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**HomeFree Flooring Specifications**

Version 1.2 – January 2022

**How to use this document**

HBN developed specification language to provide project teams with an actionable and practical resource for incorporating safer materials into project specifications. This editable Word document is organized according to MasterFormat® standard divisions. Project teams can copy and paste from the HomeFree Specifications and make modifications as needed to meet specific project needs. Notes with additional context about the healthier material guidance are provided in red text. These notes are provided to guide your understanding of the healthier material specifications.

**About the HomeFree Specifications**

The HomeFree Specifications are primarily based on our Hazard Spectrums, including materials that fall into the green, light green, yellow, or orange on the Spectrum. The Spectrums incorporate HBN’s materials research about chemicals of concern that are commonly present or used in the manufacturing process of different types of products. You can use the hazard spectrum to benchmark your current practice and take steps up to healthier options. Products in green categories are typically the best options, whereas products at the bottom of the spectrum, in red, are to be avoided. Those in between provide intermediate options from a health hazard perspective. Only product types that were researched by HBN and are included in the scope of the Hazard Spectrums were considered in the specifications. For accessory products, some general material recommendations may also be included, such as meeting South Coast Air Quality Management District (SCAQMD) VOC limits. In addition, some common green building requirements such as FSC-certified wood and regionally sourced materials are included for ease of use.

The specifications include examples of products that meet the requirements for a specific category on the Hazard Spectrum based on information available at the time of review. These products are included for illustrative purposes, and their inclusion is not an endorsement or certification of the products. As noted above, the Spectrums are based on HBN’s research about chemicals of concern that are commonly present or used in the manufacturing process of this product type. The contents of specific manufacturer products can vary widely within a product type.

HBN recommends preferring products with content transparency through Health Product Declarations (HPDs) or Declare Labels. When considering example products for inclusion in the specifications, we prioritized those with content transparency over those without. For some categories, additional products without content transparency were included to expand options within the specification. Products that had an HPD or Declare Label at the time of review are indicated in bold text in the specifications. Additionally, nationally available products were prioritized before locally available products within specifications. Products were determined to meet the HomeFree safer material recommendations using publicly available information, manufacturer provided information, or a combination of the two. Note that not all products within a product line will necessarily comply, and there are likely additional products available that meet the HomeFree recommendations.

The HomeFree Specifications were developed with the assistance of Anne Hicks Harney at Long Green Specs.

**Terms of Use**

HBN provides this specification document free of charge, and grants you a limited right to use, download, edit, print, and reproduce this specification document solely for your internal, personal, and non-commercial use. Any commercial use of this specification document, including, without limitation, any sale or license thereof, or posting to another website is prohibited.

**About HBN and HomeFree**

[Healthy Building Network’s](https://healthybuilding.net/) mission is to advance human and environmental health by improving hazardous chemical transparency and inspiring product innovation. We pursue our mission on three programmatic fronts — independent research, powerful data tools, and capacity-building education — each of which is designed to provide actionable ideas and information that improve health for everyone. HBN’s [HomeFree](https://homefree.healthybuilding.net/) is a national initiative co-created with affordable housing practitioners and designers who are improving human and environmental health by using less toxic building materials. The goal of HomeFree is to improve the health of all people and the planet, especially marginalized communities and children who are disproportionately impacted by toxic chemicals, by:

* raising awareness of toxic building materials and their associated health hazards,
* building the capacity of affordable housing practitioners to make informed decisions, and
* transforming the current practice of affordable housing products specified to healthier options for everyone.

See the [HomeFree website](https://homefree.healthybuilding.net/) for more information.

**Specification sections in this document:**

[09 30 00 Ceramic and Porcelain Tiling](#Tile) *(Light Green on Hazard Spectrum)*

[09 64 00 Solid Wood, Engineered Wood, and Laminate Flooring](#Wood) *(Green, Light Green, Yellow, or Orange on Hazard Spectrum)*

[09 65 00 Resilient Flooring](#Resilient) *(Green, Light Green, Yellow, or Orange on Hazard Spectrum)*

[09 68 00 Carpeting](#Carpeting) *(Orange on Hazard Spectrum)*

**References**

* HomeFree Flooring Products Hazard Spectrum:

<https://homefree.healthybuilding.net/products/5-flooring-products-hazard-spectrum>

* HomeFree Flooring Installation Hazard Spectrum:

<https://homefree.healthybuilding.net/products/43-flooring-installation-hazard-spectrum>

Change Log:

v1.1 (July 2020): Updated transparency language to include “characterized and screened” for consistency with programs including LEED and Enterprise Green Communities, and a preference for “characterized, screened, and identified.” Added additional context around transparency documents in the red text.

V1.2 (January 2022): Updated based on updates to the flooring Hazard Spectrum where some product types were assigned new rankings. Added cork flooring which was a new type on the Spectrum. Included site-finished engineered wood flooring by changing requirement of factory-finished to preference.

09 30 00 Ceramic and Porcelain Tiling

*(Light Green on the* [*HomeFree Hazard Spectrum*](https://homefree.healthybuilding.net/products/5-flooring-products-hazard-spectrum)*)*

SECTION 09 3000

TILING

*The average person spends up to 90% of their time indoors. Most people think that chemicals used in building products are strictly regulated or tested for their impacts on human health, but that is not the case. In fact, it is difficult to get clear and reliable information about product ingredients and their potential health impacts. Buildings, both old and new, can contain chemicals of concern. From lead poisoning to asthma, our health can be impacted by the materials used in our buildings. This section includes requirements that align with the healthier material guidance of Healthy Building Network (HBN)'s HomeFree, to help ensure that less toxic products are used. See the HomeFree website for more information: https://homefree.healthybuilding.net/.*

1. GENERAL
   * + 1. REFERENCE STANDARDS
          1. General: Comply with the applicable provisions of the referenced standards except as modified by governing codes and the Contract Documents. Where a recommendation or suggestion occurs in the referenced standards, such recommendation or suggestion shall be considered mandatory. In the event of conflict of referenced standards and this specification or within the standards themselves, the more stringent standard or requirement shall govern.

Rule 1168 - "Adhesive and Sealant Applications", South Coast Air Quality Management District (SCAQMD), State of California <http://www.aqmd.gov/docs/default-source/rule-book/reg-xi/rule-1168.pdf>

* + - 1. ACTION SUBMITTALS
         1. Sustainable Design Submittals:

Product Data:

For grout products indicating compliance with General Emissions Evaluation.

For adhesives and sealants, indicating compliance with General Emissions Evaluation and VOC content requirements for Wet Applied Products.

For flooring products indicating compliance with Flooring Content Restrictions.

For recycled content, indicating post-consumer and pre-consumer recycled content.

Building Product Disclosure Requirements: provide the following information:

Material Ingredients Documentation demonstrating the chemical inventory of the product to at least 0.1% (1,000 ppm) with all content characterized and screened.

