



# FLOORING GROUP

A DIVISION OF ENGINEERED FLOORS

## Nexus® Cushion Carpet Tile



As a major brand under the fastest growing carpet company in the world, J+J Flooring Group is also proud to bring to the market its flexibility to easily monitor and modify our footprint while pursuing innovative sustainable practices. As a company we believe that products should be evaluated holistically using a multi-attribute approach, rather than focusing on single product attributes or certifications. With conservation as the core of our sustainability initiatives, we've developed aggressive goals on energy and emissions reduction, water conservation, recycled content and waste minimization.

To get us where we are now, we used our 20/20 Vision process but will be following our 2025 Commercial Environmental Goals going forward into the next 5 years.

## Environmental Product Declaration






Certified  
Environmental  
Product Declaration  
[www.nsf.org](http://www.nsf.org)



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Program Operator	NSF International 789 N. Dixboro, Ann Arbor, MI 48105 <a href="http://www.nsf.org">www.nsf.org</a>	
General Program instructions and Version Number	NSF Program Operator Rules. February 23, 2015	
Manufacturer Name and Address	J+J Flooring Group 818 J and J Dr Dalton, GA 30721	
Declaration Number	EPD10796	
Product and Functional Unit	Nexus® Cushion Carpet Tile 1 m <sup>2</sup> of installed flooring and with a building service life of 75 years	
Reference PCR and Version Number	Part A: Life Cycle Assessment Calculation Rules and Report Requirements, V3.2, December 2018 Part B: Flooring EPD Requirements. UL 10010-7, September 28, 2018	
Product's intended Application and Use	Commercial Flooring and Wall Applications	
Product RSL	15 years	
Markets of Applicability	North America	
Date of Issue	10/25/2022	
Period of Validity	5 years from date of issue	
EPD Type	Product Specific	
Range of Dataset Variability	N/A	
EPD Scope	Cradle to Grave	
Year of reported manufacturer primary data	2017	
LCA Software and Version Number	GaBi 10.6.1.35	
LCI Database and Version Number	GaBi Database Version 2021.2	
LCIA Methodology and Version Number	TRACI 2.1 CML 2001-Jan 2016	
The sub-category PCR review was conducted by:	Jack Geibig (Chair) Thomas Gloria, PhD Thaddeus Owen	
This declaration was independently verified in accordance with ISO 14025: 2006. The UL Environment "Part A: Calculation Rules for the Life Cycle Assessment and Requirements on the Project Report," v3.1 (February 2018), based on CEN Norm EN 15804 (2012) and ISO 21930:2017, serves as the core PCR, with additional considerations from the USGBC/UL Environment Part A Enhancement (2017) <input type="checkbox"/> Internal <input checked="" type="checkbox"/> External	Tony Favilla <a href="mailto:afavilla@nsf.org">afavilla@nsf.org</a> 	
This life cycle assessment was conducted in accordance with ISO 14044 and the reference PCR by:	WAP Sustainability Consulting	
This life cycle assessment was independently verified in accordance with ISO 14044 and the reference PCR by:	Jack Geibig - EcoForm <a href="mailto:jgeibig@ecoform.com">jgeibig@ecoform.com</a> 	
<b>Limitations:</b> Environmental declarations from different programs may not be comparable. Comparison of the environmental performance of Flooring Products using EPD information shall be based on the product's use and impacts at the building level, and therefore EPDs may not be used for comparability purposes when not considering the building energy use phase as instructed under this PCR. Full conformance with the PCR for Products allows EPD comparability only when all stages of a life cycle have been considered. However, variations and deviations are possible". Example of variations: Different LCA software and background LCI datasets may lead to differences results for upstream or downstream of the life cycle stages declared.		

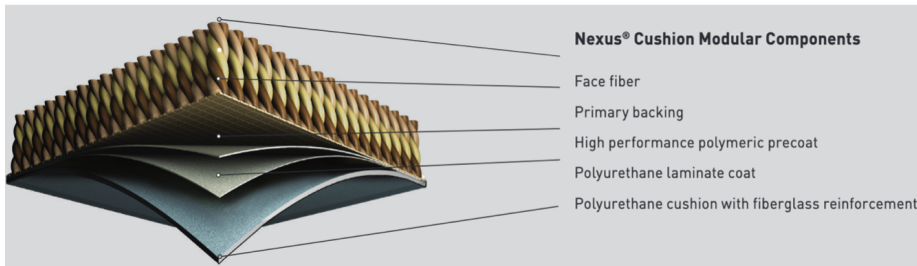


## Product Definition and Information

### 1. Company Description

Established in 1957, J+J Flooring Group is a leading manufacturing brand of commercial specified flooring. With broadloom and modular carpet, Kinetex® textile composite flooring and LVT (Luxury Vinyl Tile) – we provide a range of product and service solutions to meet the needs of our customers in the corporate workplace, education, healthcare, retail and hospitality sectors. That guiding ethic continues today as J+J Flooring Group strives to positively impact our associates, customers and community on a daily basis. By putting our people first, we produce products with pride, provide value to our customers and make a difference in our community. Our commitment to our associates and their families, as well as our larger community, requires J+J Flooring Group to provide gainful employment and economic development. In 2016, J+J Flooring Group joined Engineered Floors, LLC. Based in Dalton, Ga., Engineered Floors, LLC is a privately held carpet producer founded by Robert E. Shaw in 2009 and based in Dalton, Ga., with facilities in Calhoun and Dalton, Ga. Engineered Floors employs 4000 people.

### 2. Product Description



J&J Flooring's broad range of modular carpet designs paired with our Nexus® Cushion modular backing, provides you with higher performance and appealing design. Nexus® Cushion is engineered to provide outstanding performance, protection and stability that is required of modular carpet systems. Nexus Cushion

backed carpet tiles are nylon 6 or PET fibers tufted on to PET/Nylon 6 backing. The primary backing is attached to a polyurethane coat with a layer of latex. Finally, at the bottom is a polyurethane composite cushion layer with fiberglass reinforcement that adds comfort to modular carpet tiles. An average product within the Nexus® Cushion backing product line was chosen to model results. The composition of the products within each product group does not differ other than pigments and dyes used to give each carpet tile its own distinct appearance. The variation in terms of pigments and dyes used is not more than 2.2% of the total product weight.

