Mats Inc. Installation Instructions for Spectation™

These instructions supersede any verbal or written instructions from Mats Inc. representatives, and must be followed in order for the warranty to be in effect.

1. INTRODUCTION

1.1 Spectation™ rubber floor tile is a heavy-duty rubber flooring for indoor use only. The shock absorbing backing has backing nodules that provide exceptional deflection and resist surface indentations and moisture.
1.2 Spectation™ products shall be installed by experienced professional installers with a minimum of five years experience installing commercial resilient floor covering products.
1.3 Substrate testing and preparation shall follow industry standards (quoted herein in italics) and the following installation guidelines.
1.4 For situations that are not covered in this document, contact Mats Inc. directly.

2. MATERIAL HANDLING and STORAGE

2.1 Upon receiving floor covering, immediately remove from pallet. If packaging is damaged, mark shipping documents as such before signing for the shipment. Contact shipper and/or Mats Inc. to report damage.
2.2 Spectation™ products shall be stored flat and parallel. Do not store on edge.
2.3 If material is distorted or otherwise damaged during storage or transporting, do not install.
2.4 Protect all materials, including but not limited to, underlayment panels, adhesive, patching/leveling compounds, floor covering, welding rods, chemical welding liquid, and maintenance products from extremes of temperature during shipping. Some products must not be allowed to freeze. Store all products in original packaging in areas on the job site where they are to be installed. Areas shall be enclosed and weather tight, at 65°F- 80°F for a minimum of 48 hours prior to commencement of installation.
2.5 Inspection of Materials: Great care is taken to properly label and inspect materials for defects at all phases of manufacturing and handling by Mats Inc. However, in the rare case where the wrong product or material with visible defects is shipped, these products shall not be installed. Careful inspection of the product before installing is the responsibility of the installer. Installation of the product denotes acceptance of the product. Mats Inc. will not honor any warranty complaints for materials installed in the wrong color, with visible defects or other damage.

3. SUBSTRATE PREPARATION AND TESTING

3.1 All substrates must be sound, clean, permanently dry, smooth, and free of cracks and contaminants including paint, old adhesive, curing compounds, oil, grease, wax, asphalt, or other contaminants that could affect the adhesive bond. Any irregularities in the substrate will telegraph (show through) to the finished floor.

3.2 Concrete Substrates:

3.2.1 Follow guidelines of ASTM F710 *Standard Practice for Preparing Concrete Floors to Receive Resilient Flooring*.* ASTM F710 includes requirements for moisture testing, smoothness, flatness, concrete strength, and the presence of a vapor retarder beneath the slab.

3.2.2 *The installation of a permanent, effective moisture vapor retarder with a minimum thickness of 0.010 in. and a permeance of 0.1 y, as described in Specification ASTM E1745 is required under all on or below grade concrete floors. The use of such a moisture vapor retarder, provided its integrity has not been compromised, reduces*

*potential severity of water vapor penetration. Every concrete floor slab on or below grade to receive resilient flooring shall have a water vapor retarder (often improperly called a vapor barrier) installed directly below the slab.**

3.2.3 *Joints such as expansion joints, isolation joints, or other moving joints in concrete slabs shall not be filled with patching compound or covered with resilient flooring**

3.2.4 *All concrete slabs shall be tested for moisture, regardless of age or grade level.** The only acceptable test methods are the Calcium Chloride test (ASTM F1869) and Relative Humidity test (ASTM F2170). Moisture meters, plastic sheet test or other methods are not acceptable for determining the suitability of concrete slabs to receive resilient floor coverings. It is recommended testing be conducted by a qualified independent testing agency with experience conducting ASTM F1869 and ASTM F2170 testing. Test procedures shall be followed exactly in order for test results to be valid. Building shall be at in-service temperature and humidity, concrete shall be properly cleaned, and recommended number of tests shall be conducted. See ASTM standards for details.

3.2.5 Test methodology and test results shall be documented and provided to the flooring contractor, general contractor, owner and/or architect.

3.2.6 If concrete moisture conditions are outside the adhesive manufacturer's limits per section 5, do not commence installation. Allow the concrete to fully dry or apply a 100% solids epoxy Moisture Mitigation System. Although Mats Inc. does not endorse or prefer any manufacturer in particular, we provide the following list of leading Moisture Mitigation System manufacturers for information purposes.

