

# **Environmental Product Declaration**

Name of Product | Product Description









**Company Name** 

Company Street Address City, State Zip

Company Phone Company Website

# **ENVIRONMENTAL PRODUCT DECLARATION VERIFICATION**

| EPD Information  |   |  |  |
|--|---|--|--|
| Program Operator   | NSF International   |  |  |
| Declaration Holder   | Name of the Client  |  |  |
| Product Date of Issue  | Period of Validity Declaration Number   |  |  |
| Product Date of Issue  | Period of Validity Declaration Number   |  |  |
| This EPD was independently verified by NSF International in accordance with ISO 14025: | [Signature of NSF Representative]   |  |  |
| ☐ Internal ☐ External  | Name of Representative Contact Information for Representative   |  |  |
| This life cycle assessment was independently   | [Signature of LCA Representative]   |  |  |
| verified by in accordance with ISO 14044 and the reference PCR:                        | Name of Representative Contact Information for Representative   |  |  |
| LCA Information  |   |  |  |
| Basis LCA  | Title of LCA Date of Issue  |  |  |
| LCA Preparer   | Name of Preparer Organization of Preparer Contact Information for Preparer                                |  |  |
| This life cycle assessment was critically reviewed                                     | Name of Critical Reviewer   |  |  |
| in accordance with ISO 14044 by:   | Organization of Reviewer  Contact Information for Reviewer  |  |  |
| PCR Information  | Contact information for Neviewer  |  |  |
|  | NOTICE  |  |  |
| Program Operator   | NSF International   |  |  |
| Reference PCR  | Reference PCR   |  |  |
| Date of Issue  | Date of Issue   |  |  |
| PCR review was conducted by:   | Name of Chair<br>Organization of Chair<br>Contact Information for Chair (through the program<br>operator) |  |  |



#### **ENVIRONMENTAL PRODUCT DECLARATION: DETAILED VERSION**

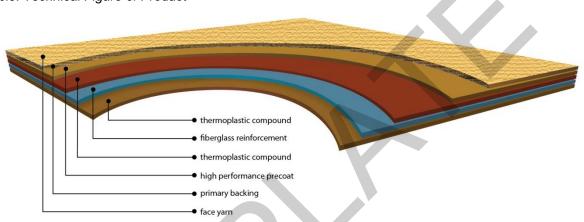


# **Product Description**

# **Product classification and description**

Clearly define the product. Include a general description of the product. Define product groups and average products. Include a technical illustration of the product.

Example: Technical Figure of Product



#### Applicability

Provide a description of the typical application and suggested use of the floor covering. Refer to Section 2.2 of the PCR for testing requirements.

#### Example:

Specification of carpet properties varies with intended application. The intended application and the performance to the following tests shall be declared.

AATCC<sup>2</sup> Test Method 134-2011 Electrostatic Propensity of Carpets (Normative value ≥ 3.5 KV)

AATCC<sup>2</sup> Test Method 16-2004 Colorfastness to Light (minimum grade 4 at 40 AFU)

ASTM<sup>6</sup> E648 Standard Test Method for Critical Radiant Flux of Floor-Covering Systems Using a Radiant Heat Energy Source

ASTM<sup>6</sup> E662 Standard Test Method for Specific Optical Density of Smoke Generated by Solid Materials

ASTM<sup>6</sup> D5252 Standard Practice for the Operation of the Hexapod Tumble Drum Tester

ASTM<sup>6</sup> D7330 Standard Test Method for Assessment of Surface Appearance Change in Pile Floor Coverings Using Standard Reference Scales

ISO<sup>14</sup> 2551/ ASTM<sup>6</sup> Dimensional Stability (Modular Tiles Only)





# **Product Characteristics**

Describe the product characteristics.