Table 1: Technical Details

Parameter		
<b>Additional characteristics per NSF/ ANSI 140</b>	Available Reclamation Program	
<b>Sustainable certifications</b>	Certified Gold to NSF/ ANSI 140	
<b>VOC emissions test method</b>	Green Label Plus (GLP)	
<b>Product Form</b>	Carpet tile	
<b>Type of Manufacturing</b>	Tufted nylon 6 or PET fibers on PET/ Nylon 6 backing	
<b>Yarn Type</b>	Nylon 6 or PET	
<b>Total Carpet Weight</b>	3.51-4.41 kg/m <sup>2</sup>	
<b>Total Pile Weight</b>	0.59-1.49 kg/m <sup>2</sup>	
<b>CRI-TARR Rating</b>	≤3.5	
<b>Characteristics</b>	<b>Nominal Value</b>	<b>Unit</b>
<b>Total thickness</b>	8.37 – 13.3 (.251-.400)	mm (inch)



Parameter		
Surface pile thickness	2.41 – 5.22 (0.095 – 0.206)	mm (inch)
Number of tufts or loops /dm <sup>2</sup>	6.45 – 9.74 (100 – 151)	dm <sup>2</sup> (in <sup>2</sup> )
Secondary backing	Nexus® Cushion	Thermoplastic

Table 2: Performance Testing for Nexus® Cushion

Test	Result
AATCC2 Test Method 134-2011 Electrostatic Propensity of Carpets (Normative value ≤ 3.5 KV)	≤ 1.8 kV
AATCC2 Test Method 16-2004 Colorfastness to Light (minimum grade 4 at 40 AFU)	Met minimum grade = 5
ASTM6 E648 Standard Test Method for Critical Radiant Flux of Floor-Covering Systems Using a Radiant Heat Energy Source	Class 1, > 0.45
ASTM6 E662 Standard Test Method for Specific Optical Density of Smoke Generated by Solid Materials	< 450
ASTM6 D5252 Standard Practice for the Operation of the Hexapod Tumble Drum Tester	3.5
ASTM6 D7330 Standard Test Method for Assessment of Surface Appearance Change in Pile Floor Coverings Using Standard Reference Scales	3
ISO14 2551/ ASTM6 Dimensional Stability (Modular Tiles Only)	-.037 % (Machine Directional), .036 % (cross Directional)

### 3. Application

J+J Flooring Group's Nexus® Cushion is intended for use as a soft floor covering in medium-to-high traffic commercial applications such as retail, healthcare, education, offices, public venues and institutional environments. Further information about the product may be found on J+J Flooring's [website](#).

### 4. Properties of Product as Delivered

The product is usually delivered packaged in a cardboard box with plastic film and paper to protect the tiles during shipping. These are usually shipped in tile/ plank sizes of 12"x 48", 18"x 36", 24"x 24".

### 5. Declaration of Methodological Framework

This EPD is considered a Cradle-to-Grave study. A summary of the life cycle stages included in this EPD is presented in Section 17. The reference service life is outlined in

Table 11 and is only applicable if all manufacturing guidelines are followed regarding site-selection and installation, found online. No known flows are deliberately excluded from this EPD. Third party verified ISO 14040/44 secondary LCI data sets contribute more than 67% of total impacts in all impact categories required by the PCR.

## 6. Flow Diagram

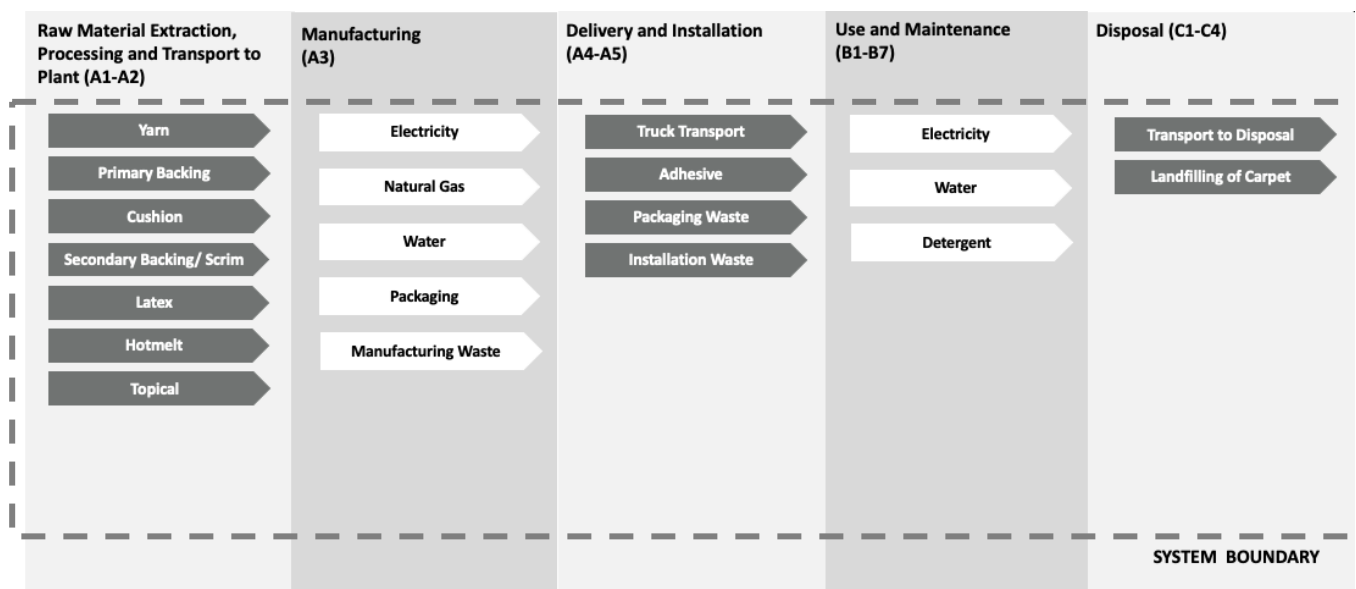


Figure 1: Flow Diagram

## 7. Material Composition

Table 3: Material Composition

Component	Material	(Mass %)
Face Yarn	Polyester/Nylon 6, Carbon Black, Titanium dioxide	14.92%
Primary Backing	Polyethylene, Nylon 6, Polyethylene Terephthalate, Polypropylene	2.65%
Secondary Backing/Scrim	Fiberglass	1.66%
Cushion	Polyurethane Cushion	23.20%
Latex	Calcium Carbonate, Vinyl Acetate Ethylene, Dispersant, Thickener, Flame retardant	11.59%
Laminate	Polyurethane, calcium carbonate, polyol	45.58%
Topical	Non-fluorochemical	0.40%
Total		100%

## 8. Manufacturing

The manufacturing process starts with the fiber production. This includes taking virgin and recycled content nylon and PET granulate feedstock and extruding fibers. This is combined in a fiber blend process to create a typical fiber. These individual fibers then go through the

processes of heat setting, air entangling and twisting to create yarn which is then tufted to a primary backing. The primary backing materials differ based on the type of backing being produced. The next step is coating which affixes secondary thermoset (latex) backing to tufted fiber and primary backing. Then, the manufactured secondary thermoplastic backing is affixed to the tufted fiber and backing. Then, the polyurethane cushion is attached to the existing layers with a polyurethane laminate layer. Finally, the tile cutting process involves stamping out individual carpet tile sform carpet roll completed in the laminating phase. No substances required to be reported as hazardous are associated with the production of this product.

