Verified and Certified!

Certifications and Declarations for Resilient Floor Covering Products

Introduction

Sustainable certifications and declarations are not all the same – some are focused on a specific criterion, such as volatile organic compounds that impact indoor air quality. Whereas others contain multiple attributes within their criteria, including environmental, material health, and social impacts. The latter are often developed utilizing an ANSI consensus process based on various stakeholders, typically including product manufacturers, product users and/or specifiers, and third party stakeholders, such as government and academic representation. The goal is to establish balanced criteria for compliance and certification.

Resilient Flooring Certifications and Declarations

There are three primary resilient flooring certifications that are widely recognized. Each is based on a standard that was developed to address various sustainable attributes. The Resilient Floor Covering Institute (RFCI) has also completed Industry Wide Environmental Product Declarations (EPDs).

FloorScore® Certification

FloorScore® is a widely recognized indoor air quality (IAQ) certification standard for resilient flooring materials, adhesives, and underlayments. The standard, Indoor Air Quality Product Performance Standard for Building Interiors – SCS-EC10.3.2014 V4.1 March 2022, was developed by SCS Global Services with the Resilient Floor Covering Institute.

SCS Global Services and RFCI FloorScore® Certification

Volatile organic compounds or VOCs is the primary term relevant to understanding IAQ requirements in standards and building rating system criteria. Per the United States Environmental Protection Agency, VOCs are compounds that have a high vapor pressure and low water solubility and include a variety of chemicals, some of which may have short- and long-term adverse health effects. "VOC content" refers to the amount of volatile organic compounds in a substance, whereas "VOC emissions" are measured as the number of specific volatile organic compounds emitted by a product.[1]

[1] US Environmental Protection Agency (EPA): What are volatile organic compounds (VOCs)? https://www.epa.gov/indoor-air-quality-iaq/what-are-volatile-organic-compounds-vocs. Accessed 2/27/2024.

For LEED v4.1 BD+C and ID+C and Green Globes – New Construction (NC), limits are applied to both content (as applicable to adhesives, paints, sealers, etc.) and emissions, based on testing of products, such as flooring and adhesives.

FloorScore® certified products can contribute to specific credits for compliance with *LEED v4.1 BD+C and ID+C – Indoor Environmental Quality Section – Low Emitting Materials Credit*. The LEED criteria includes at least 90% of all flooring, by cost or surface area, has to meet the VOC emissions requirements. At least 75% of all adhesives, by volume or surface area, have to meet the VOC emissions and 100% meet the VOC content requirements.

For *Green Globes – NC*, *Source Control and Measurement of Indoor Pollutants, Volatile Organic Compounds 6.2.1.3 (ANSI #11.2.1.3)* the following credits can benefit from specifying FloorScore® certified products. These include responding affirmatively to the question – Do 90% by area of the below interior products comply with prescribed limits of product VOC emissions?

Tarkett: Educational Flooring Solution: FloorScore® Certified

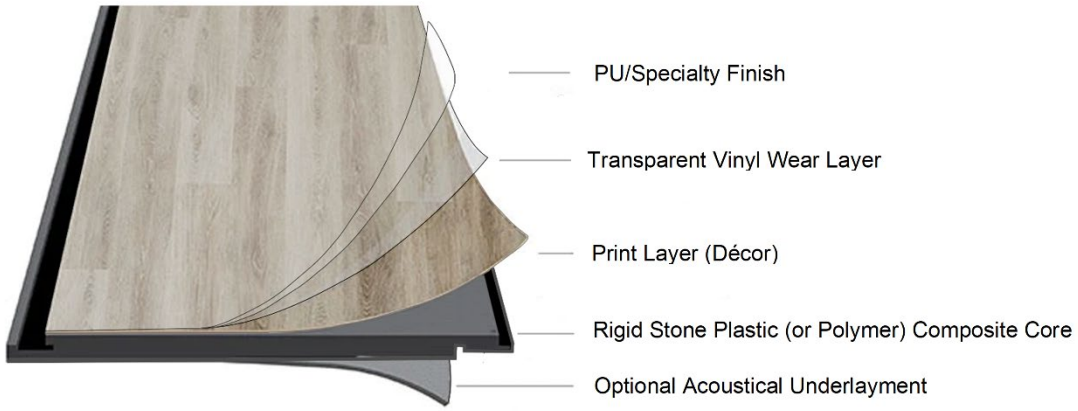
Green Globes – NC includes *Section 6.2.1.3.1 (ANSI #11.21.1.3.1) Floors/floor coverings.* FloorScore® is directly referenced as a certification that contributes to compliance with this requirement. Flooring adhesives fall under *Section 6.2.1.1 (ANSI #11.2.1.1)* – Do adhesives and sealants (not including carpet adhesives) that are applied on site within, or part of, the building envelope's continuous plane of air tightness comply with the following? FloorScore® is referenced as a certification that contributes to compliance with this requirement for adhesives.

