

Product Declaration

Health and Environmental

BioBased Tile Flooring

BioBased Tile® Flooring
Product Declaration



Committed to Sustainability.

Armstrong® Flooring is committed to delivering solutions that reduce the environmental impact of the buildings you create from product design and raw material selection, to how our products are produced and delivered.

This Product Declaration documents the following:

- Product ingredients
- Ingredient screening
- Life Cycle Assessment (LCA) Summary
- VOC Emissions and VOC content information
- Environmental certifications
- Performance attributes

Armstrong Flooring BioBased Tile (BBT) with Diamond 10® Technology coating delivers a superior combination of performance attributes – making it a great product for commercial applications.

BioBased Tile
Laura Bush Middle School, Lubbock, TX
Parkhill, Smith & Cooper, Inc.

BioBased Tile

Functional Unit – 1 m² of BBT 1 year service life

LCA IMPACT* MEASURES	TOTAL
Primary Energy (MJ)	103.9
Global Warming Potential (kg CO₂ equivalent)	6.22
Acidification Potential (kg SO₂ equivalent)	1.56E-02
Eutrophication Potential (kg PO₄³⁻ equivalent)	2.20E-03
Ozone Depletion Potential (kg R11 equivalent)	1.97E-08
Photochem Ozone Creation Potential (kg Ethene equivalent)	3.90E-03
PERFORMANCE ATTRIBUTES	
Acoustics NRC (Absorption)	0.05
Static Load (psi)	250
Light Reflectance	up to 74%
ASTM F2982	Meets
Flooring Ingredients: Limestone, Biobased Polyester Resin, Titanium Dioxide, Colored Pigments	

* Based on CML2010 Impact Factors

Visit ArmstrongFlooring.com/transparency for further information.

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This Product Declaration (1) discloses the known ingredients in their raw material form and (2) provides building industry professionals and other third parties with a summary of environmental and ingredient information about this product. This Product Declaration includes summary life cycle assessment (LCA) information, VOC emissions information, environmental certifications, and key performance attributes for the product.

Declaration Number:	APD-0003
Declaration Holder:	Armstrong Flooring, Inc. - 2500 Columbia Avenue, Lancaster, PA 17603
Product	Migrations® BBT™ and Striations BBT™ with Diamond 10® Technology coating
CSI Master Format	09 65 19 (Resilient Tile Flooring) or 09 65 19.43 (Polyester Composition Tile Flooring)
Product Website	www.ArmstrongFlooring.com/commercial/en-us/products/bio-flooring.html
Product Application	Floor covering choice in commercial spaces: <ul style="list-style-type: none"> • Hospitality • Classrooms • Healthcare • Retail • Assisted Living
Disclosure	All product ingredients known or reported (by a supplier) to be present in a concentration of at least 0.1% (1,000 ppm) or lower concentrations if required by OSHA hazard communications are set forth in the product ingredient table. The CASRN (Chemical Abstract Services Registration Number) is listed for reference. Proprietary ingredients are screened as indicated above, but the name and CASRN are not listed to protect proprietary information. All ingredients are screened against the regulatory and nonregulatory references set forth in the reference section.

APD Date of Issue:

Sustainability Information

- **Certifications for this product:**
 - FloorScore® Certification – Indoor air quality emissions certification
- **Recycled Content: Typical recycled content in this product (% by weight):**
Pre-Consumer Recycled Materials % 40



Product VOC Emissions

VOC Emissions (Volatile Organic Compounds): Building material is tested and determined compliant in accordance with following VOC emissions standards:

California Department of Public Health (CDPH) V 1.1-2010

Yes No Not Applicable

Total Volatile Organic Compound (TVOC) Emission Levels:

In accordance with CDPH V1.1-2010

- <0.5 mg/m³
- 0.5-5.0 mg/m³
- >5.0 mg/m³

Product Ingredients

The following table represents the ingredients that are in this product. Each ingredient was screened against the regulatory and non-regulatory references set forth below. When an ingredient is listed on a regulatory or non-regulatory reference, it is noted below with an (X). The results are based on the individual ingredient reviewed in its raw material state, and their inclusion on a reference list does not necessarily pertain to, or represent the form of the ingredient in the final finished product. The following table represents the ingredients that are in this product at concentrations of at least 1,000 ppm (0.1%).