## 9. Packaging

Table 4: Packaging Inputs

Input per sq. m <sup>2</sup>	Value	Unit
Cardboard	0.067	kg
Pallet	0.127	kg
Paper	0.00003	kg
Plastic film	0.001	kg

## 10. Transportation

It is assumed that all raw materials are distributed by truck. An average distance using this information was calculated and used in the model. Transport of raw material from supplier to the manufacturing facility was calculated for each raw material using primary data. Average distance to installation site was calculated based on average distance of total shipments to be 565.46 miles from the J+J facility in 2017.

## 11. Product Installation

Table 5: Product Installation Inputs

Input per sq. m <sup>2</sup>	Value	Unit
Adhesive	0.115	kg
Install waste	5	%

The product is delivered to the customer via truck, depending on the location of the end-user. Detailed installation instructions are provided online. Installation equipment is required though not included in the study as these are multi-use tools and the impacts per functional unit is considered negligible. Packaging waste is generated and disposed of in this stage. For Nexus Cushion, J+J recommends the use Nexus Cushion Modular Adhesive for installation. It is a non-PVC, non-flammable, water and alkali resistant pressure-sensitive adhesive. Because of its low odor and low VOCs, Nexus Cushion Modular Adhesive is ideally suited for use in health-conscious environments where odors associated with new installation are undesirable. It has great rebound to allow simple, fast removal and replacement of modular floor coverings. It is recommended over virtually all smooth surfaces, including nonporous substrates. An installation loss of 5% is assumed, disposed by pathways recommended in the PCR.

## 12. Use

The reference service life (RSL) of Nexus® Cushion carpet tile is assumed to be 15 years. Given the RSL of the products under consideration, 4 replacements of the

product are required to cover the Estimated service life (ESL) of the building of 75 years. Table 6 shows parameters for the use phase scenario studied.

Table 6: Use phase parameters

Maintenance	Light	Medium	Heavy	Unit
Vacuum	1	3	5	#/ week
Spot Check/ Clean	5	5	5	#/ week
Interim Maintenance	2	4	12	#/ year
Restorative Maintenance	1	2	4	#/ year

## 13. Reference Service Life and Estimated Building Service Life

A reference service life of 15 years is assumed for J+J's modular carpet tiles. The estimated service life of the building is 75 years as per Part A: Life Cycle Assessment Calculation Rules and Report Requirements, UL Environment, V3.2, 2018.

## 14. Reuse, Recycling and Energy Recovery

J+J Flooring, as a brand of the larger Engineered Floors family, offers our customers the opportunity to use our Carpet Reclamation Program. With this program we facilitate the reclamation of used carpet and guarantee that it will not reach a landfill. To initiate the carpet reclamation process, please call 1.800.241.4586 or email [reclamation@engineeredfloors.com](mailto:reclamation@engineeredfloors.com). In addition to reclaiming used carpet, old flooring can be safely disposed of in municipal landfills or sent to waste-to-energy facilities (subject to local regulations).

## 15. Disposal

All waste has been classified according to region-specific legislation as laid out in Section 2.8.5 and 2.8.6 in Part A: Life Cycle Assessment Calculation rules and Report Requirements from UL Environment. Per Part A, the product is completely landfilled. The landfill is assumed to 100 km away from the job site.

## Life Cycle Assessment Background Information

### 16. Functional Unit

The functional unit of the flooring product is one (1) m<sup>2</sup> of floor covering.

Table 7: Functional Unit for Nexus® Cushion

	Nexus® Cushion
Functional Unit [m <sup>2</sup> ]	1
Average Weight [kg]	4.31

### 17. System Boundary

This EPD is a cradle-to-grave study.

Table 8: Description of system boundary modules (X = Included in study)

EPD Type	PRODUCT STAGE			CONSTRUCTION PROCESS STAGE		USE STAGE							END OF LIFE STAGE				BENEFITS AND LOADS BEYOND THE SYSTEM BOUNDARY
	A1	A2	A3	A4	A5	B1	B2	B3	B4	B5	B6	B7	C1	C2	C3	C4	D
	Raw material supply	Transport	Manufacturing	Transport from gate to site	Assembly/Install	Use	Maintenance	Repair	Replacement	Refurbishment	Building Operational Energy Use During Product Use	Building Operational Water Use During Product Use	Deconstruction	Transport	Waste processing	Disposal	Reuse, Recovery, Recycling Potential
EPD Type	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	MND

Table 9: System Boundary and Modules

Module Name	Description	Analysis Period	Summary of Included Elements
A1	Product Stage: Raw Material Supply	2018	Raw Material sourcing and processing as defined by secondary data.
A2	Product Stage: Transport	2018	Shipping from supplier to manufacturing site. Fuel use requirements estimated based on product weights and estimated distance.
A3	Product Stage: Manufacturing	2017	Energy, water and material inputs required for manufacturing products from raw materials. Packaging materials and manufacturing waste are included as well.
A4	Construction Process Stage: Transport	2017	Shipping from manufacturing site to project site. Fuel use requirements estimated based on product weights and mapped distance.
A5	Construction Process Stage: Installation	2018	Installation materials, installation waste and packaging material waste.
B1	Use Stage: Use	2018	Use of the product. The product does not need any energy or materials inputs for it to be functional.
B2	Use Stage: Maintenance	2018	Cleaning energy, water, and materials, including refinishing the product.