FloorScore® requirements mirror building rating system requirements, allowing designers to use the ecolabel to assure requirements are met. This saves time in having to further research the VOC content and emissions compliance of resilient floor covering products, adhesives, and underlayments.

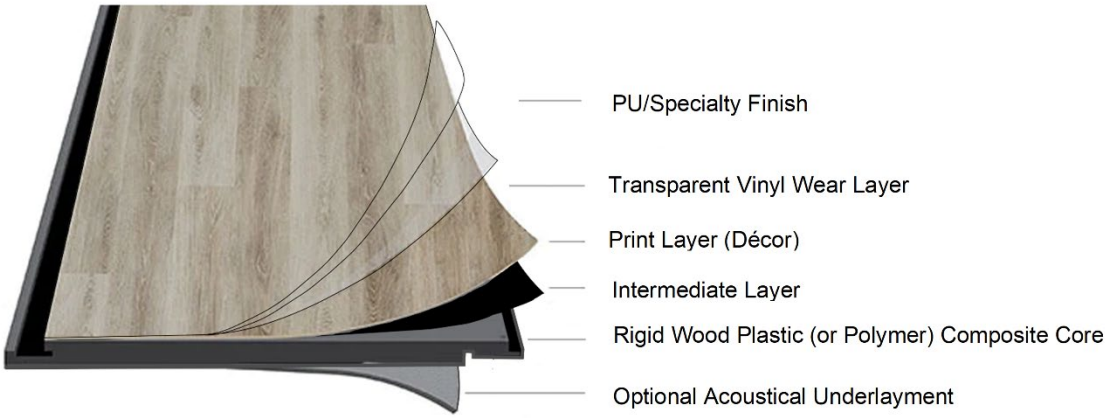
Resilient Floor Covering Institute (RFCI): ASSURE™ Certified logo for rigid core flooring.

ASSURE™ Certified

ASSURE™ Certified was conceived and developed by the Resilient Floor Covering Institute (RFCI) in conjunction with SCS Global to establish uniform quality standards for all rigid core luxury vinyl flooring products sold in North America; regardless of where they are manufactured. The ASSURE™ certified standard applies to both SPC, which stands for Stone Plastic (or Polymer) Composite and WPC, which stands for Wood Plastic (or Polymer) Composite. WPC's core typically consists of polyvinyl chloride, calcium carbonate, plasticizers, a foaming agent, and wood-like or wood materials, e.g., wood flour. Both types of rigid core are durable and stable, however SPC is more durable and denser overall due to its limestone composition. WPC is softer and quieter underfoot, while SPC offers better resistance from scratches or dents. Both are used in commercial and residential interior spaces.



Resilient Floor Covering Institute: SPC Rigid Core Flooring Diagram



Resilient Floor Covering Institute: WPC Rigid Core Flooring Diagram

ASSURE™ Certified WPC and SPC rigid core products meet the requirements in the Resilient Floor Covering Institute's Rigid Core Flooring Certification Standard – SCS-0011, Version 1-0, May 1, 2020. Rigid core products that are ASSURE™ Certified meet all requirements for indoor air quality, rigorous performance, and are tested for heavy metals and ortho-phthalates content. The indoor air quality requirements are the same as outlined in the FloorScore® criteria and in the various building rating systems, standards, and the IgCC. The alignment of various requirements provides assurance to the product specifier that relevant building rating criteria is met.

