

# JOHNSONITE RUBBER TILE FLOORING

## Defiant™

## Installation Instructions

### INTRODUCTION

These instructions are written as a guide to be used by professional installers when installing Tarkett products. These instructions, combined with our adhesives and flooring products, create a system. Utilizing this system will ease the installation process and provide the customer with a completed product that will perform to its intended purpose. Always visit [www.tarkettna.com](http://www.tarkettna.com) for the most current installation and maintenance instructions. Technical videos and tip sheets are also available. Contact Tarkett Technical Services at (800)-899-8916 ext. 9297 with any questions.

### HANDLING AND STORAGE

1. All Tarkett products must be stored in an indoor, climate controlled space and be protected from the elements. Temperature must be maintained between 65°F (18.3°C) and 85°F (29.4°C) with a relative humidity between 40% and 60%.
2. All cartons must be stored on a dry, flat, level surface. Cartons must be carefully stacked squarely on top of one another and never be stored on edge. Take caution not to over stack the cartons and never double stack pallets. Always protect carton corners from damage by tow-motors and other traffic.
3. Tarkett flooring and adhesives must be site conditioned at room temperature for 48 hours prior to, during, and after installation. Room temperature must be maintained between 65°F (18.3°C) and 85°F (29.4°C) and the ambient relative humidity must be between 40% and 60%. We strongly recommend the permanent HVAC system be fully operating. **NOTE:** If a system other than the permanent HVAC source is utilized, it must provide proper control of both temperature and humidity to recommended or specific levels for the appropriate time duration as stated above.
4. Once the installation is completed, the service temperature of the space must never fall below 55°F (12.8°C).
5. In areas that are exposed to intense or direct sunlight, the product must be protected during the conditioning, installation, and adhesive curing periods, by covering the light source.
6. Tarkett products are not recommended for exterior use. Exposure to excessive UV rays can result in fading, degradation, and/or color variation.
7. The highest quality of materials and workmanship is employed in the manufacture of Tarkett Flooring and careful inspection is made before shipment. A quality installation is the responsibility of the installer. It is the installer's responsibility to verify the accuracy of the order and to ensure the materials are checked for damage, defects, and satisfactory color match. An authorized Tarkett distributor or Tarkett representative must be notified of any defects before installation proceeds. **Tarkett will not pay for labor or material costs claimed on installed materials with visual defects.**
8. Tarkett cannot accept responsibility for any loss or damage that may result due to processing or working conditions and/or workmanship outside our control.
9. Users are advised to confirm the suitability of this product by their own tests.

### GENERAL SUBFLOOR PREPERATION

1. **All subfloors** must be permanently dry, clean, smooth, and structurally sound. The surface must be free of all dust, loose particles, solvents, paint, grease, oil, wax, alkali, sealing/curing compounds, old adhesive, and any other foreign material, which could affect the installation and adhesive bond to the substrate. Permanent and non-permanent markers, pens, crayons, paint, or similar marking tools used to mark the substrate or the back of the resilient flooring material will cause migratory staining. Subfloor contamination or markings that bleed through the flooring material causing discoloration or staining are excluded from the Tarkett Limited Warranty. All substrate contaminants must be mechanically removed prior to the installation of the flooring material. **NOTE: Do not use liquid solvents or adhesive removers.**

**Caution: Do not use oil based sweeping compounds.**

Fill all depressions, cracks, and other surface irregularities with a good quality Portland cement based underlayment patching compound appropriate for this purpose.

**Tarkett does not recommend installing over existing resilient floors.** All existing flooring and adhesives must be mechanically removed prior to installing the new flooring material – **Do not use chemical adhesive removers or solvents.** Refer to the Resilient Floor Covering Institute (RFCI), *Recommended Work Practices for Removal of Existing Resilient Flooring* for best work practices.

**Caution:** Some resilient flooring products and adhesives contain "asbestos fibers" and special handling of this material is required.

2. **Concrete subfloors** must be constructed as recommended by the American Concrete Institute's ACI 302.2 Guide for Concrete Slabs that Receive Moisture-Sensitive Flooring Materials and prepared in

accordance with ASTM F 710 Standard Practice for Preparing Concrete Floors to Receive Resilient Flooring.

**Do not install** Tarkett flooring over expansion joints, control joints, or other moving joints in the substrate. These joints must be respected and should not be filled with products that are not intended for that purpose. Contact an expansion joint cover manufacturer to meet specific flooring conditions.

