32E-02	39%	1.56E-03	1%	6.48E-03	3%	1.23E-01	57%	1.34E-05	0%
Ozone Depletion (ODP)	kg CFC-11 eq.	1.16E-06	100%	1.15E-06	99%	1.76E-10	0%	1.90E-10	0%	1.56E-08	1%	5.16E-03	0%
Smog (POCP)	kg C ₂ H ₄ eq.	2.02E+00	100%	8.60E-01	43%	3.05E-02	2%	1.25E-01	6%	1.00E+00	50%	2.85E-04	0%
Eutrophication (NP)	kg PO ₄ eq.	1.25E-02	100%	4.88E-03	39%	1.13E-04	1%	2.37E-03	19%	5.16E-03	41%	8.60E-07	0%

Breakdown of Use Stage Impacts

	TOTAL %	ANNUAL ACTIVITIES	INTERMITTENT ACTIVITIES
Global Warming	100%	100%	0%
Acidification	100%	100%	0%
Ozone Depletion	100%	100%	0%
Smog	100%	100%	0%
Eutrophication	100%	100%	0%

Additional Environmental Information

- NSF 140 Platinum Certification
- CRI Green Label Plus Certification
- Listed on Pharos <http://www.pharosproject.net/>
- Available post-consumer reclamation options.
- J+J Flooring Group operates under an all inclusive Environmental Action (EnAct®) Program whereby all associate and corporate environmental activities are measure and improved.
- J+J Flooring Group offers sample returns under its R4 Program.
- J+J Flooring Group proudly offers to the market an annual, transparent Sustainable Progress Report. Please see the following website for more details:
http://www.jj-kinetex.com/kinetex_new/environmental/reclamation-program/