Environmental Product Declarations

Environmental Product Declarations (EPDs) can be a powerful tool to use when choosing materials for commercial projects. Per definition from GSA's Sustainable Facilities Tool (SF Tool), "*Environmental Product Declarations (EPDs) are a way for manufacturers to take comprehensive, third-party-verified Life Cycle Assessments (LCAs), which are quite complex, and turn them into standardized declaration labels for their products.*"

Type III EPDs follow ISO 14025, provide life cycle impact data, are independently verified, and made publicly available on various databases and websites. The EPDs are based on industry standard product category rules – or PCRs – that are regularly updated with product category stakeholders. Program Operators, such as ASTM International, NSF International, SCS Global, UL Environment, and Smart EPD, are the third party verifiers of Type III EPDs.

There are two types of Environmental Product Declarations that are used and referenced in LEED v4.1 BD+C and ID+C Materials and Resources Credits under *Environmental Product Declarations* and Green Globes Materials Credits under *Product Life Cycle* sections.

An **Industry Wide EPD** includes data that is aggregated from multiple manufacturers to complete a Life Cycle Assessment (LCA) using the same PCR. These are typically completed through trade associations that have members that are all manufacturing the same product type. For resilient flooring, product category types that can be included to develop an industry wide EPD include Solid Vinyl Tile, LVT Gluedown, LVT Looselay, Rigid Core SPC, Rigid Core WPC, Heterogeneous Sheet Vinyl, Homogeneous Sheet Vinyl, Rubber, Linoleum, and Cork.

Product Specific EPDs are developed for an individual product from a specific manufacturer within a specific category. For example, Brand ABC Luxury Vinyl Tile or Brand XYZ of Heterogeneous Sheet Vinyl. The LCA uses a PCR and data is based on the individual product and not averaged data.

Why are EPDS important? The most recognizable impact that is provided in an EPD is Global Warming Potential (GWP) which impacts climate change. GWP is based on carbon

dioxide emissions, which makes up the majority of Greenhouse Gas Emissions (GHG) per the US Environmental Protection Agency. For products, this is referred to as embodied carbon and GWP is measured in kilograms of carbon dioxide equivalents (kg of CO_2 eq) per functional unit – which for flooring is one square meter. Reducing GWP is one way to combat climate change when specifying products. The goal for optimizing reductions is through measurement and baseline data. If an Industry Wide EPD uses the same Life Cycle Assessment methodology, PCR, functional unit, and product service life, it can be used as a baseline for evaluation of the various impact categories in a Product Specific EPD. The ISO Standards do not directly support comparison; however, comparisons are being used as part of criteria in building rating systems between Industry Wide and Product Specific EPD data. Another baseline being referenced in LEED v4.1 BD+C and ID+C is the comparison between two Product Specific EPDs. The purpose of comparison is to demonstrate continual improvement and reduction of GWP over time for a specific product.

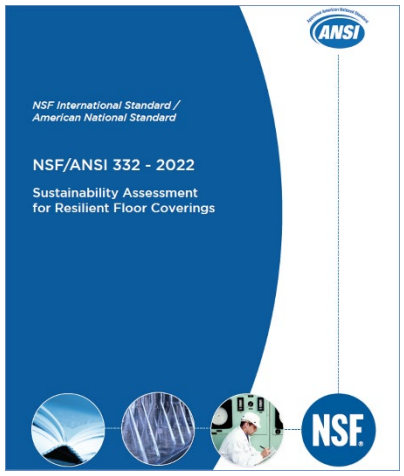
Typically, there are five additional impact categories evaluated through an LCA and documented in an EPD including:

- Ozone depletion potential (ODP)
- Acidification potential (AP)
- Eutrophication potential (EP)
- Smog formation potential (SFP)
- Abiotic depletion potential (fossil fuel)

There are additional impacts that can be included within Life Cycle Assessments, however replicable methods, consistent data, and results for measurement are still under development for some of the other impacts, such as human toxicity.

For compliance LEED v4.1 BD+C and ID+C and Green Globes – NC, it is encouraged to minimally document products that have either industry wide or product specific EPDs. Products that evaluate the life cycle stages minimally from Cradle to Gate all garner points within these systems as well as comply with the International Green Construction Code (IgCC) requirements.