Ardex: 724.203.5000 (www.ardex.com)
Bostik: 978.777.0100 (www.bostik-us.com)
Koster: 757.425.1206 (www.koesterusa.com)
Mapei: 800.426.2734 (www.mapei.us)

3.3 Wood Substrates:

3.3.1 For wood subfloor systems, ensure the subfloor conforms to the guidelines of ASTM F1482, *Guide to Wood Underlayment Products Available for Use Under Resilient Flooring*. A typical wood subfloor system includes a joist spacing of 16" on center with a double layer subfloor/underlayment system - minimum one inch thickness.

3.3.2 Wood subfloor systems shall be suspended at least 18" above the ground. Crawl spaces shall have adequate cross ventilation and a moisture barrier shall be used on the ground to reduce humidity from ground moisture.

3.3.2 Do not install Mats Inc. products over lauan panels, plywood with knots, OSB, hardwood flooring, treated wood (i.e. CCA, fire-rated plywood, or other coated wood), particle board, chipboard, flakeboard, fiberboard, Masonite™, pressboard, or other hardboard underlayment, or other uneven or unstable substrates. To cover unsuitable substrates in a wood subfloor system, use underlayment grade plywood (i.e. arctic birch panels or A/C plywood).

3.3.3 Consult ASTM F1482 or underlayment manufacturer for recommendations regarding plywood thickness, fastener selection and spacing and conditioning of panels.

3.4 Gypsum Substrates:

3.4.1 Do not install over trowel applied gypsum patching compounds.

3.4.2 Do not use poured gypsum underlayment over concrete slabs on or below grade.

3.4.3 Compressive Strength: Gypsum underlayment, *for commercial installations, shall provide a minimum of 3000 psi compressive strength after 28 days.** If the finished floor will be in a commercial use, this standard must be followed. Underlayment shall be mixed according to manufacturer's guidelines.

3.4.4 Drying Time: Manufacturer's recommended drying time and recommended testing method for dryness shall be followed. Usually a specific moisture meter is recommended by the manufacturer. The calcium chloride test method is not acceptable for testing gypsum underlayment.

3.4.5 Sealer/primer: After drying and prior to installing adhered floor coverings, Gypsum underlayment shall be sealed/primed per the underlayment manufacturer's instructions for covering the underlayment with adhered floor coverings. If the underlayment is not sealed, the surface will be overly porous and the floor covering adhesive will not work correctly.

3.4.6 Patching or "skim coating" over gypsum substrates: There are a number of patching compounds that can be used over gypsum underlayment. Follow compound manufacturer's instructions for doing so. It may be necessary to prime the gypsum substrate prior to patching.

3.5 Do not install over existing resilient floor coverings.

3.5.1 Concrete Subfloors: Existing resilient floor coverings and adhesives over concrete shall be removed and the concrete shall be repaired using a cement based patching or leveling compound per manufacturer's guidelines. All adhesive residue must be removed prior to installing. Also remove any floor patch below the adhesive layer. DO NOT USE CHEMICAL ADHESIVE REMOVERS. Black asphaltic adhesive can be scraped to a thin, well-bonded residue and encapsulated with an approved patching or leveling compound per manufacturer's instructions. All other adhesives (carpet adhesive, VCT adhesive, epoxy, etc) shall be completely removed from concrete substrates.

3.5.2 Wood Subfloors: Existing resilient floor coverings and/or adhesive residue over a wood subfloor system shall be covered with a plywood underlayment per section 3.3.

3.5.3 NOTE: If removal of existing resilient flooring or adhesive is required, follow "Recommended Work Practices for Removal of Resilient Floor Coverings" available from the Resilient Floor Covering Institute at 706-882-3833 or www.rfci.com. Also, be aware that existing floors and/or adhesives may contain asbestos or lead. Various federal, state, and local government agencies regulate the removal of lead or asbestos containing material. Review and comply with all applicable regulations.

3.6 Other substrates such as terrazzo, stone, ceramic tile, metal shall be covered with cement based underlayment compound per the manufacturer's instructions and ensure compliance with ASTM F710 for use of these compounds.