Example: Product characteristic table for carpet

| Example: 1 Todast sharasteristic table for surper     |                      |  |
|---|----------------------|--|
|   |                      |  |
| Type of manufacture                                   |                      |  |
| Yarn type   |                      |  |
| Additional characteristics according to NSF/ANSI 140  |                      |  |
| Sustainable certifications                            | Certified to NSF/ANS | SI 140                                 |
| VOC emissions test method                             |                      |  |
| CRI- TARR rating                                      |                      |  |
| Characteristics                                       | Nominal Value        | Unit                                   |
| Total thickness                                       |                      | mm (inch)                              |
| Product weight  |                      | g/m <sup>2</sup> (oz/ft <sup>2</sup> ) |
|   |                      |  |
| Surface pile thickness                                |                      | mm (inch)                              |
| Surface pile thickness  Number of tufts or loops /dm² |                      | mm (inch) dm² (ft²)                    |
|   |                      |  |
| Number of tufts or loops /dm <sup>2</sup>             |                      | dm <sup>2</sup> (ft <sup>2</sup> )     |





# **Material Content of the product**

Specify the material content of the product. Example: Material Content Table for Carpet

| Component Material M |                      | Mass %  | Availability |                             |                      | Origin<br>of Raw |
|----------------------|----------------------|---------|--------------|-----------------------------|----------------------|------------------|
|                      |                      | Wass /6 | Renewable    | Non-Renewable               | Recycled             | Materials        |
| Dila Matarial        | 80 % Wool            | 30%     | Abundant     |                             |                      | New Zealand      |
| Pile Material        | 20% Nylon 6          | 8%      |              | Fossil resource, limited    |                      | Global           |
| Primary<br>Backing   | Polypropylene        | 10%     |              | Fossil resource, limited    |                      | Global           |
|                      | Latex                | 30%     |              | Fossil resource,<br>limited |                      | Global           |
| Precoat              | Calcium<br>Carbonate |         | 30%          |                             | Mineral,<br>abundant |                  |
|                      | Latex                |         |              | Fossil resource, limited    |                      | Global           |
| Back coating         | Calcium Carbonate    |         |              | Mineral,<br>abundant        |                      | US               |
| Secondary<br>Backing | Polypropylene        | 5%      |              | Fossil resource, limited    |                      | Global           |

# **Production of main materials**

Provide a short description of the main materials and their manufacturing processes.

#### Examples:

Styrene Butadiene Rubber (SBR) is a synthetic copolymer that is used as a primary cross-linkable binder in the manufacture of rubber flooring products and tires.

Calcium carbonate is an abundant mineral found in all parts of the world as the chief substance in rocks (i.e., marble and limestone). It can be ground to varying particle sizes and is widely used as filler in formulated flooring systems.

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# **Life Cycle Assessment Stages and Reported EPD Information**

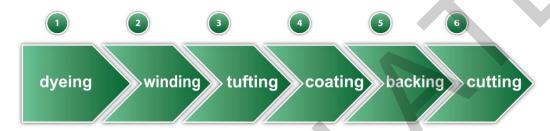
#### Sourcing/extraction (raw material acquisition) stage

Provide a description or process flow diagram on how raw materials are sourced and extracted for the manufacturing process of the product.

# **Manufacturing stage**

Describe the production process with a short description and/or provide the process flow diagram.

# Example:



# Health, safety, and environmental aspects during production

Provide statements on the means to protect health, safety, and the environment during production.

#### Examples:

- Environmental management systems (e.g., ISO 14001)
- Worker safety management system
- Use of certain production equipment (e.g., additional filters, etc.)

#### **Production waste**

Describe any waste minimization activities for the production process. List any pertinent certifications or awards.

#### Examples

- Elimination of toxic components
- Recycle of scrap and off-quality material

#### Delivery and installation stage

# **Delivery**

Provide statements on delivery of the floor covering; include estimated vehicles and distances to the typical markets.

#### Installation

Provide a general description of the installation of the floor covering, including ancillary materials used for installation (e.g., adhesives or other setting materials).

For full details on installation recommendations, a reference to the manufacturer's instructions may be given. Include constraints on installation.

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# Health, safety, and environmental aspects during installation

Provide references to MSDS and/or other information needed to protect health, safety, or regarding environmental considerations during installation.

#### Example:

During the installation, adhesives are used that 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).

#### Waste

Describe all recommended collection and separation practices for waste accumulated at the installation site, including any take back system in place for post installation floor covering waste or packaging.