For additional points, Cradle to Grave garners additional points within Green Globes – NC and comparison of products can garner additional points within LEED v4.1. Evaluating product embodied carbon is one attribute of many that need to be considered – however there is a direct correlation with evaluating data found in EPDs and reducing Global Warming Potential. Specific information on products and embodied carbon can be found on Building Transparency's website for the Embodied Carbon Construction Calculator – or EC3. Note that a specifier will find two values for embodied carbon – one is directly from the EPD – Industry Wide or Product Specific and a second value that is calculated based on uncertainty factors, such as grid used, as an EC3 value. The less uncertainty, the better for evaluating a range of GWP for a product.



Resilient Floor Covering Institute: NSF/ANSI 332-2022 Sustainability Assessment for Resilient Floor Coverings

NSF/ANSI 332 – 2022 Sustainability Assessment for Resilient Floor Coverings

Multi-attribute standards for product certification include requirements for the product manufacturer, the evaluation of supply chain, and the product itself. For resilient flooring, the other certification criteria and EPDs are required within the standard – and in many ways would be considered a standard that is additive – collecting information from various certifications and declarations to demonstrate a wholistic approach to understanding a product's baseline and subsequent continuous improvement over time.

In October 2022, the NSF/ANSI 332 Sustainability Assessment for Resilient Floor Coverings (NSF/ANSI 332) standard revision was published for use by resilient floor covering manufacturers. There are three program operators that certify products to this multi-attribute standard – UL, SCS Global, and NSF. The latest version of the standard includes criteria in three impact areas – environmental, health & wellness, and social impacts. The flooring standard can be used for all types of resilient floor covering products.

There are two levels of compliance; Level 1 Certification that requires all criteria to be met and Level 2 Certification that requires all Level 1 criteria plus a required minimum of optional Level 2 criteria. These include three Level 2 criteria for environmental impacts, two additional Level 2 criteria for health & wellness impacts, three additional Level 2 criteria for social impacts, and one additional Level 2 criteria from any of the impact areas. If a manufacturer chooses to complete additional Level 2 criteria above and beyond the requirements, they could use this to demonstrate continual improvement for their product.

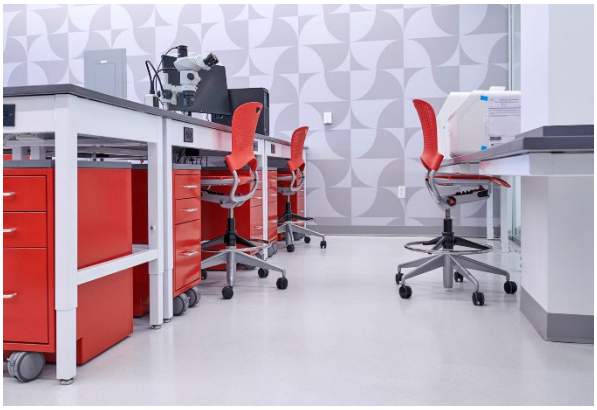
Environmental Impacts

The purpose of this section is to understand and minimize the Environmental Impacts of ingredients, constituents, and chemicals in a resilient floor covering product. This section highlights requirements for a Type III Industry Wide or Product Specific EPD, a documented Environmental Management System (EMS) to demonstrate continuous environmental performance targets are met, water and energy resources utilization plans, a waste minimization management plan, and for those products including vinyl as a feedstock, procurement best practices are required. Greenhouse Gas Emissions (GHG) for Scope 1 and Scope 2 are required and product service life according to performance standards are to be provided. Product end-of-life and recycling are addressed through extended producer responsibility criteria along with other additional requirements in the above sections that

support a Level 2 certification.

Health & Wellness Impacts
The purpose of this section is to demonstrate compliance with standard requirements, flooring does not pose a health risk when installed, used, and maintained per product manufacturer recommendations. Volatile Organic Compounds (VOCs) emissions and content follow the same requirements in the FloorScore® Certification, and subsequently are the same requirements found in building rating systems and the IgCC. Total VOCs are part of Level 2 criteria. Product ingredient transparency is provided through the requirement to provide an ingredient disclosure report that declares a minimum of 1,000 parts per million (ppm) and documentation to demonstrate no intentionally added heavy metals or orthophthalates for vinyl products. These requirements align with requirements in the ASSURE™ certification program. Level 2 criteria include identifying raw material chemical hazard classifications, completion of a product risk assessment, and ingredient optimization.