ROLE	INGREDIENT Listed in descending order based on % by weight.	CASRN	MASS %	(X) NOTED IF INGREDIENT IS ON THE LIST								NOTES	
				IARC ¹	REACH ²	NTP ³	OSHA ⁴	PROP ⁵ 65	TRI ⁶ PBT	LIVING ⁷ BUILDING CHALLENGE	GREEN ⁸ SCREEN		
Ingredient Name													
Filler	Calcium Carbonate (Limestone)	1317-65-3	85-88%									LT-UNK	
	Recycled Limestone	1317-65-4	10-15%									LT-UNK	
Binder	Biobased Polyester Resin	proprietary	11-14%									U	Proprietary ingredient (11–14%)
Pigment	Titanium Dioxide	13463-67-7	0.5%	X				X				LT-1	Titanium dioxide is listed as a hazard in respirable form. Titanium dioxide is not in a respirable form in the final product.
	Colored Pigments	Various	<0.1%									U	Pigments vary based on pattern (<0.1%)

* A Chemical Abstracts Service (CAS) Registry Number® is not available for this material.

References

The regulatory references include:

- IARC – International Agency on the Research of Cancer Terminology
Group 1 – Carcinogenic to Humans
Group 2 – Probably Carcinogenic to Humans
Group 3 – Possibly Carcinogenic to Humans
Source: <http://monographs.iarc.fr/ENG/Classification/index.php>
- REACH – Registration, Evaluation, Authorization and Restriction of Chemicals
Substance of Very High Concern (SVHC) Authorization or Candidate List (as of the date of this declaration)
Source: <http://echa.europa.eu/addressing-chemicals-of-concern/>
- NTP – National Toxicology Program – Known Human Carcinogen and Reasonably Anticipated Carcinogen
Source: <http://ntp.niehs.nih.gov/?objectid=03C9AF75-E1BF-FF40-DBA9EC0928DF8B15>
- OSHA – Occupational Safety and Health Administration Carcinogen list.
Source: <https://www.osha.gov/SLTC/carcinogens/index.html>
- Prop 65 – California Proposition 65 – Known to the state of California to cause cancer or reproductive toxicity
Source: http://oehha.ca.gov/prop65/prop65_list/Newlist.html
- USEPA TRI – Toxic Release Inventory – Persistent, bioaccumulative and toxic (PBT) chemicals – Known persistent, bioaccumulative and toxic chemicals and compounds.
Source: http://www.epa.gov/tri/trichemicals/pbt%20chemicals/pbt_chem_list.htm
- Living Building Challenge™ Red List - was developed by the Cascadia Region Green Building Council and International Living Building Institute.
Source: <http://living-future.org/living-building-challenge/materials>
- GreenScreen® - is a Chemical Hazard Assessment method developed by the Cleaner Production Action. The Pharos GreenScreen List Translator (LT) was used to screen and identify any Chemical of High Concern (LT-1). An LT-1 chemical may be considered equivalent to a Benchmark 1 (BM1) chemical using the full GreenScreen method.
Source: <http://www.cleanproduction.org/Greenscreen.v1-2.php>

LEED® v4 Contribution

MRCredit:
Building Disclosure and Optimization – Material Ingredients – Option 1

This Manufacturer Inventory meets the guidelines for this credit.

MRCredit:
Building Disclosure and Optimization – Material Ingredients – Option 2

This product meets the guidelines for International Alternative Compliance Path – REACH Optimization. The end use product and materials do not contain substances that meet REACH criteria for substances of very high concern. The product does not contain ingredients listed on the REACH Authorization or Candidate list.