#### Example:

Post-installation carpet waste may be collected and thermally recycled in a waste incineration plant or thermally and materially recycled in the cement industry. Unmixed polyamide or polypropylene post-installation waste can be used for plastic recycling.

#### **Packaging**

Provide a description of types of packaging and packaging materials utilized.

#### Example:

| Category  | Material                |
|-----------|-------------------------|
| paper     | wrapping, labels, cores |
| cardboard | boxes, cores            |
| wood      | pallets                 |
| plastics  | foils, etc.             |

# Use stage

#### Use of the floor covering

State the recommended reference service life (RSL) in years or fractional years.

#### Cleaning and maintenance

Provide manufacturer recommendations on how to clean and maintain the floor covering.

| Level of use | Cleaning process | frequency | of energy and | Long term maintenance/<br>restoration including<br>frequency |
|--------------|------------------|-----------|---------------|--|
|--------------|------------------|-----------|---------------|--|



| Residential<br>Commercial<br>Industrial | vacuum cleaning<br>buffing<br>damp mopping<br>wet cleaning | dependent on the use/type of building; manufacturer may provide | cleaning  | Sanding<br>grout restoration<br>hot water extraction |
|---|--|---|-----------|--|
|   | stripping  | recommendations   | chemicals |  |

#### Structural damage

Declare that interior floor covering is not installed until all structural damage has been adequately repaired and determined code compliant.

#### End of life stage

## Recycling, reuse, or repurpose

Describe opportunities for the recycle, reuse, or repurpose the flooring product and provide guidance on how to proceed with these opportunities.

If available, give statements on the transportation (e.g., estimated vehicle, distance to the recycling/reuse site).

# Disposal

Describe disposal methods for the floor covering. If available, give statements on the transportation (e.g., estimated vehicle, distance to the recycling/reuse site).



# Life Cycle Assessment (LCA)

# **General**

Provide statement of conformance to ISO 14040/ISO 14044. Identify life cycle stages assessed; if any of the stages identified in Section 6.7 of the PCR are not included, provide statement of justification for the omission. Include a block flow diagram of the life cycle stages.

# Description of the functional unit

Provide a definition for the declared or functional unit per Section 6.2 of the PCR.

# Cut-off criteria

Provide an explanation for the inclusion of inputs and outputs (cut-off rules) used in the LCA per Section 6.3 of the PCR. Address mass, energy, and environmental relevance as appropriate.

#### Allocation

Provide a statement regarding allocations made in any of the life cycle stages as per Section 6.4 of the PCR.

| CO <sub>2</sub> locked in wood | CO <sub>2</sub> emitted through combustion or decompose wood | Balance |
|--------------------------------|--|---------|
| negative value: A              | positive value: B  | A+B     |



# **Background data**

Specify the reference databases and other documentation used per Section 6.5 of the PCR. Identify the modeling software used.

#### Example:

| Material        | Data Source   | Date          |
|-----------------|---|---------------|
| Wood Products   | US Life Cycle Inventory Database<br>http://www.nrel.gov/lci/database                                  | 2009          |
| Plastics        | LCA of 9 Plastics Resins, Franklin Associates   | February 2011 |
| Linseed oil     | CML LCI dataset <a href="http://cpmdatabase.cpm.chalmers.se/">http://cpmdatabase.cpm.chalmers.se/</a> | 1994          |
| Portland cement | Gabi extension database XIV: construction materials   | 2001          |
| Melamine        | Ecoinvent data V2.2<br>http://www.ecoinvent.org/  | 2007          |

# **Data quality**

Provide data quality information per Section 6.6 of the PCR, covering temporal, geographical, and technological factors.

| Process               | Type of data             | Period | Country<br>of data<br>collection | Data<br>source                                 | Completeness | Accuracy  |
|-----------------------|--------------------------|--------|----------------------------------|--|--------------|-----------|
| Tufting               | input-output<br>analysis | 2006   | Germany                          | vertical<br>integrated<br>large scale<br>plant | ok           | good      |
| Paper<br>Impregnation | input-output<br>analysis | 2005   | Europe                           | SME  | ok           | good      |
| Dyeing                | input-output<br>analysis | 2007   | Belgium                          | Laboratory                                     | ok           | very good |



#### System boundaries

Describe the boundaries of the product life cycle per Section 6.7, subdivided into sourcing/extraction stage, manufacturing stage, delivery and installation stage, use stage, and end of life stage. Include a block flow diagram to illustrate the boundaries and the stages.