Social Impacts
The purpose of this section is to incorporate social responsibility in the manufacturer of resilient floor covering products. In some cases, the physical point of product manufacture and organizations seeking certification may be one and the same. Policies are required that address community outreach programs, prevention of discrimination policies, prohibitions on forced labor policies, and prohibitions on child labor policies. For organizational assessments, completing an Impact Assessment utilizing the B Impact Assessment is required (not requiring third party certification). Additional Level 2 criteria address transparency and social hotspots through supply chain social responsibility policies, additional third party verifications and a supplier social responsibility audit.



Roppe Envire®: Lab Installation: Certified to NSF/ANSI 332 Standard

It is important for specifiers and design professionals to realize the depth and rigor of requirements when certifying to a multi-attribute certification. If a resilient flooring product is certified to the NSF/ANSI 332 Standard – the manufacturer has established meeting FloorScore® certification requirements, attributes of the ASSURE™ Certification that are applicable to other types of resilient flooring (in addition to rigid core flooring) and has completed a Product Specific Type III EPD and/or has participated in providing data to complete an Industry Wide Type III EPD. Overall, knowing a resilient floor covering product has met criteria for Level 1 or Level 2 Certification demonstrates to the specifier the proactive approach by the manufacturer to meet environmental, health & wellness, and social impact criteria.

Additional Ecolabels for Resilient Flooring
There are additional certifications and ecolabels utilized within the resilient floor covering

product sector.

Cradle to Cradle Products Innovation Institute: Cradle to Cradle Certification

Cradle to Cradle Certified®

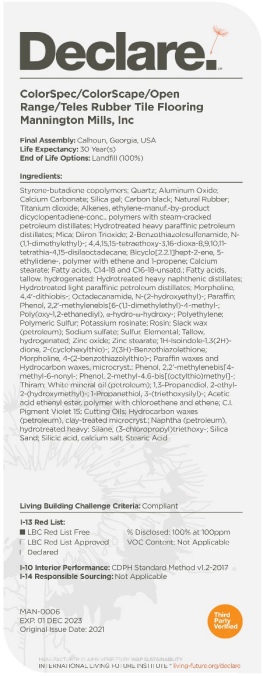
The Cradle to Cradle Products Innovation Institute leads the certification program Cradle to Cradle (C2C) Certified®. The certification is a multi-attribute certification program that focuses on material health, product circularity, clean air and climate protection, water and soil stewardship, and social fairness requirements. There are four different levels of certification, Bronze, Silver, Gold, and Platinum; with higher levels of recognition provided as increased environmental performance is sustained, supply chain transparency increases, circular economy is reinforced, and for the highest Platinum level, a manufacturer has incorporated environmental objectives into employee performance evaluations as an active way to achieve organizational goals. Cradle to Cradle Certified® Product Standard Version 4.0 is the current standard and launched in April 2021. There is reporting documentation template available to use to demonstrate cradle to cradle circularity called the *Cradle to Cradle Certified® Circularity Data Report* – meaning that the product starts out being manufactured, is sold, distributed, and installed, has a useful service life, and then is recycled to provide feedstock for the same product type. Note that this covers all the life cycle stages evaluated in a Life Cycle Assessment as documented in an Environmental Product Declaration.

Resilient Floor Covering Institute: Cradle to Cradle circularity diagram for recycling flooring product back into flooring product.

Declare Label and Health Product Declarations

Transparent reporting of ingredients or feedstocks in a product can be conveyed to specifiers through a Declare Label or a Health Product Declaration (HPD). These can be utilized to fulfill requirements within the NSF/ANSI 332 Standard in the Health and Wellness Impact Category.

Mannington Mills: Declare Label and HPD Product Example


Declare.