Product Certificates: For regional materials, indicating location of material manufacturer and point of extraction, harvest, or recovery for each raw material. Include distance to Project.

1. PRODUCTS
   * + 1. TILE PRODUCTS
          1. Manufacturers: Subject to compliance with requirements, provide products by one of the following:

Crossville, Inc.

Daltile; Division of Dal-Tile International Inc.

* + - 1. PRODUCTS, GENERAL

*HBN recommends preferring products that have documentation publicly disclosing their chemical content. We believe you have a right to know what’s in the materials in your buildings. As do all of those responsible for the design, construction, and operation of buildings have a right to know, and a responsibility to avoid, known and potential hazards to building occupants, workers, and fenceline communities. More information on the importance of content transparency can be found* [*here*](https://homefree.healthybuilding.net/transparency)*.*

*A threshold of 1,000 parts per million (ppm) or 0.1% means that any chemical present in the product at 0.1% or greater, must be listed on the disclosure. A threshold of 100 ppm or 0.01% means that any chemical present in the product at 0.01% or greater must be listed on the disclosure. The 100 ppm threshold provides greater resolution, giving a more complete picture of the product content. An HPD that is "characterized" and "screened" will be marked as such on the first page. In order to be designated as characterized, the role and weight percent of all content present at or above the indicated threshold, must be provided. To be considered screened, that content must be screened against the HPD priority hazard lists for any know hazards. If "identified" is marked, that means that additionally, all substances are disclosed by name and identifier (no chemical identities are held proprietary). A Declare Label that is designated as "Red List Free" or "Declared" is considered to be characterized and screened to a 100 ppm threshold. A Declare Label with a status of "LBC Red List Approved" that has a minimum disclosure threshold of 99.9% of the product content is considered characterized and screened to 1,000 ppm. This means that the sum of undisclosed proprietary content cannot exceed 0.1%. The % Disclosed is listed on the Declare Label. While products that have disclosures to 100 ppm, with all content characterized, screened, and identified, and verified through HPD or Declare's third-party verification program are most preferred, we acknowledge that this is a very high bar to reach and encourage preference for products that have disclosures along the continuum.*

* + - * 1. Provide Material Ingredients Documentation demonstrating the chemical inventory of the product to at least 0.1% (1,000 ppm) with all content characterized and screened. Documentation demonstrating the chemical inventory to at least 0.01% (100 ppm) with all content characterized, screened, and identified, and/or verified through the HPD or Declare Label third-party verification program is preferred.

For each product, provide copies of all available current product disclosures from the following list:

Health Product Declaration (HPD).

Declare Label.

* + - * 1. Low-emitting requirements – Tile Grout

General Emissions Evaluation: Preference will be given to products that are tested and determined compliant in accordance with the California Department of Public Health (CDPH) Standard Method v1.1–2010 or the most current version, using the applicable exposure scenario.

Residential scenario is preferred.

* + - * 1. Low-emitting requirements – Adhesives and Sealants:

General Emissions Evaluation: Preference will be given to products that are tested and determined compliant in accordance with the California Department of Public Health (CDPH) Standard Method v1.1–2010 or the most current version, using the applicable exposure scenario.

Residential scenario is preferred.

VOC Content Requirements for Wet Applied Products: All adhesives and sealants wet-applied on site must meet the applicable chemical content requirements of SCAQMD Rule 1168, amended October 26, 2017, Adhesive and Sealant Applications, as analyzed by the methods specified in Rule 1168. The provisions of SCAQMD Rule 1168 do not apply to adhesives and sealants subject to state or federal consumer product VOC regulations.

Methylene chloride and perchloroethylene shall not be intentionally added in paints, coatings, adhesives, or sealants.

Do not use adhesives that contain urea formaldehyde.

*Ceramic tiles made without toxic glazes can be relatively low-impact materials for a flooring installation; however, some tile glazes may contain lead compounds. Use of heavy metals like lead in tile manufacturing can expose tile plant workers, surrounding communities, and watersheds during manufacturing. Heavy metal releases can also occur in the cutting of ceramic tile during construction and during demolition and disposal. Less understood are potential exposures during use, especially when tiles are cleaned or abraded over time.*

*Use tiles that don’t contain intentionally added lead. Also, be aware that lead can be unintentionally included. Avoid tiles with non-specific post-consumer recycled content or with recycled cathode ray tubes (CRTs) from TV sets and computer monitors, which contain high concentrations of lead.*

* + - * 1. Flooring Content Restrictions:

No intentionally added lead compounds.

No cathode ray tube (CRT) content or other post-consumer recycled content that may contain lead.

*Some antimicrobials may be necessary as preservatives, but these merely protect the product from degradation and do not provide a health benefit. Products marketed as being “antimicrobial” and having a health benefit may contain additional antimicrobials beyond those needed for preservation. These products have not been shown to provide any actual health benefit. Added antimicrobials, which are often hazardous, can migrate out of products and end up in the dust of interior spaces where people can become exposed.*

* + - * 1. Additional Restrictions and Requirements:

Products must not be marketed as antimicrobial and claim or imply a health benefit.

Provide products manufactured and extracted within 100 miles of the project site whenever possible.

* + - 1. TILE PRODUCTS

*Below are example manufacturers with products that met the HomeFree healthier material guidance at the time the HomeFree Specifications were created. Products were determined to meet our requirements using publicly available information, manufacturer provided information, or a combination of the two. These products are included for illustrative purposes, and their inclusion is not an endorsement or certification of the products.*

*Crossville confirmed to Healthy Building Network that all of their products are free of intentionally added lead and do not contain recycled content that may contain lead. All of their porcelain tile products thereby meet the requirements of these specifications.*

[*Daltile’s website*](https://www.daltile.com/how-to/faqs) *states that they do not intentionally add lead to their products with the exception of a specialty red glaze. HBN was unable to determine which products use this glaze or whether any Daltile products contain post-consumer recycled content that may contain lead. Check with the manufacturer to ensure any products you want to specify meet the requirements of this specification.*

*Products in* ***bold*** *had one of the following material ingredient transparency labels with content characterized and screened to at least 1,000 ppm at the time the HomeFree Specifications were created:*

* *Health Product Declarations (HPDs) — HPDs use a standard reporting format for disclosing a product’s contents and associated health hazards. They are an inventory tool and do not provide explicit judgement on safer products. Products that currently comply with this standard can be found* [*here*](https://hpdrepository.hpd-collaborative.org/Pages/Results.aspx)*.*
* *Declare Labels — Declare Labels disclose what a product is made of, where it comes from, and where it goes at the end of its life. Declare Labels also indicate whether products contain chemicals on the Living Building Challenge Red List. Products that currently comply with this standard can be found* [*here*](https://living-future.org/declare/)*.*
  + - * 1. Tile Type: Provide one of the following products:

**Porcelain Tile by Crossville, Inc**.

Daltile; Division of Dal-Tile International Inc.