Module Name	Description	Analysis Period	Summary of Included Elements
B3	Use Stage: Repair	2018	Materials and energy required to repair the product. Under manufacturer recommended conditions of use, the product is typically not repaired during its lifetime.
B4	Use Stage: Replacement	2018	Total materials and energy required to manufacture a replacement.
B5	Use Stage: Refurbishment	2018	Materials and energy required to refurbish the product. Under manufacturer recommended conditions of use, the product is typically not refurbished during its lifetime.
B6	Operational Energy Use	2018	Operational Energy Use of Building Integrated System During Product Use. Product typically has no impact on building operational energy use.
B7	Operational Water Use	2018	Operational Water Use of Building Integrated System During Product Use. Product typically has no impact on building operational water use.
C1	EOL: Deconstruction	2018	No inputs required for deconstruction.
C2	EOL: Transport	2018	Shipping from project site to landfill. Fuel use requirements estimated based on product weight and mapped distance.
C3	EOL: Waste Processing	2018	Waste processing not required. All waste can be processed as is.
C4	EOL: Disposal	2018	Landfill impacts modeled based on secondary data.
D	Benefits beyond system	MND	Credits from energy or material capture.

## 18. Estimates and Assumptions

All estimates and assumptions are within the requirements of ISO 14040/44. The majority of the estimations are within the primary data. The primary data was collected as annual totals including all utility usage and production information. For the LCA, the usage information was divided by the production to create an energy and water use per square meter. As there are different products produced at this facility, it is assumed all products are using the same amount of energy. Another assumption is that the installation tools are used enough times that the per square meter impacts are negligible.

## 19. Cut-Off Rules

Material inputs greater than 1% (based on total mass of the final product) were included within the scope of analysis. Material inputs less than 1% were included if sufficient data was available to warrant inclusion and/or the material input was thought to have significant environmental impact. Cumulative excluded material inputs and environmental impacts are less than 5% based on total weight of the functional unit. The excluded materials are some additives and pigments (0–3.09%).

## 20. Data Sources

Primary data was collected by J+J associates for onsite energy, water and waste during the course of manufacturing. Whenever available, supplier data was used for raw materials used in the production process. When primary data did not exist, secondary data for raw material production was used from GaBi Database Version 2021.2. All calculation procedures adhere to ISO14044.

## 21. Data Quality

The geographical scope of the manufacturing portion of the life cycle is Dalton, GA. All primary data were collected from the manufacturer. Primary data were provided by the manufacturer and represent all information for calendar year 2017 and 2018. Although this still falls within the PCR recommended 10-year age of data range, we would like to still note that it is not the

most recent complete yearly data. Primary data provided by the manufacturer is specific to the technology that the company uses in manufacturing their product. It is site-specific and considered of good quality. Data used to allocate energy and water on a per unit of product produced includes overhead energy such as lighting, heating and sanitary use of water due to unavailability of sub-metering. Sub-metering would improve the technological coverage of data quality. Overall data quality is good.

## 22. Period under Review

The period under review is calendar year 2017, 2018.

## 23. Allocation

General principles of allocation were based on ISO 14040/44. There are no products other than carpet tiles and broadloom carpets that are produced as part of the manufacturing processes studied in the LCA. Since there are no co-products, no allocation based on co-products is required. To derive a per unit value for manufacturing inputs such as electricity, natural gas and water, allocation based on total production in square meters was adopted. Discussions with J+J Flooring staff divulged this was a more representative way than via mass to allocate the manufacturing inputs based on the manufacturing processes used and the types of products created. As a default, secondary GaBi datasets use a physical mass basis for allocation. Throughout the study recycled materials were accounted for via the cut-off method. Under this method, impacts and benefits associated with the previous life of a raw material from recycled stock are excluded from the system boundary. Additionally, impacts and benefits associated with secondary functions of materials at end of life are also excluded (i.e. production into a third life or energy generation from the incineration plant). The study does include the impacts associated with reprocessing and preparation of recycled materials that are part of the bill of materials of the products under study.



## 24. Comparability and Benchmarking

The user of the EPD should take care when comparing EPDs from different companies. Assumptions, data sources, and assessment tools may all impact the uncertainty of the final results and make comparisons misleading. Without understanding the specific variability, the user is therefore not encouraged to compare EPDs. Even for similar products, differences in use and end-of-life stage assumptions, and data quality may produce incomparable results. Comparison of the environmental performance of Flooring Products using EPD information shall be based on the product's use and impacts at the building level, and therefore EPDs may not be used for comparability purposes when not considering the building energy use phase as instructed under this PCR. Full conformance with the PCR for Products allows EPD comparability only when all stages of a life cycle have been considered. However, variations and deviations are possible". Example of variations: Different LCA software and background LCI datasets may lead to differences results for upstream or downstream of the life cycle stages declared.



## Life Cycle Assessment Scenario

Table 10: Transport to building site (A4)

Name	Nexus® Cushion	Unit
Fuel type	Diesel	-
Liters of fuel	39,0625	l/100km
Vehicle type	Truck – Trailer, basic enclosed/ 45,000 lb payload	-
Transport distance	909.3	km
Capacity utilization	0.78	%
Weight of products transported	20,411.657	kg
Capacity utilization volume factor	1	-

Table 11: Reference Service Life

Name	Nexus® Cushion	Unit
RSL	15	years
Functional product properties (at the gate) and finishes, etc.	See Table 1	-
Design application	Installation per recommendation by manufacturer	-
An assumed quality of work, when installed in accordance with the manufacturer's instructions	Accepted industry standard	-
Indoor environment (if relevant for indoor applications)	Normal building operating conditions	-
Use conditions, e.g. frequency of use, mechanical exposure	Normal building operating conditions	-

Table 12: Installation into the building (A5)

Name	Nexus® Cushion	Unit
Adhesive	0.11	kg
Product loss per functional unit	0.161	kg
Waste materials at the construction site before waste processing, generated by product installation	0.36	kg
Output materials resulting from on-site waste processing	0	kg
Packaging waste, cardboard	0.067	kg
Packaging waste, plastic film	0.001	kg
Packaging waste, wooden pallet	0.127	kg
Packaging waste, paper	0.00003	kg
Biogenic carbon contained in packaging	0.25	kg CO <sub>2</sub>

Table 13: Maintenance (B2)