ColorSpec/ColorScape/Open Range/Teles Rubber Tile Flooring
Mannington Mills, Inc

Final Assembly: Calhoun, Georgia, USA
Life Expectancy: 30 Year(s)
End of Life Options: Landfill (100%)

Ingredients:

Styrene-butadiene copolymers; Quartz; Aluminum Oxide; Calcium Carbonate; Silica gel; Carbon black; Natural Rubber; Titanium dioxide; Alkenes, ethylene-manuf.-by-product dicyclopentadiene-conc., polymers with steam-cracked petroleum distillates; Hydrotreated heavy paraffinic petroleum distillates; Mica; Diiron Trioxide; 2-Benzothiazolesulfenamide, N-(1,1-dimethylethyl)-; 4,4,15,15-tetraethoxy-3,16-dioxa-8,9,10,11-tetrathia-4,15-disiloctadecane; Bicyclo[2.2.1]hept-2-ene, 5-ethylidene-, polymer with ethene and 1-propene; Calcium stearate; Fatty acids, C14-18 and C16-18-unsatd.; Fatty acids, tallow, hydrogenated; Hydrotreated heavy naphthenic distillates; Hydrotreated light paraffinic petroleum distillates; Morpholine, 4,4'-dithiobis-; Octadecanamide, N-(2-hydroxyethyl)-; Paraffin; Phenol, 2,2'-methylenebis[6-(1,1-dimethylethyl)-4-methyl-; Poly(oxy-1,2-ethanediyl), a-hydro-w-hydroxy-; Polyethylene; Polymeric Sulfur; Potassium rosinate; Rosin; Slack wax (petroleum); Sodium sulfate; Sulfur, Elemental; Tallow, hydrogenated; Zinc oxide; Zinc stearate; 1H-Isoindole-1,3(2H)-dione, 2-(cyclohexylthio)-; 2(3H)-Benzothiazolethione; Morpholine, 4-(2-benzothiazolylthio)-; Paraffin waxes and Hydrocarbon waxes, microcryst.; Phenol, 2,2'-methylenebis[4-methyl-6-nonyl-; Phenol, 2-methyl-4,6-bis[(octylthio)methyl]-; Thiram; White mineral oil (petroleum); 1,3-Propanediol, 2-ethyl-2-(hydroxymethyl)-; 1-Propanethiol, 3-(triethoxysilyl)-; Acetic acid ethenyl ester, polymer with chloroethane and ethene; C.I. Pigment Violet 15; Cutting Oils; Hydrocarbon waxes (petroleum), clay-treated microcryst.; Naphtha (petroleum), hydrotreated heavy; Silane, (3-chloropropyl)triethoxy-; Silica Sand; Silicic acid, calcium salt; Stearic Acid

Living Building Challenge Criteria: Compliant

I-13 Red List:
■ LBC Red List Free — % Disclosed: 100% at 100ppm
LBC Red List Approved — VOC Content: Not Applicable
Declared

I-10 Interior Performance: CDPH Standard Method v1.2-2017
I-14 Responsible Sourcing: Not Applicable

MAN-0006
EXP: 01 DEC 2023
Original Issue Date: 2021

Third Party Verified

INTERNATIONAL LIVING FUTURE INSTITUTE living.future.org/declare

Mannington Mills Declare Label Example

The International Living Future Institute (ILFI) is the organization that developed the criteria for the Declare Label, which is a nutritional label for products that includes intentionally added ingredients that are at or above 100 parts per million. Toxnot, now part of 3E, is the software system utilized to create Declare Labels as well as other types of reporting, such as Digital Product Passports. Manufacturers can also have their Declare Label third party verified through assessors designated by ILFI.

The Health Product Declaration® (HPD) has a standard that was developed by the HPD Collaborative (HPDC). The HPD Open Standard provides a standardized format for reporting material contents of a building product and associated material health, transparency, and environmental impact information. Product manufacturers have to comply with requirements in the HPD Open Standard and there is an optional HPDC Third Party Verification Program available, similar to the Declare Label.