**Ceramic or Porcelain tiles including Marazzi, Ragno, American Olean or Daltile brands**.

* + - 1. SETTING MATERIALS
         1. Portland Cement Mortar (Thickset) Installation Materials: ANSI A108.02.
         2. Medium-Bed, Modified Dry-Set Mortar (Thin Set): ANSI A118.4.

Provide prepackaged, dry-mortar mix containing dry, redispersible, vinyl acetate or acrylic additive to which only water must be added at Project site.

* + - 1. GROUT MATERIALS
         1. Standard Cement Grout: ANSI A118.6.
         2. High-Performance Tile Grout: ANSI A118.7.

Polymer Type: Ethylene vinyl acetate or acrylic additive, in dry, redispersible form, prepackaged with other dry ingredients.

* + - 1. MISCELLANEOUS MATERIALS
         1. Temporary Protective Coating: Product formulated to protect exposed surfaces of tile against adherence of mortar and grout; compatible with tile, mortar, and grout products; and easily removable after grouting is completed without damaging grout or tile.

Product: manufacturer's standard proprietary liquid coating that is specially formulated and recommended for use as temporary protective coating for tile.

* + - * 1. Tile Cleaner: A neutral cleaner capable of removing soil and residue without harming tile and grout surfaces, specifically approved for materials and installations indicated by tile and grout manufacturers.
        2. Floor Sealer: Manufacturer's standard product for sealing grout joints and that does not change color or appearance of grout.

Avoid use of floor sealer unless specifically required.

1. EXECUTION (Not Used)

END OF SECTION

09 64 00 Solid Wood, Engineered Wood, And Laminate Flooring

*(Green, Light Green, Yellow, or Orange on the* [*HomeFree Hazard Spectrum*](https://homefree.healthybuilding.net/products/5-flooring-products-hazard-spectrum)*)*

SECTION 09 6400

WOOD FLOORING

*The average person spends up to 90% of their time indoors. Most people think that chemicals used in building products are strictly regulated or tested for their impacts on human health, but that is not the case. In fact, it is difficult to get clear and reliable information about product ingredients and their potential health impacts. Buildings, both old and new, can contain chemicals of concern. From lead poisoning to asthma, our health can be impacted by the materials used in our buildings. This section includes requirements that align with the healthier material guidance of Healthy Building Network (HBN)'s HomeFree, to help ensure that less toxic products are used. See the HomeFree website for more information: https://homefree.healthybuilding.net/.*

1. GENERAL
   * + 1. REFERENCE STANDARDS
          1. General: Comply with the applicable provisions of the referenced standards except as modified by governing codes and the Contract Documents. Where a recommendation or suggestion occurs in the referenced standards, such recommendation or suggestion shall be considered mandatory. In the event of conflict of referenced standards and this specification or within the standards themselves, the more stringent standard or requirement shall govern.

Rule 1168 - "Adhesive and Sealant Applications", South Coast Air Quality Management District (SCAQMD), State of California <http://www.aqmd.gov/docs/default-source/rule-book/reg-xi/rule-1168.pdf>

Rule 1113 - "Architectural Coatings": South Coast Air Quality Management District (SCAQMD), State of California <http://www.aqmd.gov/docs/default-source/rule-book/reg-xi/r1113.pdf>

Toxic Substances Control Act (TSCA) Title VI Compliant: Composite wood products including hardwood plywood, medium-density fiberboard, and particleboard. <https://www.epa.gov/formaldehyde/formaldehyde-emission-standards-composite-wood-products>

* + - 1. ACTION SUBMITTALS
         1. Sustainable Design Submittals:

Product Data:

For Factory-Finished Flooring indicating compliance with General Emissions Evaluation.

For paints and coatings indicating compliance with General Emissions Evaluation and VOC content requirements for Wet Applied Products.

For adhesives and sealants indicating compliance with General Emissions Evaluation and VOC Content Requirements for Wet Applied Products.

For engineered wood or laminate products indicating compliance with Composite Wood Evaluation.

For recycled content, indicating post-consumer and pre-consumer recycled content.

Building Product Disclosure Requirements: To encourage the use of building products that are working to minimize their environmental and health impacts, preference will be given to products with publicly available information:

Material Ingredients Documentation demonstrating the chemical inventory of the product to at least 0.1% (1,000 ppm) with all content characterized and screened.

[Certificates](http://www.arcomnet.com/sustainable_design.aspx?topic=8):

For regional materials, indicating location of material manufacturer and point of extraction, harvest, or recovery for each raw material. Include distance to Project.

Chain-of-Custody Certificate for certified wood products.

[Chain-of-Custody Qualification Data](http://www.arcomnet.com/sustainable_design.aspx?topic=148): For manufacturer and vendor.

* + - 1. QUALITY ASSURANCE
         1. [Manufacturer Qualifications](http://www.arcomnet.com/sustainable_design.aspx?topic=25): A qualified manufacturer that is certified for chain of custody by an FSC-accredited certification body.
         2. [Vendor Qualifications](http://www.arcomnet.com/sustainable_design.aspx?topic=26): A vendor that is certified for chain of custody by an FSC-accredited certification body.

1. PRODUCTS
   * + 1. PERFORMANCE REQUIREMENTS
          1. Hardwood Flooring: Comply with NWFA A500 for species, grade, and cut.
          2. Softwood Flooring: Comply with WCLIB No. 17 grading rules for species, grade, and cut.

*HBN recommends preferring products that have documentation publicly disclosing their chemical content. We believe you have a right to know what’s in the materials in your buildings. As do all of those responsible for the design, construction, and operation of buildings have a right to know, and a responsibility to avoid, known and potential hazards to building occupants, workers, and fenceline communities. More information on the importance of content transparency can be found* [*here*](https://homefree.healthybuilding.net/transparency)*.*

*A threshold of 1,000 parts per million (ppm) or 0.1% means that any chemical present in the product at 0.1% or greater, must be listed on the disclosure. A threshold of 100 ppm or 0.01% means that any chemical present in the product at 0.01% or greater must be listed on the disclosure. The 100 ppm threshold provides greater resolution, giving a more complete picture of the product content. An HPD that is "characterized" and "screened" will be marked as such on the first page. In order to be designated as characterized, the role and weight percent of all content present at or above the indicated threshold, must be provided. To be considered screened, that content must be screened against the HPD priority hazard lists for any know hazards. If "identified" is marked, that means that additionally, all substances are disclosed by name and identifier (no chemical identities are held proprietary). A Declare Label that is designated as "Red List Free" or "Declared" is considered to be characterized and screened to a 100 ppm threshold. A Declare Label with a status of "LBC Red List Approved" that has a minimum disclosure threshold of 99.9% of the product content is considered characterized and screened to 1,000 ppm. This means that the sum of undisclosed proprietary content cannot exceed 0.1%. The % Disclosed is listed on the Declare Label. While products that have disclosures to 100 ppm, with all content characterized, screened, and identified, and verified through HPD or Declare's third-party verification program are most preferred, we acknowledge that this is a very high bar to reach and encourage preference for products that have disclosures along the continuum.*

* + - * 1. Provide Material Ingredients Documentation demonstrating the chemical inventory of the product to at least 0.1% (1,000 ppm) with all content characterized and screened. Documentation demonstrating the chemical inventory to at least 0.01% (100 ppm) with all content characterized, screened, and identified, and/or verified through the HPD or Declare Label third-party verification program is preferred.