Name	Nexus® Cushion	Unit
Maintenance process information	Manufacturer recommended	
Vacuum (Daily)	3600	Number/ RSL
Vacuum (Daily)	18000	Number/ ESL
Spot Check (Daily)	3600	Number/ RSL
Spot Check (Daily)	18000	Number/ ESL
Interim Maintenance (Monthly)	180	Number/ RSL
Interim Maintenance (Monthly)	900	Number/ ESL
Restorative Maintenance (Quarterly)	60	Number/ RSL
Restorative Maintenance (Quarterly)	300	Number/ ESL
Net freshwater consumption specified by water source and fate	10.27	kg/m <sup>2</sup> floor/yr
Neutral detergent	0.007	kg/m <sup>2</sup> floor/yr
Electricity for vacuuming	1.17	kWh/m <sup>2</sup> floor/yr
Further assumptions for scenario development (e.g. frequency and time period of use, number of occupants);	Vacuum and spot check everyday, interim maintenance every month and restorative maintenance every quarter	



Table 14: Replacement (B4)

Name	Nexus® Cushion	Unit
Replacement cycle	0	Number/ RSL
Replacement cycle	4	Number/ ESL
Energy input, specified by activity, type and amount	0	kWh
Net freshwater consumption specified by water source and fate	0	m³
Adhesive	0.11	kg/ replacement

Table 15: End of life (C1-C4)

Name		Nexus® Cushion	Unit
Assumptions for scenario development		Product is either disposed of with the underlying floor or manually removed via scraping	
Collection process	Collected separately	0	kg
	Collected with mixed construction waste	4.21	kg
Recovery	Reuse	0	kg
	Recycling	0	kg
	Landfill	4.21	kg
	Incineration	0	kg
	Incineration with energy recovery	0	kg
	Energy conversion efficiency rate	84-94	%
Disposal	Product or material for final deposition	4.21	kg
Removals of biogenic carbon (excluding packaging)		0.181	kg

## Life Cycle Assessment Results

All results are given per functional unit, which is 1 m<sup>2</sup> of installed flooring over an estimated building life of 75 years. Environmental Impacts were calculated using the GaBi software platform. Impact results have been calculated using both TRACI 2.1 and CML 2001-Jan 2016 characterization factors. LCIA results are relative expressions and do not predict impacts on category endpoints, the exceeding of thresholds, safety margins or risks. These six impact categories are globally deemed mature enough to be included in Type III environmental declarations. Other categories are being developed and defined and LCA should continue making advances in their development, however the EPD users shall not use additional measures for comparative purposes.

See Impact Category Key below for definition of acronyms.

Table 16: Impact Category Key

Acronym	Text	Acronym	Text
<b>ADP-elements</b>	Abiotic depletion potential for non-fossil resources	<b>GWP</b>	Global warming potential
<b>ADP-fossil</b>	Abiotic depletion potential for fossil resources	<b>OPD</b>	Depletion of stratospheric ozone layer
<b>AP</b>	Acidification potential of soil and water	<b>POCP</b>	Photochemical ozone creation potential
<b>EP</b>	Eutrophication potential	<b>Resources</b>	Depletion of non-renewable fossil fuels
<b>LCI Indicators</b>			
<b>RPR<sub>E</sub></b>	Use of renewable primary energy excluding renewable primary energy resources used as raw materials	<b>SM</b>	Use of secondary materials
<b>RPR<sub>M</sub></b>	Use of renewable primary energy resources used as raw materials	<b>RSF</b>	Use of renewable secondary fuels
<b>NRPR<sub>E</sub></b>	Use of non-renewable primary energy excluding non-renewable primary energy resources used as raw materials	<b>NRSF</b>	Use of non-renewable secondary fuels
<b>NRPR<sub>M</sub></b>	Use of non-renewable primary energy resources used as raw materials	<b>FW</b>	Net use of fresh water
<b>HWD</b>	Disposed-of-hazardous waste	<b>MR</b>	Materials for recycling
<b>NHWD</b>	Disposed-of non-hazardous waste	<b>MER</b>	Materials for energy recovery
<b>HLRW</b>	High-level radioactive waste, conditioned, to final repository	<b>EE</b>	Exported energy
<b>ILLRW</b>	Intermediate- and low-level radioactive waste, conditioned, to final repository	<b>CRU</b>	Components for reuse
<b>RE</b>	Recovered energy		

## 25. Nexus® Cushion Carpet Tile with Nylon 6 face fiber – Yarn Weight – 18 oz/yd<sup>2</sup>

### 25.1 CML Results

Impact Category	A1-A3	A4	A5	B1	B2	B3	B4	B5	B6	B7	C1	C2	C3	C4	D
ADP-elements [kg Sb eq]	9.02E-06	9.45E-08	5.98E-07	0.00E+00	1.09E-05	0.00E+00	3.91E-05	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.56E-08	0.00E+00	4.59E-08	MND
ADP-fossil fuel [MJ]	2.24E+02	3.65E+00	1.45E+01	0.00E+00	3.90E+02	0.00E+00	9.78E+02	0.00E+00	0.00E+00	0.00E+00	0.00E+00	6.01E-01	0.00E+00	2.04E+00	MND
AP [kg SO <sub>2</sub> eq]	2.50E-02	1.12E-03	1.88E-03	0.00E+00	3.98E-02	0.00E+00	1.15E-01	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.14E-04	0.00E+00	6.84E-04	MND
EP [kg Phosphate eq]	4.15E-03	3.01E-04	5.76E-04	0.00E+00	6.86E-03	0.00E+00	2.06E-02	0.00E+00	0.00E+00	0.00E+00	0.00E+00	3.09E-05	0.00E+00	8.56E-05	MND
GWP [kg CO <sub>2</sub> eq]	1.61E+01	3.09E-01	1.22E+00	0.00E+00	4.69E+01	0.00E+00	7.12E+01	0.00E+00	0.00E+00	0.00E+00	0.00E+00	5.09E-02	0.00E+00	1.69E-01	MND
ODP [kg CFC 11 eq]	2.71E-06	6.16E-17	1.36E-07	0.00E+00	1.84E-13	0.00E+00	1.14E-05	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.02E-17	0.00E+00	5.87E-16	MND
POCP [kg Ethene eq]	3.08E-03	-4.37E-04	2.72E-04	0.00E+00	4.41E-03	0.00E+00	1.15E-02	0.00E+00	0.00E+00	0.00E+00	0.00E+00	-4.05E-05	0.00E+00	6.57E-06	MND