ColorSpec/ColorScape/Open Range Rubber Tile Flooring by Mannington Mills

Health Product Declaration v2.2

created via: HPDC Online Builder

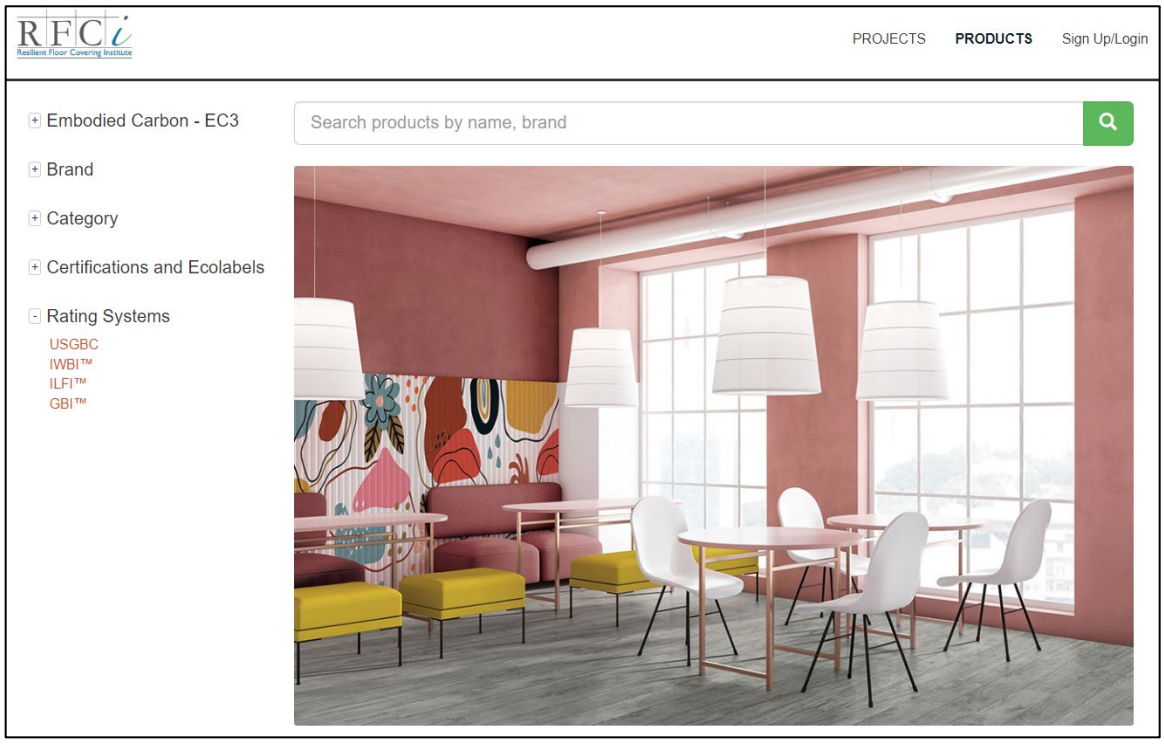
HPD UNIQUE IDENTIFIER: 26984
CLASSIFICATION: 09 65 19.33 Rubber Tile Flooring
PRODUCT DESCRIPTION: ColorSpec, ColorScape, and Open Range thermoset rubber flooring products are available in a wide variety of colors designed to complement other Mannington Commerical flooring collections and also mix beautifully with each other. These products are made with our superior rubber so they retain their amazing color, resist indentations and cracking, and are quiet underfoot. Built-in waxes produce a natural luster that requires no finish or stripping, lowering maintenance costs.

Mannington Mills: Health Product Declaration Example

For LEED v4.1 BD+C and ID+C both Declare Labels and HPDs are utilized to meet the Material Ingredients credit. For Green Globes – NC, the information provided in Declare Labels and HPDs can be used to contribute to Product Risk Assessment and Sustainable Materials Attributes credits as outlined in the Green Globes – NC Technical Reference Manual and HPDs can be used to contribute to the Materials Renovations & Procurement – Cycle Renovations credits as outlined in the Green Globes – Existing Building Technical Reference Manual.

The "Easy" Button: Finding Certifications, Ecolabels, & Declarations for Resilient Floor Covering Products

One of the challenges to specifiers and subcontractors is easily finding the various documentation to meet building rating systems, including LEED v4.1 and Green Globes-NC. As a result, the Resilient Floor Covering Institute has created a dedicated ecomedes database site for resilient floor covering.