For each product, provide copies of all available current product disclosures from the following list:

Health Product Declaration (HPD).

Declare Label.

***The CDPH emission certification*** *may help weed out some of the worst actors in terms of VOC emissions from floors, but it is important to keep in mind that this testing only covers a small number of volatile chemicals. Many other volatile, semi-volatile, or nonvolatile hazardous chemicals may still be found in products certified to this standard.* ***Don’t rely on this information alone to identify safer products.*** *Programs that certify the CDPH Standard Method or a variation of the standard include the industry certifications, Resilient Floor Covering Institute FloorScore and Carpet & Rug Institute Green Label Plus, and independent certifications GreenGuard Gold, SCS Indoor Advantage Gold, and Berkeley Analytical Clear Chem. HBN recommends you ask for products certified to the most protective, residential scenario.*

* + - * 1. Low-emitting requirements – Factory-Finished Flooring

General Emissions Evaluation: Products must be tested and determined compliant in accordance with the California Department of Public Health (CDPH) Standard Method v1.1–2010 or the most current version, using the applicable exposure scenario.

Residential scenario is preferred.

* + - * 1. Low-emitting requirements – Paints and Coatings:

General Emissions Evaluation: Preference will be given to products that are tested and determined compliant in accordance with the California Department of Public Health (CDPH) Standard Method v1.1–2010 or the most current version, using the applicable exposure scenario.

Residential scenario is preferred.

VOC Content Requirements for Wet Applied Products: All paints and coatings wet-applied on site must meet the applicable VOC limits of the South Coast Air Quality Management District (SCAQMD) Rule 1113, effective February 5, 2016.

* + - * 1. Low-emitting requirements – Adhesives and Sealants:

General Emissions Evaluation: Preference will be given to products that are tested and determined compliant in accordance with the California Department of Public Health (CDPH) Standard Method v1.1–2010 or the most current version, using the applicable exposure scenario.

Residential scenario is preferred.

VOC Content Requirements for Wet Applied Products: All adhesives and sealants wet-applied on site must meet the applicable chemical content requirements of SCAQMD Rule 1168, amended October 26, 2017, Adhesive and Sealant Applications, as analyzed by the methods specified in Rule 1168. The provisions of SCAQMD Rule 1168 do not apply to adhesives and sealants subject to state or federal consumer product VOC regulations.

Methylene chloride and perchloroethylene shall not be intentionally added in adhesives, or sealants.

Do not use adhesives that contain urea formaldehyde.

*Composite wood products contain binders that hold the wood together. These binders are commonly based on formaldehyde and can emit formaldehyde, a carcinogen and asthmagen, into a living space over time. A preference for ultra-low-emitting formaldehyde (ULEF) or no added formaldehyde (NAF) resins ensures consistently lower emissions of formaldehyde than the legally required TSCA/CARB limits. For products that aren’t legally required to meet TSCA/CARB requirements, these specifications require that they do not contain urea formaldehyde. Urea formaldehyde commonly emits formaldehyde at higher rates that other formaldehyde-based resins.*

* + - * 1. Low-emitting requirements – Composite Wood in engineered wood and laminate flooring:

Composite wood products including hardwood plywood, medium-density fiberboard, and particleboard must comply with TSCA Title VI and/or California Air Resources Board ATCM.

Other Composite wood products shall be documented to have no added urea formaldehyde (NAUF) resins.

Preference will be given for products which meet the TSCA Title VI or California Air Resources Board ATCM requirements for ultra-low-emitting formaldehyde (ULEF) resins or no added formaldehyde (NAF) resins.

* + - * 1. Certified Wood: Wood shall be certified as "FSC Pure" or "FSC Mixed Credit" according to FSC STD-01-00 and FSC STD-40-004.

*Some antimicrobials may be necessary as preservatives, but these merely protect the product from degradation and do not provide a health benefit. Products marketed as being “antimicrobial” and having a health benefit may contain additional antimicrobials beyond those needed for preservation. These products have not been shown to provide any actual health benefit. Added antimicrobials, which are often hazardous, can migrate out of products and end up in the dust of interior spaces where people can become exposed.*

* + - * 1. Additional Restrictions and Requirements:

Products must not be marketed as antimicrobial and claim or imply a health benefit.

Provide products manufactured and extracted within 100 miles of the project site whenever possible.

* + - 1. INTERIOR ADHESIVES
         1. VOC Limits

The volatile organic compound (VOC) content of all field-applied adhesives, adhesive bonding primers, and adhesive primers used on the interior of this Project shall not exceed the limits defined in Rule 1168 - "Adhesive and Sealant Applications" of the South Coast Air Quality Management District (SCAQMD), of the State of California, with a rule amendment date of October 6, 2017.

The VOC limits defined by SCAQMD are measured in grams per liter (g/L), less water and less exempt compounds.

General: For specified building construction related applications, the allowable VOC content is as follows:

Architectural Applications:

Wood Flooring Adhesive 100

Subfloor adhesive 50

Multipurpose construction adhesive 70

Specialty Applications:

Structural Wood Member Adhesive 140

Top and trim adhesive 250

Substrate Specific Applications:

Wood 30

Fiberglass 80

Other

Other adhesives 250

Adhesive bonding primers 250

Adhesive primers, or any other primers 250

* + - 1. INTERIOR SEALANTS
         1. VOC Limits

The volatile organic compound (VOC) content of all field-applied adhesives, adhesive bonding primers, and adhesive primers used on the interior of this Project shall not exceed the limits defined in Rule 1168 - "Adhesive and Sealant Applications" of the South Coast Air Quality Management District (SCAQMD), of the State of California.

The VOC limits defined by SCAQMD are as follows. All VOC limits are defined in grams per liter, less water and less exempt compounds.