### 25.2 TRACI Results

Impact Category	A1-A3	A4	A5	B1	B2	B3	B4	B5	B6	B7	C1	C2	C3	C4	D
AP [kg SO <sub>2</sub> eq]	3.00E-02	1.55E-03	2.93E-03	0.00E+00	4.82E-02	0.00E+00	1.42E-01	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.55E-04	0.00E+00	7.49E-04	MND
EP [kg N eq]	3.06E-03	1.44E-04	4.41E-04	0.00E+00	5.94E-03	0.00E+00	1.48E-02	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.74E-05	0.00E+00	4.17E-05	MND
GWP [kg CO <sub>2</sub> eq]	1.61E+01	3.09E-01	1.22E+00	0.00E+00	4.69E+01	0.00E+00	7.12E+01	0.00E+00	0.00E+00	0.00E+00	0.00E+00	5.09E-02	0.00E+00	1.69E-01	MND
ODP [kg CFC 11 eq]	2.71E-06	6.16E-17	1.36E-07	0.00E+00	1.84E-13	0.00E+00	1.14E-05	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.02E-17	0.00E+00	5.87E-16	MND
Resources [MJ]	4.02E+01	5.78E-01	2.93E+00	0.00E+00	5.93E+01	0.00E+00	1.76E+02	0.00E+00	0.00E+00	0.00E+00	0.00E+00	9.53E-02	0.00E+00	3.42E-01	MND
POCP [kg O <sub>3</sub> eq]	6.12E-01	3.58E-02	4.43E-02	0.00E+00	9.33E-01	0.00E+00	2.84E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	3.53E-03	0.00E+00	1.33E-02	MND

## 25.3 Resource Use Results

Impact Category	A1-A3	A4	A5	B1	B2	B3	B4	B5	B6	B7	C1	C2	C3	C4	D
<b>RPR<sub>E</sub> [MJ]</b>	1.68E+01	1.80E-01	1.06E+00	0.00E+00	9.69E+01	0.00E+00	7.33E+01	0.00E+00	0.00E+00	0.00E+00	0.00E+00	2.97E-02	0.00E+00	2.24E-01	MND
<b>RPR<sub>M</sub> [MJ]</b>	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	MND
<b>RPR<sub>T</sub> [MJ]</b>	1.68E+01	1.80E-01	1.06E+00	0.00E+00	9.69E+01	0.00E+00	7.33E+01	0.00E+00	0.00E+00	0.00E+00	0.00E+00	2.97E-02	0.00E+00	2.24E-01	MND
<b>NRPR<sub>E</sub> [MJ]</b>	3.36E+02	4.37E+00	2.37E+01	0.00E+00	8.13E+02	0.00E+00	1.47E+03	0.00E+00	0.00E+00	0.00E+00	0.00E+00	7.20E-01	0.00E+00	2.69E+00	MND
<b>NRPR<sub>M</sub> [MJ]</b>	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	MND
<b>NRPR<sub>T</sub> [MJ]</b>	3.36E+02	4.37E+00	2.37E+01	0.00E+00	8.13E+02	0.00E+00	1.47E+03	0.00E+00	0.00E+00	0.00E+00	0.00E+00	7.20E-01	0.00E+00	2.69E+00	MND
<b>SM [kg]</b>	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	MND
<b>RSF [MJ]</b>	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	MND
<b>NRSF [MJ]</b>	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	MND
<b>RE [MJ]</b>	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	MND
<b>FW [m<sup>3</sup>]</b>	8.22E-02	7.69E-04	6.02E-03	0.00E+00	9.78E-01	0.00E+00	3.58E-01	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.27E-04	0.00E+00	3.70E-04	MND

## 25.4 Output Flows and Waste Results

Impact Category	A1-A3	A4	A5	B1	B2	B3	B4	B5	B6	B7	C1	C2	C3	C4	D
<b>HWD [kg]</b>	1.39E-06	3.65E-10	6.99E-08	0.00E+00	1.18E-07	0.00E+00	5.83E-06	0.00E+00	0.00E+00	0.00E+00	0.00E+00	6.02E-11	0.00E+00	2.54E-10	MND
<b>NHWD [kg]</b>	2.08E-01	4.01E-04	5.27E-01	0.00E+00	4.15E-01	0.00E+00	1.90E+01	0.00E+00	0.00E+00	0.00E+00	0.00E+00	6.62E-05	0.00E+00	4.01E+00	MND
<b>HLRW [kg]</b>	1.10E-05	1.47E-08	6.50E-07	0.00E+00	7.70E-05	0.00E+00	4.67E-05	0.00E+00	0.00E+00	0.00E+00	0.00E+00	2.42E-09	0.00E+00	2.59E-08	MND
<b>ILLRW [kg]</b>	9.14E-03	1.24E-05	5.42E-04	0.00E+00	6.43E-02	0.00E+00	3.89E-02	0.00E+00	0.00E+00	0.00E+00	0.00E+00	2.04E-06	0.00E+00	2.24E-05	MND
<b>CRU [kg]</b>	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	MND
<b>MR [kg]</b>	0.00E+00	0.00E+00	6.43E-02	0.00E+00	0.00E+00	0.00E+00	1.10E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	2.10E-01	0.00E+00	MND
<b>MER [kg]</b>	0.00E+00	0.00E+00	3.82E-03	0.00E+00	0.00E+00	0.00E+00	1.53E-02	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	MND
<b>EE [MJ]</b>	0.00E+00	0.00E+00	6.97E-03	0.00E+00	0.00E+00	0.00E+00	2.79E-02	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	MND

## 25.5 Carbon Emissions and Uptake

Impact Category	A1-A3	A4	A5	B1	B2	B3	B4	B5	B6	B7	C1	C2	C3	C4	D
<b>BCRP [kg CO<sub>2</sub>]</b>	3.21E-01	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	MND
<b>BCEP [kg CO<sub>2</sub>]</b>	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	3.17E-01	MND
<b>BCRK [kg CO<sub>2</sub>]</b>	5.11E-01	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	MND
<b>BCEK [kg CO<sub>2</sub>]</b>	0.00E+00	0.00E+00	1.61E-01	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	MND
<b>BCEW [kg CO<sub>2</sub>]</b>	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	MND
<b>CCE [kg CO<sub>2</sub>]</b>	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	MND
<b>CCR [kg CO<sub>2</sub>]</b>	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	MND
<b>CWNR [kg CO<sub>2</sub>]</b>	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	MND