**All concrete subfloors** must be tested for moisture and pH (alkalinity):

Moisture testing must be conducted in accordance with ASTM F 2170 Standard Test Method for Determining Relative Humidity in Concrete Floor Slabs Using *in situ* Probes or ASTM F 1869 Standard Test Method for Measuring Moisture Vapor Emission Rate of Concrete Subfloor Using Anhydrous Calcium Chloride. Following ASTM F 2659 Preliminary Evaluation of Comparative Moisture Condition of Concrete, Gypsum Cement and Other Floor Slabs and Screeds Using a Non-destructive Electronic Moisture Meter can provide qualitative information prior to performing ASTM F 2170 or ASTM F 1869.

Acceptable moisture limits can be found in the adhesive section below, on the adhesive label, and in the adhesive specifications online. Test results must not exceed the limits of the adhesive.

If the tests results exceed the limitations, the installation must not proceed until the problem has been corrected. Tarkett does not recommend or warrant any particular product or procedure for the remediation of high moisture in concrete substrates. There are several companies that manufacture products suitable for moisture remediation. We suggest you refer to the current ASTM F 710 Standard Practice for Preparing Concrete Floors to Receive Resilient



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Flooring and ASTM F 3010 Standard Practice for Two Component Resin Based Membrane-Forming Moisture Mitigation Systems for Use Under Resilient Flooring Systems.

A pH test for alkalinity must be conducted. Acceptable pH range of the adhesive can be found in the adhesive section below, on the adhesive label, and in the adhesive specifications online. Results must not exceed the limits of the adhesive. If the test results are not within the acceptable range, the installation must not proceed until the problem has been corrected.

- 3. Wood subfloors** must have a minimum 18" (47 cm) of cross-ventilated space between the bottom of the joist and ground. Exposed earth crawl spaces must be sealed with a polyethylene moisture barrier.

Subfloors must meet local and national building codes. Trade associations, such as the APA -The Engineered Wood Association, offer structural guidelines for meeting various code requirements. Refer to ASTM F 1482 Standard Practice for Installation and Preparation of Panel Type Underlayments to receive Resilient Flooring, for additional information.

**Single Floor Wood Construction and Tongue and Groove subfloors** must be covered with 1/4" (6.4 mm) or 1/2" (13 mm) APA approved underlayment plywood. Use 1/4" (6.4 mm) thick underlayment panels for boards with a face width of 3" (76 mm) or less. For boards wider than 3" (76 mm) face width use 1/2" (13 mm) underlayment panels.

Countersink nail heads and fill depressions, joints, cracks, gouges, and chipped edges with a good quality Portland cement based patching compound designed for this purpose.

**Do not install over OSB (Oriented Strand Board), particle board, chipboard, lauan or composite type underlayments.**

- 4. Terrazzo and Ceramic floor** surface must be thoroughly sanded to remove all glaze and waxes. Remove or replace all loose tiles and clean the grout lines. Use a good quality Portland cement based leveling compound to fill all grout lines and other depressions.
- 5. Steel floor** surface must be mechanically abraded to assist with the adhesive bond. The floor must be cleaned to remove all dirt, rust and other contaminants that could affect the adhesive or the bond of the flooring material to the substrate. Surface must be primed with a rust inhibitor. It is important to follow the non-porous installation instructions when installing over metal.
- 6. Concrete floors equipped with a radiant heating system:** Turn the heat down to 65°F (18.3°C) for at least 48 hours before installation. Heat may be gradually returned to operating temperature 48 hours after installation. Surface temperature must not exceed 85°F (29.4°).
- 7. An adhesive bond test** must be performed using the actual flooring materials and adhesive to be installed. The test areas must be a minimum of 36" x 36" and remain in place for at least 72 hours and then evaluated for bond strength to the concrete.

## INSTALLATION

- 1. Adhesive Application:** See adhesive chart below and follow adhesive label instructions for proper use.
- 2. Tile Installation Procedure:**
  - Square the area and establish reference points on substrate.
  - Lay out the tiles so that a minimum of one-half of a tile forms the border along the perimeter.
  - Apply the adhesive to the substrate and allow proper open time.  
**Open and working times are dependent on the ambient temperature, humidity, air movement, and substrate porosity and temperature. It is the installer's responsibility to modify the open and working time for jobsite conditions.**
  - Use established reference points and install the flooring.
  - Lay tiles with the directional arrow (found on back) pointing in the same direction.
  - Patterned tiles may be 'quarter turned' to create a checkerboard pattern.
  - Tiles should be lightly butted together when placing the flooring into the adhesive.
  - Do not force tiles together creating a ledge condition at the seams and corners. Sliding tiles will result in forcing the adhesive out between the seams.
  - When using 975 Two-Part Urethane or 996 Two-Part Epoxy Adhesive the installer **MUST** work off the flooring.
  - Periodically, lift the corner of an installed tile to ensure proper transfer of adhesive.
  - Roll floor in both directions with a 100 pound three-section roller. Use a small hand roller in areas that cannot be reached with a large roller.
  - Inspect the floor surface, especially seams, and remove any adhesive on the surface.