General: For specified building construction related applications, the allowable VOC content is as follows:

Sealants:

Clear, Paintable, and Immediately

Water-Resistant Sealant 380

All other Architectural Sealants 50

All other Sealants 420

Sealant Primer:

Architectural - Nonporous 250

Architectural- Porous 775

Other 750

* + - 1. INTERIOR COATINGS
         1. VOC Limits

The volatile organic compound (VOC) content of all field-applied coating used on the interior of this Project shall not exceed the limits defined in Rule 1113 - "Architectural Coatings" of the South Coast Air Quality Management District (SCAQMD), of the State of California, Amended February 5, 2016.

The VOC limits defined by SCAQMD are measured in grams per liter (g/L), less water and less exempt compounds.

General: For specified building construction related applications, the allowable VOC content is as follows:

Coatings

Floor Coatings 50

Shellac

Clear 730

Pigmented 550

Stains 100

Wood Coatings:

Varnish 275

Sanding Sealers 275

Lacquer 275

Wood Conditioners 100

Wood Preservatives 350

* + - 1. WOOD FLOORING

*When wood flooring is installed unfinished and requires stains and/or topcoats to be applied within the building, volatile and sometimes flammable chemicals can be brought into the project in an uncontrolled way, exposing installers and others nearby. Prefer pre-finished wood floors so the chemically intensive finishing process takes place in a factory where pollution controls are in place and workers can be better protected.*

* + - * 1. Solid-Wood Flooring: Kiln dried to 6 to 9 percent maximum moisture content; tongue and groove and end matched; with backs channeled.

Provide FSC certified wood flooring.

Provide salvaged wood products where available.

Preference given to pre-finished flooring.

* + - * 1. Engineered-Wood Flooring: HPVA EF, complying with requirements for composite wood products.

Provide FSC certified wood flooring and composite wood products.

Provide salvaged wood products where available.

Preference given to pre-finished flooring.

*Below are manufacturers of products that met the HomeFree healthier material guidance at the time the HomeFree Specifications were created. Products were determined to meet our requirements using publicly available information, manufacturer provided information, or a combination of the two. These products are included for illustrative purposes, and their inclusion is not an endorsement or certification of the products.*

*At the time the HomeFree Specifications were created, none of these manufacturers offered laminate products with a Health Product Declaration (HPD) or Declare Label.*

* + - * 1. Laminate Wood Flooring: Flooring consisting of a photographic image covered with a protective finish, adhered to a composite wood base layer and a moisture barrier backing.

Provide products by one of the following manufacturers:

Mannington Flooring

Mohawk Residential Flooring

Pergo Flooring

Shaw Floors

TORLYS

Inhaus

* + - 1. WOOD FLOORING FINISHING SYSTEM
         1. Waterborne Polyurethane finish system.

1. EXECUTION
   * + 1. INSTALLATION

*Avoiding adhesives can keep hazardous chemicals out of interior spaces and supports the future recycling of flooring because adhesives make some materials unrecyclable. If nails or staples can’t be used, interlocking tiles and peel and stick adhesives are better options than most wet-applied adhesives.*

* + - * 1. Solid-Wood Flooring: Blind nail or staple flooring to substrate.
        2. Engineered-Wood Flooring: Nail or staple.
        3. Laminate: Floating or Peel and stick adhesive.

END OF SECTION

09 65 00 Resilient Flooring

*(Green, Light Green, Yellow, or Orange on the* [*HomeFree Hazard Spectrum*](https://homefree.healthybuilding.net/products/5-flooring-products-hazard-spectrum)*)*

SECTION 09 6500

RESILIENT FLOORING

*The average person spends up to 90% of their time indoors. Most people think that chemicals used in building products are strictly regulated or tested for their impacts on human health, but that is not the case. In fact, it is difficult to get clear and reliable information about product ingredients and their potential health impacts. Buildings, both old and new, can contain chemicals of concern. From lead poisoning to asthma, our health can be impacted by the materials used in our buildings. This section includes requirements that align with the healthier material guidance of Healthy Building Network (HBN)'s HomeFree, to help ensure that less toxic products are used. See the HomeFree website for more information: https://homefree.healthybuilding.net/.*

1. GENERAL
   * + 1. REFERENCE STANDARDS
          1. General: Comply with the applicable provisions of the referenced standards except as modified by governing codes and the Contract Documents. Where a recommendation or suggestion occurs in the referenced standards, such recommendation or suggestion shall be considered mandatory. In the event of conflict of referenced standards and this specification or within the standards themselves, the more stringent standard or requirement shall govern.

Rule 1168 - "Adhesive and Sealant Applications", South Coast Air Quality Management District (SCAQMD), State of California <http://www.aqmd.gov/docs/default-source/rule-book/reg-xi/rule-1168.pdf>

* + - 1. ACTION SUBMITTALS
         1. Sustainable Design Submittals:

Product Data:

For flooring products indicating compliance with General Emissions Evaluation.

For adhesives and sealants indicating compliance with General Emissions Evaluation and VOC Content Requirements for Wet Applied Products.

For flooring products indicating compliance with Flooring Content Restrictions.

For recycled content, indicating post-consumer and pre-consumer recycled content.

Building Product Disclosure Requirements: provide the following information:

Material Ingredients Documentation demonstrating the chemical inventory of the product to at least 0.1% (1,000 ppm) with all contents characterized and screened.

Product Certificates: For regional materials, indicating location of material manufacturer and point of extraction, harvest, or recovery for each raw material. Include distance to Project.

1. PRODUCTS
   * + 1. FLOORING, GENERAL

*HBN recommends preferring products that have documentation publicly disclosing their chemical content.* *We believe you have a right to know what’s in the materials in your buildings. As do all of those responsible for the design, construction, and operation of buildings have a right to know, and a responsibility to avoid, known and potential hazards to building occupants, workers, and fenceline communities. More information on the importance of content transparency can be found* [*here*](https://homefree.healthybuilding.net/transparency)*.*

*A threshold of 1,000 parts per million (ppm) or 0.1% means that any chemical present in the product at 0.1% or greater, must be listed on the disclosure. A threshold of 100 ppm or 0.01% means that any chemical present in the product at 0.01% or greater must be listed on the disclosure. The 100 ppm threshold provides greater resolution, giving a more complete picture of the product content. An HPD that is "characterized" and "screened" will be marked as such on the first page. In order to be designated as characterized, the role and weight percent of all content present at or above the indicated threshold, must be provided. To be considered screened, that content must be screened against the HPD priority hazard lists for any know hazards. If "identified" is marked, that means that additionally, all substances are disclosed by name and identifier (no chemical identities are held proprietary). A Declare Label that is designated as "Red List Free" or "Declared" is considered to be characterized and screened to a 100 ppm threshold. A Declare Label with a status of "LBC Red List Approved" that has a minimum disclosure threshold of 99.9% of the product content is considered characterized and screened to 1,000 ppm. This means that the sum of undisclosed proprietary content cannot exceed 0.1%. The % Disclosed is listed on the Declare Label. While products that have disclosures to 100 ppm, with all content characterized, screened, and identified, and verified through HPD or Declare's third-party verification program are most preferred, we acknowledge that this is a very high bar to reach and encourage preference for products that have disclosures along the continuum.*

* + - * 1. Provide Material Ingredients Documentation demonstrating the chemical inventory of the product to at least 0.1% (1,000 ppm) with all content characterized and screened. Documentation demonstrating the chemical inventory to at least 0.01% (100 ppm) with all content characterized, screened, and identified, and/or verified through the HPD or Declare Label third-party verification program is preferred.