## 26. Nexus® Cushion Carpet Tile with PET face fiber – Yarn Weight – 18 oz/yd<sup>2</sup>

### 26.1 CML Results

Impact Category	A1-A3	A4	A5	B1	B2	B3	B4	B5	B6	B7	C1	C2	C3	C4	D
ADP-elements [kg Sb eq]	6.81E-06	9.45E-08	4.88E-07	0.00E+00	1.09E-05	0.00E+00	2.98E-05	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.56E-08	0.00E+00	4.59E-08	MND
ADP-fossil fuel [MJ]	1.98E+02	3.65E+00	1.32E+01	0.00E+00	3.90E+02	0.00E+00	8.71E+02	0.00E+00	0.00E+00	0.00E+00	0.00E+00	6.01E-01	0.00E+00	2.04E+00	MND
AP [kg SO <sub>2</sub> eq]	1.71E-02	1.12E-03	1.48E-03	0.00E+00	3.98E-02	0.00E+00	8.19E-02	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.14E-04	0.00E+00	6.84E-04	MND
EP [kg Phosphate eq]	2.62E-03	3.01E-04	5.00E-04	0.00E+00	6.86E-03	0.00E+00	1.42E-02	0.00E+00	0.00E+00	0.00E+00	0.00E+00	3.09E-05	0.00E+00	8.56E-05	MND
GWP [kg CO <sub>2</sub> eq]	1.17E+01	3.09E-01	9.99E-01	0.00E+00	4.69E+01	0.00E+00	5.27E+01	0.00E+00	0.00E+00	0.00E+00	0.00E+00	5.09E-02	0.00E+00	1.69E-01	MND
ODP [kg CFC 11 eq]	2.71E-06	6.16E-17	1.36E-07	0.00E+00	1.84E-13	0.00E+00	1.14E-05	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.02E-17	0.00E+00	5.87E-16	MND
POCP [kg Ethene eq]	2.49E-03	-4.37E-04	2.42E-04	0.00E+00	4.41E-03	0.00E+00	9.06E-03	0.00E+00	0.00E+00	0.00E+00	0.00E+00	-4.05E-05	0.00E+00	6.57E-06	MND

### 26.2 TRACI Results

Impact Category	A1-A3	A4	A5	B1	B2	B3	B4	B5	B6	B7	C1	C2	C3	C4	D
ADP-elements [kg Sb eq]	1.94E-02	1.55E-03	2.40E-03	0.00E+00	4.82E-02	0.00E+00	9.72E-02	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.55E-04	0.00E+00	7.49E-04	MND
ADP-fossil fuel [MJ]	2.12E-03	1.44E-04	3.94E-04	0.00E+00	5.94E-03	0.00E+00	1.09E-02	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.74E-05	0.00E+00	4.17E-05	MND
AP [kg SO <sub>2</sub> eq]	1.17E+01	3.09E-01	9.99E-01	0.00E+00	4.69E+01	0.00E+00	5.27E+01	0.00E+00	0.00E+00	0.00E+00	0.00E+00	5.09E-02	0.00E+00	1.69E-01	MND
EP [kg Phosphate eq]	2.71E-06	6.16E-17	1.36E-07	0.00E+00	1.84E-13	0.00E+00	1.14E-05	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.02E-17	0.00E+00	5.87E-16	MND
GWP [kg CO <sub>2</sub> eq]	3.29E+01	5.78E-01	2.57E+00	0.00E+00	5.93E+01	0.00E+00	1.46E+02	0.00E+00	0.00E+00	0.00E+00	0.00E+00	9.53E-02	0.00E+00	3.42E-01	MND
ODP [kg CFC 11 eq]	3.65E-01	3.58E-02	3.19E-02	0.00E+00	9.33E-01	0.00E+00	1.80E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	3.53E-03	0.00E+00	1.33E-02	MND
POCP [kg Ethene eq]	1.94E-02	1.55E-03	2.40E-03	0.00E+00	4.82E-02	0.00E+00	9.72E-02	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.55E-04	0.00E+00	7.49E-04	MND

## 26.3 Resource Use Results

Impact Category	A1-A3	A4	A5	B1	B2	B3	B4	B5	B6	B7	C1	C2	C3	C4	D
<b>RPR<sub>E</sub> [MJ]</b>	1.48E+01	1.80E-01	9.56E-01	0.00E+00	9.69E+01	0.00E+00	6.50E+01	0.00E+00	0.00E+00	0.00E+00	0.00E+00	2.97E-02	0.00E+00	2.24E-01	MND
<b>RPR<sub>M</sub> [MJ]</b>	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	MND
<b>RPR<sub>T</sub> [MJ]</b>	1.48E+01	1.80E-01	9.56E-01	0.00E+00	9.69E+01	0.00E+00	6.50E+01	0.00E+00	0.00E+00	0.00E+00	0.00E+00	2.97E-02	0.00E+00	2.24E-01	MND
<b>NRPR<sub>E</sub> [MJ]</b>	2.72E+02	4.37E+00	2.05E+01	0.00E+00	8.13E+02	0.00E+00	1.20E+03	0.00E+00	0.00E+00	0.00E+00	0.00E+00	7.20E-01	0.00E+00	2.69E+00	MND
<b>NRPR<sub>M</sub> [MJ]</b>	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	MND
<b>NRPR<sub>T</sub> [MJ]</b>	2.72E+02	4.37E+00	2.05E+01	0.00E+00	8.13E+02	0.00E+00	1.20E+03	0.00E+00	0.00E+00	0.00E+00	0.00E+00	7.20E-01	0.00E+00	2.69E+00	MND
<b>SM [kg]</b>	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	MND
<b>RSF [MJ]</b>	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	MND
<b>NRSF [MJ]</b>	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	MND
<b>RE [MJ]</b>	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	MND
<b>FW [m<sup>3</sup>]</b>	7.62E-02	7.69E-04	5.72E-03	0.00E+00	9.78E-01	0.00E+00	3.33E-01	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.27E-04	0.00E+00	3.70E-04	MND