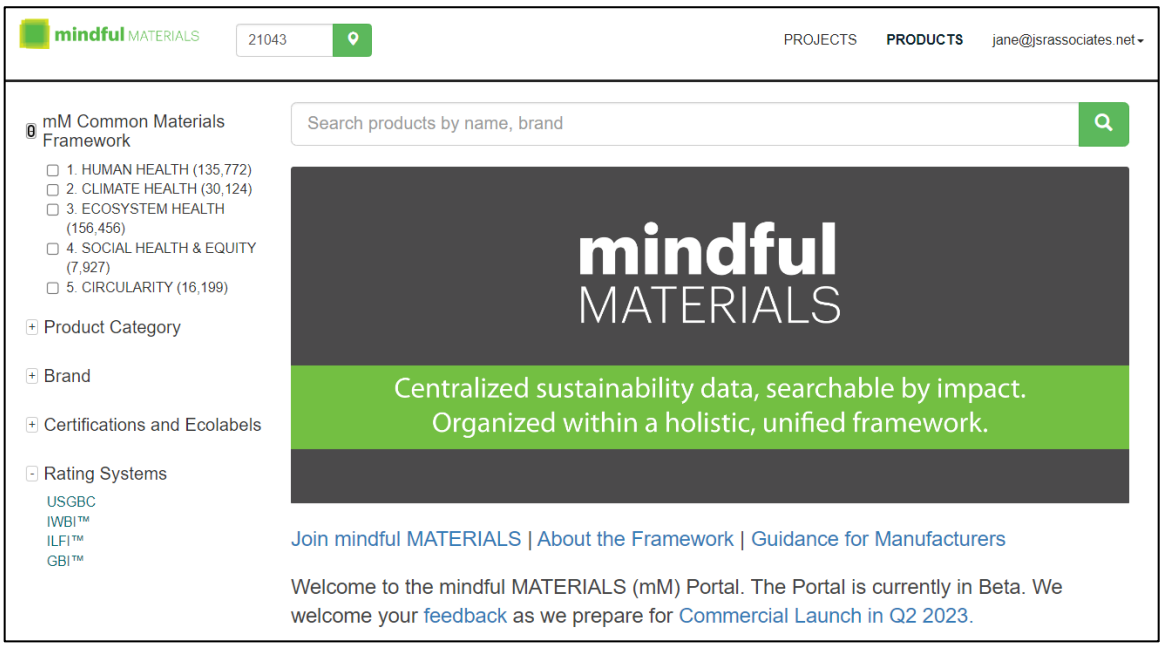


Resilient Floor Covering Institute: RFCI ecomedes resilient floor covering database

A user can create a "project" and then add products and relevant sustainable and material health documentation to the "project". This provides all the various certification and declaration documentation required by the building rating systems for resilient floor covering specifications. The provision of a "one stop shop" approach to easily correlate the information that would take much longer if going to each database

provided by each different label and/or certification body. Information is regularly updated by connecting to the reporting and certification organizations, so that data and documentation are current.

In addition, ecomedes is also the database that powers mindful Materials (mM) and provides search filters for Product Category, Brand, Certifications and Ecolabels, and Rating System, and an additional filter for the mM Common Materials Framework. This includes Human Health, Climate Health, Ecosystem Health, Social Health & Equity, and Circularity.



mindful Materials portal powered by ecomedes.

For convenience the same login used for the main ecomedes database, the RFCI ecomedes database, and mindfulMaterials can all be the same – in addition to other specialized databases for the American Society of Interior Designers (ASID), the International Interior Design Association (IIDA), and the General Services Administration (GSA) Sustainable Facilities Tool (SFTool) product database utilized to find EPA recommended specifications, standards, and ecolabels that are compliant with Federal Programs.

Conclusion

It is important to understand how certifications, ecolabels, and declarations can fulfill building rating system criteria for LEED v4.1 and Green Globes certification systems. Both material and indoor environmental quality (IEQ) credits can be fulfilled through recognizing applicable products and their environmental and material health attributes. Product categories that have aligned their product certifications with the building certification

systems provide an opportunity for specifiers to be assured that if products have various labels, then they meet the criteria required by building rating systems and have been rigorously evaluated by third party program operators and/or certification bodies.

This is a collaborative process that correlates various requirements into easy to identify labels and certifications through “behind the scenes” intentional coordination efforts by manufacturers, such as those providing resilient floor covering solutions, and trade associations, such as the Resilient Floor Covering Institute, to verify compliance and integration of reporting for ease of use by specifiers. Utilizing ecomedes provides an efficient and easy way for design professionals and building contractors to find documentation on an open source database to meet their project needs.

Prepared by: Resilient Floor Covering Institute: Technical Advisory Committee (TAC)

Publication Date: February 27, 2024