For each product, provide copies of all available current product disclosures from the following list:

Health Product Declaration (HPD).

Declare Label.

***The CDPH emission certification*** *may help weed out some of the worst actors in terms of VOC emissions from floors, but it is important to keep in mind that this testing only covers a small number of volatile chemicals. Many other volatile, semi-volatile, or nonvolatile hazardous chemicals may still be found in products certified to this standard.* ***Don’t rely on this information alone to identify safer products.*** *Programs that certify the CDPH Standard Method or a variation of the standard include the industry certifications, Resilient Floor Covering Institute FloorScore and Carpet & Rug Institute Green Label Plus, and independent certifications GreenGuard Gold, SCS Indoor Advantage Gold, and Berkeley Analytical Clear Chem. HBN recommends you ask for products certified to the most protective, residential scenario.*

* + - * 1. Low-emitting requirements – Flooring

General Emissions Evaluation: Products must be tested and determined compliant in accordance with the California Department of Public Health (CDPH) Standard Method v1.1–2010 or the most current version, using the applicable exposure scenario.

Residential scenario is preferred.

Preference will be given to hard surface flooring that complies with the testing and product requirements of the FloorScore Standard.

* + - * 1. Low-emitting requirements – Adhesives and Sealants:

General Emissions Evaluation: Preference will be given to products that are tested and determined compliant in accordance with the California Department of Public Health (CDPH) Standard Method v1.1–2010 or the most current version, using the applicable exposure scenario.

Residential scenario is preferred.

VOC Content Requirements for Wet Applied Products: All adhesives and sealants wet-applied on site must meet the applicable chemical content requirements of SCAQMD Rule 1168, amended October 26, 2017, Adhesive and Sealant Applications, as analyzed by the methods specified in Rule 1168. The provisions of SCAQMD Rule 1168 do not apply to adhesives and sealants subject to state or federal consumer product VOC regulations.

Methylene chloride and perchloroethylene shall not be intentionally added in adhesives, or sealants.

Do not use adhesives that contain urea formaldehyde.

*Tire-derived recycled rubber, also known as crumb rubber, comes from recycled tire scrap and can include significant hazardous content, including lead. If using rubber flooring, prefer products that don’t contain tire-derived recycled rubber or recycled content whose source is unknown or not identified.*

*Because of the toxic processes required to make polyvinyl chloride (PVC), commonly known as vinyl, and the toxic pollution created when it is disposed of, vinyl floors of any kind are not a preferable material.*

* + - * 1. Flooring Content Restrictions:

Rubber floors shall not be made from tire-derived recycled rubber or recycled content of unknown source.

Resilient floor shall not contain PVC.

* + - * 1. Additional Restrictions and Requirements:

Provide products manufactured and extracted within 100 miles of the project site whenever possible.

* + - 1. INTERIOR ADHESIVES
         1. VOC Limits

The volatile organic compound (VOC) content of all field-applied adhesives, adhesive bonding primers, and adhesive primers used on the interior of this Project shall not exceed the limits defined in Rule 1168 - "Adhesive and Sealant Applications" of the South Coast Air Quality Management District (SCAQMD), of the State of California, with a rule amendment date of October 6, 2017.

The VOC limits defined by SCAQMD are measured in grams per liter (g/L), less water and less exempt compounds.

General: For specified building construction related applications, the allowable VOC content is as follows:

Architectural Applications:

Rubber Floor Adhesive 60

All Other Indoor Floor Covering Adhesives 50

Subfloor adhesive 50

Cove base adhesive 50

Multipurpose construction adhesive 70

Substrate Specific Applications:

Wood 30

Fiberglass 80

Other

Other adhesives 250

Adhesive bonding primers 250

Adhesive primers, or any other primers 250

* + - 1. INTERIOR SEALANTS
         1. VOC Limits

The volatile organic compound (VOC) content of all field-applied adhesives, adhesive bonding primers, and adhesive primers used on the interior of this Project shall not exceed the limits defined in Rule 1168 - "Adhesive and Sealant Applications" of the South Coast Air Quality Management District (SCAQMD), of the State of California.

The VOC limits defined by SCAQMD are as follows. All VOC limits are defined in grams per liter, less water and less exempt compounds.

General: For specified building construction related applications, the allowable VOC content is as follows:

Sealants:

Clear, Paintable, and Immediately

Water-Resistant Sealant 380

All other Architectural Sealants 50

All other Sealants 420

Sealant Primer:

Architectural - Nonporous 250

Architectural - Porous 775

Other 750

* + - 1. PRODUCTS

*Below are example products that met the HomeFree healthier material guidance at the time the HomeFree Specifications were created. Products were determined to meet our requirements using publicly available information, manufacturer provided information, or a combination of the two. These products are included for illustrative purposes, and their inclusion is not an endorsement or certification of the products.*

*Products in* ***bold*** *had one of the following material ingredient transparency labels with content characterized and screened to at least 1,000 ppm at the time the HomeFree Specifications were created:*

* *Health Product Declarations (HPDs) — HPDs use a standard reporting format for disclosing a product’s contents and associated health hazards. They are an inventory tool and do not provide explicit judgement on safer products. Products that currently comply with this standard can be found* [*here*](https://hpdrepository.hpd-collaborative.org/Pages/Results.aspx)*.*
* *Declare Labels — Declare Labels disclose what a product is made of, where it comes from, and where it goes at the end of its life. Declare Labels also indicate whether products contain chemicals on the Living Building Challenge Red List. Products that currently comply with this standard can be found* [*here*](https://living-future.org/declare/)*.*
  + - * 1. Products: Subject to compliance with requirements, provide one of the following products:

Linoleum (Green on the Hazard Spectrum):

**Marmoleum by Forbo**

**Linoleum with Neocare by Gerflor**

Linoleum Harmonium XF2 by Tarkett

Cork Floors (pre-finished - Light Green on the Hazard Spectrum):

**Eco-Clicks Cork or Mediterra 2.0 by Capri Collections**

**Praxis Solid Cork Flooring by Zandur**

Polyurethane flooring (Orange on the Hazard Spectrum):

**PURline by Windmoller GmbH**

**Biobased Resilient Innate and In Tandem by Shaw/Patcraft**

Rubber Flooring (made without tire-derived crumb rubber - Orange on the Hazard Spectrum):