## 26.4 Output Flows and Waste Results

Impact Category	A1-A3	A4	A5	B1	B2	B3	B4	B5	B6	B7	C1	C2	C3	C4	D
<b>HWD [kg]</b>	1.38E-06	3.65E-10	6.97E-08	0.00E+00	1.18E-07	0.00E+00	5.82E-06	0.00E+00	0.00E+00	0.00E+00	0.00E+00	6.02E-11	0.00E+00	2.54E-10	MND
<b>NHWD [kg]</b>	2.14E-01	4.01E-04	5.27E-01	0.00E+00	4.15E-01	0.00E+00	1.90E+01	0.00E+00	0.00E+00	0.00E+00	0.00E+00	6.62E-05	0.00E+00	4.01E+00	MND
<b>HLRW [kg]</b>	9.19E-06	1.47E-08	5.60E-07	0.00E+00	7.70E-05	0.00E+00	3.92E-05	0.00E+00	0.00E+00	0.00E+00	0.00E+00	2.42E-09	0.00E+00	2.59E-08	MND
<b>ILLRW [kg]</b>	7.84E-03	1.24E-05	4.77E-04	0.00E+00	6.43E-02	0.00E+00	3.34E-02	0.00E+00	0.00E+00	0.00E+00	0.00E+00	2.04E-06	0.00E+00	2.24E-05	MND
<b>CRU [kg]</b>	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	MND
<b>MR [kg]</b>	0.00E+00	0.00E+00	6.43E-02	0.00E+00	0.00E+00	0.00E+00	1.10E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	2.10E-01	0.00E+00	MND
<b>MER [kg]</b>	0.00E+00	0.00E+00	3.82E-03	0.00E+00	0.00E+00	0.00E+00	1.53E-02	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	MND
<b>EE [MJ]</b>	0.00E+00	0.00E+00	6.97E-03	0.00E+00	0.00E+00	0.00E+00	2.79E-02	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	MND

## 26.5 Carbon Emissions and Uptake

Impact Category	A1-A3	A4	A5	B1	B2	B3	B4	B5	B6	B7	C1	C2	C3	C4	D
<b>BCRP [kg CO<sub>2</sub>]</b>	3.11E-01	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	MND
<b>BCEP [kg CO<sub>2</sub>]</b>	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	3.11E-01	MND
<b>BCRK [kg CO<sub>2</sub>]</b>	5.11E-01	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	MND
<b>BCEK [kg CO<sub>2</sub>]</b>	0.00E+00	0.00E+00	1.61E-01	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	MND
<b>BCEW [kg CO<sub>2</sub>]</b>	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	MND
<b>CCE [kg CO<sub>2</sub>]</b>	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	MND
<b>CCR [kg CO<sub>2</sub>]</b>	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	MND
<b>CWNR [kg CO<sub>2</sub>]</b>	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	MND

## Life Cycle Assessment Interpretation

In this study, due to the requirements in the product category rules – Part A, the assessment is required to cover the estimated service life (ESL) of the building of 75 years. Per this requirement, results presented cover a maintenance phase (B2) of 75 years and replacements necessary for each product depending on their reference service life. Maintenance for carpet tile and includes the use of electricity for vacuuming, water, and detergents for deep cleaning over the course of 75 years. Considering a maintenance period equal to the reference service life of the product, would skew results showing that maintenance would have the highest impacts.

The vast majority of GWP impacts for Nexus® Cushion with both yarn types are in the aggregated A1–A3 phase. A1–A3 includes raw material sourcing, transportation, and manufacturing. Within A1–A3 for the product with Nylon 6, highest GWP impacts come from yarn (40.1%), cushion (18%), polyurethane lamination layer (15.5%), and electricity to manufacture the product (12.3%). For the product made with PET yarn, highest impacts come from cushion (25.3%), polyurethane lamination layer (21.8%), yarn (17.5%), and electricity for manufacturing (17.2%). Impacts from maintenance (B2) for products made with either type of yarn can be attributed to the electricity used to vacuum carpet to maintain cleanliness and appearance.

Besides GWP, the impact category of Abiotic Depletion Potential – Fossil (ADP-f), contributes most to the overall relative impacts of all the carpet products. ADP-f refers to the depletion of abiotic resources, in this case, fossil fuels, during the life cycle of a product. For Nexus® Cushion, B4 contributes significantly to ADP-f impacts over the ESL. B4 includes raw material extraction, manufacturing, distribution, installation of the new carpet tile and disposal of the replaced carpet tile. Apart from B4, maintenance (B2) contributes to ADP-f impacts. Maintenance includes vacuuming the carpet to maintain appearance and performance of the carpet tile. Within A1–A3 for the product with Nylon 6 yarn, yarn has highest impacts, followed by cushion, and polyurethane lamination layer. For the product with PET yarn, cushion has the highest impact, followed by polyurethane lamination layer, and yarn.

### 27. Environment and Health During Manufacturing

As responsible stewards of the environment, we believe in using all resources as efficiently and judiciously as possible — prioritizing conservation and consumption reduction before recycling or reuse. With conservation at the heart of our sustainability philosophy, finding alternatives for (and preventing the excessive use of) valuable resources is the basis of our approach to environmental impact management.

- In 2018, we made some notable improvements to our energy efficiency, including reducing dye-house energy, upgrading our extrusion processes, consolidating our operations, and expanding into the industry’s most state-of-the-art manufacturing facility.
- We’re saving water and energy by optimizing our product mix with a growing number of products featuring yarns that use low-intensity dyeing processes, including solution dyeing and space-dyeing.

### 28. Environment and Health During Installation

All recommended personal protective equipment (PPE) should be utilized during installation, as indicated on the SDS and installation guidelines, found online. Nexus® Cushion meets requirements of the Carpet and Rug Institute’s Green Label Plus Program for indoor air quality.



## 29. Extraordinary Effects

### Fire

Nexus® Cushion's fire performance testing details can be found in Table 2.

### Water

Should the product become flooded, the water should be removed through means of extraction and drying, and the product should behave as originally intended. There are no environmental impacts associated with the product being flooded.

### Mechanical Destruction

In the event that the product is mechanically destroyed, please revert to disposing the product using standard procedure and ensure timely replacement.

## 30. Environmental Activities and Certifications

As has previously been said, Engineered Floors and the J+J Flooring brand consider conservation at the core of sustainability. Preventing excessive or inefficient use of natural resources and the preservation and protection of the environment is the foundation of our environmental stewardship. This is the inspiration for our total environmental efforts which include:

- More than 5 million pounds of waste diverted from landfills since 2016, including recycling 3 million pounds, and sending 710,000 pounds of materials waste to our energy from waste partner.
- Increasing the volume of recycled content in our products through the use of post-industrial and pre-consumer recycled content, as well as continuing to find innovative options for recycled and recyclable materials is an important part of our sustainability journey.
- All J+J Flooring adhesives comply with the Carpet and Rug Institute's Green Label Plus Testing Program for Indoor Air Quality. Using scientifically established standards, Green Label Plus ensures that customers are purchasing from among the lowest emitting carpet, adhesive and cushion products on the market.
- J+J flooring Nexus Cushion products have achieved a carbon neutral status through the purchasing of carbon offsets.
- Learn more about J&J Flooring Group's [Environmental and Energy commitments](#).



## References

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