### 3. Post Installation Floor Protection:

We recommend that the installation of new flooring material not be performed until all the other trades have completed their work. Proper precautions must be taken during and after the installation process to avoid damage to the newly installed flooring.

#### a. Immediately after installation:

- All traffic must be restricted for a minimum of 24 hours after installation. The floor may receive immediate traffic when installing with SpraySmart adhesive.
- All heavy traffic, rolling loads, pallet jacks, and furniture or appliance placement must be restricted for a minimum of 72 hours after installation.
- Flooring must be swept or vacuumed to remove loose dirt and grit prior to the application of proper floor protection. (Do not trap dirt and grit under floor protection.)
- Apply floor protection suitable for construction foot traffic such as: undyed heavy Kraft paper, Ram Board, 1/8" Masonite panels, or similar product designed for resilient floor protection.

#### b. 72 hours after installation:

- Areas that will receive heavy traffic, rolling loads, pallet jacks, and furniture or appliance placement must be protected with 1/4" thick Masonite or similar wood panels.
- The floor must be swept or vacuumed prior to the placement of the floor protection panels. (Lightly damp mop if necessary)

**Note:** Do not use plastic or other non-porous materials to protect the newly installed flooring that could prevent the adhesive from drying properly.

## ADHESIVE CLEAN UP

Excess adhesive should be removed during the installation process.

### 965 Flooring and Tread Adhesive

- Use a clean white cloth dampened with water to remove wet adhesive from floor covering and tools.
- Dried adhesive may require the use of denatured alcohol applied to a clean white cloth. (Follow manufacturer's precautions when using denatured alcohol.)

### 975 Two-Part Urethane Adhesive

- Before the adhesive sets, remove excess adhesive from flooring and clean tools with denatured alcohol applied to a clean white cloth. (Follow manufacturer's precautions when using denatured alcohol.)
- Do not allow adhesive to dry on the flooring surface.
- Removing dried adhesive may cause irreparable damage to the flooring surface.

### 996 Two-Part Epoxy Adhesive

- ◆ Before the adhesive sets, remove excess adhesive from flooring and clean tools with denatured alcohol applied to a clean white cloth. (Follow manufacturer's precautions when using denatured alcohol.)
- ◆ Do not allow adhesive to dry on the flooring surface.
- ◆ Removing dried adhesive may cause irreparable damage to the flooring surface.

### 901 SpraySmart Resilient Flooring Adhesive

- ◆ Use a clean white cloth dampened with water to remove wet adhesive from floor covering and tools.
- ◆ Dried adhesive may require the use of denatured alcohol applied to a clean white cloth. (Follow manufacturer's precautions when using denatured alcohol.)

## MAINTENANCE

1. Wait 72 hours after installation before performing initial cleaning.
2. A regular maintenance program must be started after the initial cleaning.
3. Refer to Tarkett's Maintenance Instructions for complete details.

## ADHESIVE SELECTION CHART

Products	Adhesive	Application and Coverage		Moisture / pH Limits			Notes
		Porous	Non-Porous	RH%	CaCl <sub>2</sub>	pH	
Defiant	965 Flooring and Tread Adhesive	1/16 x 1/16 x 1/16 SQ 125 – 150 sq. ft. per gallon	1/16 x 1/16 x 1/16 V 150 – 175 sq. ft. per gallon	85%	7 lbs.	9	The 965 adhesive is sensitive to substrate porosity. Determine substrate porosity and follow the adhesive label instructions regarding porous and non-porous substrate drying times prior to the installation.
Defiant	975 Two-Part Urethane Adhesive	1/16 x 1/16 x 1/16 V 150 – 175 sq. ft. per gallon	1/16 x 1/16 x 1/16 V 150 – 175 sq. ft. per gallon	85%	7 lbs.	9	For application in areas subject to heavy point loads, rolling loads, topical moisture, or temperature extremes.
Defiant	996 Two-Part Urethane Adhesive	1/16 x 1/16 x 1/16 V 150 – 175 sq. ft. per gallon	1/16 x 1/16 x 1/16 V 150 – 175 sq. ft. per gallon	85%	7 lbs.	9	For application in areas subject to heavy point loads, rolling loads, topical moisture, or temperature extremes. <b>Do not use on wood or metal substrates</b>
Defiant	901 SpraySmart Resilient Flooring Adhesive	80 sq. ft. per can 480 sq. ft. per carton	80 sq. ft. per can 480 sq. ft. per carton	85%	7 lbs	10	The SpraySmart Adhesive System is unique; instructions on can must be followed. Contact Tarkett Technical Department prior to use for training.



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