**AB Pure by American Biltrite**

Rubber tile by Johnsonite/Tarkett

**True by Mohawk**

**Harmoni by Mondo**

**Norament Standard by Interface**

Other PVC-free Resilient Flooring (Yellow on the Hazard Spectrum):

**Zero by Kahrs Oy**

**Pivot Point by Mohawk**

**Striations and Migrations BBT by Armstrong**

* + - 1. INSTALLATION MATERIALS

*Avoiding adhesives can keep hazardous chemicals out of interior spaces and supports the future recycling of flooring because adhesives make some materials unrecyclable. If nails or staples can’t be used, interlocking tiles and peel and stick adhesives are better options than most wet-applied adhesives.*

*When using wet-applied adhesives, acrylic adhesives are preferred over polyurethane or epoxy adhesives. Using adhesive products with a Cradle to Cradle Silver level or higher product certification or material health certification should ensure avoidance of polyurethane and epoxy materials, and can help avoid additional hazardous content.*

* + - * 1. Adhesives: Where wet-applied adhesive installation is required, use acrylic, water-resistant type to suit flooring and substrate conditions indicated.

Provide products that carry certification at Silver lever or higher with one of the following:

Cradle to Cradle Product Certification

Cradle to Cradle Material Health Certification

* + - * 1. Where available with listed products, give preference to peel-and-stick installation methods.

1. EXECUTION
   * + 1. INSTALLATION
          1. Install utilizing floating method, either loose lay or with lock-together flooring product where possible.

END OF SECTION

09 68 00 Carpeting

*(Orange on the* [*HomeFree Hazard Spectrum*](https://homefree.healthybuilding.net/products/5-flooring-products-hazard-spectrum)*)*

SECTION 09 6800

CARPETING

*The average person spends up to 90% of their time indoors. Most people think that chemicals used in building products are strictly regulated or tested for their impacts on human health, but that is not the case. In fact, it is difficult to get clear and reliable information about product ingredients and their potential health impacts. Buildings, both old and new, can contain chemicals of concern. From lead poisoning to asthma, our health can be impacted by the materials used in our buildings. This section includes requirements that align with the healthier material guidance of Healthy Building Network (HBN)'s HomeFree, to help ensure that less toxic products are used. See the HomeFree website for more information: https://homefree.healthybuilding.net/.*

1. GENERAL
   * + 1. REFERENCE STANDARDS
          1. General: Comply with the applicable provisions of the referenced standards except as modified by governing codes and the Contract Documents. Where a recommendation or suggestion occurs in the referenced standards, such recommendation or suggestion shall be considered mandatory. In the event of conflict of referenced standards and this specification or within the standards themselves, the more stringent standard or requirement shall govern.

Rule 1168 - "Adhesive and Sealant Applications", South Coast Air Quality Management District (SCAQMD), State of California <http://www.aqmd.gov/docs/default-source/rule-book/reg-xi/rule-1168.pdf>

* + - 1. ACTION SUBMITTALS
         1. Sustainable Design Submittals:

Product Data:

For flooring products indicating compliance with General Emissions Evaluation.

For adhesives and sealants indicating compliance with General Emissions Evaluation and VOC Content Requirements for Wet Applied Products.

For flooring products indicating compliance with Flooring Content Restrictions.

For recycled content, indicating post-consumer and pre-consumer recycled content.

Building Product Disclosure Requirements: provide the following information:

Material Ingredients Documentation demonstrating the chemical inventory of the product to at least 0.1% (1,000 ppm) with all content characterized and screened.

Product Certificates: For regional materials, indicating location of material manufacturer and point of extraction, harvest, or recovery for each raw material. Include distance to Project.

1. PRODUCTS
   * + 1. PERFORMANCE REQUIREMENTS

*HBN recommends preferring products that have documentation publicly disclosing their chemical content.* *We believe you have a right to know what’s in the materials in your buildings. As do all of those responsible for the design, construction, and operation of buildings have a right to know, and a responsibility to avoid, known and potential hazards to building occupants, workers, and fenceline communities. More information on the importance of content transparency can be found* [*here*](https://homefree.healthybuilding.net/transparency)*.*

*A threshold of 1,000 parts per million (ppm) or 0.1% means that any chemical present in the product at 0.1% or greater, must be listed on the disclosure. A threshold of 100 ppm or 0.01% means that any chemical present in the product at 0.01% or greater must be listed on the disclosure. The 100 ppm threshold provides greater resolution, giving a more complete picture of the product content. An HPD that is "characterized" and "screened" will be marked as such on the first page. In order to be designated as characterized, the role and weight percent of all content present at or above the indicated threshold, must be provided. To be considered screened, that content must be screened against the HPD priority hazard lists for any know hazards. If "identified" is marked, that means that additionally, all substances are disclosed by name and identifier (no chemical identities are held proprietary). A Declare Label that is designated as "Red List Free" or "Declared" is considered to be characterized and screened to a 100 ppm threshold. A Declare Label with a status of "LBC Red List Approved" that has a minimum disclosure threshold of 99.9% of the product content is considered characterized and screened to 1,000 ppm. This means that the sum of undisclosed proprietary content cannot exceed 0.1%. The % Disclosed is listed on the Declare Label. While products that have disclosures to 100 ppm, with all content characterized, screened, and identified, and verified through HPD or Declare's third-party verification program are most preferred, we acknowledge that this is a very high bar to reach and encourage preference for products that have disclosures along the continuum.*

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For each product, provide copies of all available current product disclosures from the following list:

Health Product Declaration (HPD).

Declare Label.

***The CDPH emission certification*** *may help weed out some of the worst actors in terms of VOC emissions from floors, but it is important to keep in mind that this testing only covers a small number of volatile chemicals. Many other volatile, semi-volatile, or nonvolatile hazardous chemicals may still be found in products certified to this standard.* ***Don’t rely on this information alone to identify safer products.*** *Programs that certify the CDPH Standard Method or a variation of the standard include the industry certifications, Resilient Floor Covering Institute FloorScore and Carpet & Rug Institute Green Label Plus, and independent certifications GreenGuard Gold, SCS Indoor Advantage Gold, and Berkeley Analytical Clear Chem. HBN recommends you ask for products certified to the most protective, residential scenario.*

* + - * 1. Low-emitting requirements – Flooring

General Emissions Evaluation: Products must be tested and determined compliant in accordance with the California Department of Public Health (CDPH) Standard Method v1.1–2010 or the most current version, using the applicable exposure scenario.

Residential scenario is preferred.

Preference will be given to c[arpet and cushion that comply](http://www.arcomnet.com/sustainable_design.aspx?topic=207) with testing and product requirements of CRI's "Green Label Plus" testing program.