#### Example:



# Note on use stage

Provide information on the estimated service life of a floor covering and required maintenance of the product.

## Impact declaration and use stage normalization

Reference Section 6.8.1 for LCA impact modeling scenarios and insert completed tables.

# **Results of the Assessment**

Document the LCA results for each stage:

- 1. Sourcing/extraction stage
- 2. Manufacturing stage
- 3. Delivery and installation stage
- 4. Use stage (Declare results for both a single year and for the entire service life.)
- 5. End of life stage

# Life Cycle Inventory Analysis

Calculate and declare the following parameters in the EPD. Additional parameters may be added.

- A. Primary energy of non-renewable resources (mJ), subdivided into (%):
  - 1) Lignite:
  - 2) Mineral coal:
  - 3) Natural gas:
  - 4) Oil:
  - 5) Nuclear:
- B. Primary energy of renewable resources (mJ), subdivided into (%):
  - 1) Hydropower:
  - 2) Wind power:
  - 3) Solar energy (solar power, biomass):
- C. Secondary fuels specified (mJ):
- D. Non-renewable material sources (kg):
- E. Output flows
  - 1) Non-hazardous waste (kg):
  - 2) Hazardous waste (kg):
- F. Additional Parameters List



# Life cycle impact assessment

Include tables and graphs documenting the following potential impacts per functional unit and life cycle stage per Section 6.11 of the PCR. Refer to Section 6.8.1 of the PCR for LCA impact declarations and use stage normalization.

# **Interpretation**

Discuss the results of the LCA, including pertinent results from any sensitivity analyses that may have been conducted.



# **Additional Environmental Information**

Provide any additional pertinent information.



# References

List all references utilized in the EPD.

- Flooring PCR
- ISO 14025: Environmental labels and declarations Type III environmental declarations Principles and procedures
- ISO 14040: Environmental management Life cycle assessment Principles and framework
- ISO 14044: Environmental management Life cycle assessment Requirements and guidelines
- Basis LCA

# **EPD Client Instruction Guide**



NSF has prepared the following checklist to guide companies in their submission of information for their Environmental Product Declaration (EPD). Please utilize this checklist to complete the EPD template as well as provide NSF with the appropriate electronic files to tailor the EPD cover image to the particular product in review.

| Cover | <u>r Page</u>   |
|-------|---|
|       | Complete Form Field for the Name of the Product and Product Description, this is a short  |
|       | description of the product.   |
|       |   |
| Send  | NSF the following files to include on the Cover Page:                                     |
|       | Electronic File of Company Logo   |
|       | Electronic File of Company Product Image  |
| Forma | at of these should be as follows:   |
|       | File type: . jpeg   |
|       | File Size: minimum 5x5  |
|       |   |
| EPD ' | Verification Page 2   |
|       | In the header, change the "Name of Product / Product Description" to include the name of  |
|       | the product and the description of that product as indicated on the cover page. Once      |
|       | changed on this page, this will be reflected on all other pages.                          |
|       |   |
|       | Complete Form Fields for Company Name, Company Address, Phone Number and                  |
|       | Website   |
|       |   |
| NSF v | will complete the verification portion of the EPD.  |
|       |   |
| EPD:  | Detailed Version  |
|       | Read the descriptions in the form fields.   |
|       | Utilize the form fields to free-type information to support the description for each      |
|       | item. Where necessary, check boxes.   |
|       | Paste a photo of the Product Image with Descriptive Details, as indicated in the example. |
|       | Provide examples where necessary. Please replace the form examples with the actual        |
|       | information for the product. Refer to the Product Category Rule (PCR) to provide the      |
|       | most accurate information as required by the PCR.   |
|       | Make sure to delete the form examples provided, where necessary. All examples are         |
|       | indicated by the following: "Example:"  |
| H     | Do not delete pre-typed sections or tables that include form fields.                      |
| 1 1   | Complete form fields within tables  |