* + - * 1. Additional Low-emitting requirements – Adhesives and Sealants:

General Emissions Evaluation: Preference will be given to products that are tested and determined compliant in accordance with the California Department of Public Health (CDPH) Standard Method v1.1–2010 or the most current version, using the applicable exposure scenario.

Residential scenario is preferred.

VOC Content Requirements for Wet Applied Products: All adhesives and sealants wet-applied on site must meet the applicable chemical content requirements of SCAQMD Rule 1168, amended October 26, 2017, Adhesive and Sealant Applications, as analyzed by the methods specified in Rule 1168. The provisions of SCAQMD Rule 1168 do not apply to adhesives and sealants subject to state or federal consumer product VOC regulations.

Methylene chloride and perchloroethylene shall not be intentionally added in adhesives, or sealants.

Do not use adhesives that contain urea formaldehyde.

*Per- and polyfluoroalkyl substances (PFAS), known for their water and stain repellency, are commonly used surface treatments for carpets. Health hazard information is not available for all the chemicals within this large group, but PFAS as a class are identified as chemicals of concern. They are all expected to persist in the environment, and some are known to be toxic and build up in the body.*

*PVC (also known as vinyl) and polyurethane backings have significant life cycle concerns and often contain hazardous additives.*

*Fly ash is a waste product generated at coal-fired power plants and is often considered to be pre-consumer recycled content. Many carpets, tiles in particular, contain fly ash as a filler in the backing, and it can make up over 40% of the product’s weight. This is a concern because fly ash contains toxic heavy metals including mercury, arsenic, and lead.*

* + - * 1. Flooring Content Restrictions:

All carpeting must be free of per- and polyfluoroalkyl substances (PFAS).  This means products do not contain intentionally added PFAS (at any level) or unintentionally added/residual PFAS (above 100 ppm) using, at a minimum, the list of CAS#s in Pharos: <https://pharosproject.net/chemicals/2072164#properties-panel>.

All carpeting must be free of PVC or polyurethane backing.

All carpeting must be free of fly ash.

*Some antimicrobials may be necessary as preservatives, but these merely protect the product from degradation and do not provide a health benefit. Products marketed as being “antimicrobial” and having a health benefit may contain additional antimicrobials beyond those needed for preservation. These products have not been shown to provide any actual health benefit. Added antimicrobials, which are often hazardous, can migrate out of products and end up in the dust of interior spaces where people can become exposed.*

* + - * 1. Additional Restrictions and Requirements:

Products must not be marketed as antimicrobial and claim or imply a health benefit.

Provide products manufactured and extracted within 100 miles of the project site whenever possible.

* + - 1. INTERIOR ADHESIVES
         1. VOC Limits

The volatile organic compound (VOC) content of all field-applied adhesives, adhesive bonding primers, and adhesive primers used on the interior of this Project shall not exceed the limits defined in Rule 1168 - "Adhesive and Sealant Applications" of the South Coast Air Quality Management District (SCAQMD), of the State of California, with a rule amendment date of October 6, 2017.

The VOC limits defined by SCAQMD are measured in grams per liter (g/L), less water and less exempt compounds.

General: For specified building construction related applications, the allowable VOC content is as follows:

Architectural Applications:

Indoor carpet adhesive 50

Carpet pad adhesive 50

Subfloor adhesive 50

Cove base adhesive 50

Multipurpose construction adhesive 70

Substrate Specific Applications:

Porous material (except wood) 50

Wood 30

Other

Other adhesives 250

Adhesive bonding primers 250

Adhesive primers, or any other primers 250

* + - 1. PRODUCTS GENERAL

*Below are example products that met the HomeFree healthier material guidance at the time the HomeFree Specifications were created. Products were determined to meet our requirements using publicly available information, manufacturer provided information, or a combination of the two. These products are included for illustrative purposes, and their inclusion is not an endorsement or certification of the products.*

*Products in* ***bold*** *had one of the following material ingredient transparency labels with content characterized and screened to at least 1,000 ppm at the time the HomeFree Specifications were created:*

* *Health Product Declarations (HPDs) — HPDs use a standard reporting format for disclosing a product’s contents and associated health hazards. They are an inventory tool and do not provide explicit judgement on safer products. Products that currently comply with this standard can be found* [*here*](https://hpdrepository.hpd-collaborative.org/Pages/Results.aspx)*.*
* *Declare Labels — Declare Labels disclose what a product is made of, where it comes from, and where it goes at the end of its life. Declare Labels also indicate whether products contain chemicals on the Living Building Challenge Red List. Products that currently comply with this standard can be found* [*here*](https://living-future.org/declare/)*.*
  + - 1. CARPET TILE
         1. Products: Subject to compliance with requirements, provide one of the following products:

**Adaptable, Academic View, Hidden Dimension or Urban Transit by Mohawk.**

**Color Play or Blox by Shaw/Patcraft.**

Ethos Tile by Tarkett.

* + - 1. SHEET CARPETING
         1. Products: Subject to compliance with requirements, provide one of the following products:

Sketch Pad, Whip Stitch, or Suburbia by Mohawk.

Tailored Performer, Enduring Solid, Presidio Tweed, or Venture Tonal by Shaw/Patcraft.

* + - 1. CARPET CUSHION

*Carpet padding made with recycled foam content can contain hazardous flame retardants. More information can be found in HBN’s*[*Optimizing Recycling report brief*](http://healthybuilding.net/uploads/files/fpf-brief-for-homefree.pdf)*.*

* + - * 1. Give preference to cushions with no post-consumer recycled foam.
      1. INSTALLATION MATERIALS

*Avoiding adhesives can keep hazardous chemicals out of interior spaces and supports the future recycling of flooring because adhesives make some materials unrecyclable. If nails or staples can’t be used, interlocking tiles and peel and stick adhesives are better options than most wet-applied adhesives.*

*When using wet-applied adhesives, acrylic adhesives are preferred over polyurethane or epoxy adhesives. Using adhesive products with a Cradle to Cradle Silver level or higher product certification or material health certification should ensure avoidance of polyurethane and epoxy materials, and can help avoid additional hazardous content.*

* + - * 1. Pressure sensitive adhesive pads.
        2. Tackless Carpet Stripping: Water-resistant plywood, in strips as required to match cushion thickness and that comply with the Carpet and Rug Institute's CRI 104 or 105, whichever is applicable to product used.
        3. Adhesives: Where wet-applied adhesive installation is required, use acrylic, water-resistant type to suit flooring and substrate conditions indicated.

Provide products that carry certification at Silver lever or higher with one of the following:

Cradle to Cradle Product Certification

Cradle to Cradle Material Health Certification.

1. EXECUTION
   * + 1. INSTALLATION
          1. Carpet Tile: Install utilizing loose lay or pressure sensitive adhesive pads where possible.
          2. Carpeting: Install using stretch in installation.

END OF SECTION