3.7 Do not install over non-compatible substrates such as asphalt, any bituminous or asphalt-saturated material, or floor coverings made of (or containing) rubber.

3.8 Radiant Heat. *Most resilient flooring can be installed on radiant heated slabs providing the maximum temperature of the surface of the slab does not exceed 85°F (29°C) under any condition of use.** To allow proper adhesion of the adhesive to the subfloor, the radiant heating system should be lowered, or turned off for at least 48 hours prior to installation of the flooring material. The room temperature must be maintained at a minimum of 65°F prior to, during and after installation for 72 hours after which the temperature of the radiant heating system can be increased. When raising the floor temperature, do so gradually so that the substrate and the flooring material can adapt to the temperature change together. A rapid change could result in bonding problems.

4. SITE CONDITIONS

4.1 Install new floor coverings after all other trades have completed their work.

4.2 Protect areas where tile shall be installed from all traffic before, during and after installation.

4.3 Extremes of temperature and humidity can affect floor covering products and can alter the proper cure of patching compounds and adhesives. Building shall be between 65°F and 80°F

for 48 hours before installation, during installation and for 48 hours after installation. Thereafter maintain minimum 55°F. Maintain relative humidity of 35% - 65%.
NOTE: If a system other than a permanent HVAC system is utilized, it must provide constant temperature and humidity control at specified levels for the specified time frame.
4.4 Maximize fresh air ventilation by using exhaust fans at point of use. Face fans out of the area where flooring is being installed, not into the area. Never force dry adhesives or patching compounds by using fans.

5. ADHESIVE AND ACCESSORIES
5.1 Spectation™ is adhered using Mapei Ultrabond G21 premium two part urethane adhesive applied with a 1/16" x 1/16" x 1/16" U-Notch Trowel. Spread rate is approximately 300 square feet per two gallon unit.

5.1.1 Although this product has a textured backing, no additional adhesive is needed beyond the recommended trowel notch requirement unless the substrate is exceedingly porous. The backing nodules with adhesive will fully adhere without filling the spaces between the nodules with adhesive.

5.2 Wear rubber gloves and avoid skin contact during mixing, application and cleaning.
5.3 Concrete test limits when installing Spectation™ rubber tile using Mapei Ultrabond G21 adhesive:

ASTM F 1869: maximum MVER of 5 lbs/1000 sq ft/24 hr
ASTM F 2170: internal relative humidity of 75% or less.

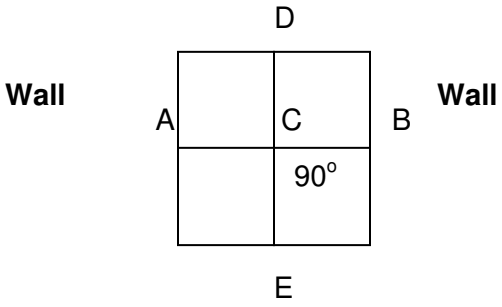
5.4 Be sure the area is ready to receive adhesive before mixing the adhesive. Once the adhesive is mixed, it must be used immediately. Since it takes time to scribe and cut the border tiles, spread the adhesive only where the full tiles will be laid.
5.5 Mix adhesive using a low speed mixer according to manufacturer's instructions, pouring all of Part B (liquid) into Part A (paste). Do not allow the mixed product to sit in the container. Immediately after mixing, apply the adhesive to the substrate. Do not spread more adhesive than can be covered with floor covering within 40 minutes. Apply the adhesive uniformly using the recommended trowel and application rate. After spreading the adhesive immediately install the flooring material into the adhesive while it is still fresh.
5.6 Install tile while staying off freshly installed tile, or by using kneeling boards over newly installed tiles. This will minimize tile shifting, adhesive displacement, adhesive oozing. Since it takes time to scribe and cut the border tiles, spread the adhesive only where the full tiles will be laid. When the field of full tiles is complete, scribe and cut the border tiles before the adhesive is spread.

6. INSTALLATION
6.1 At least 24 hours prior to installation, lay out the tiles on the subfloor under normal, occupied lighting conditions in the configuration required for installation. This step will ensure the tiles acclimate to site conditions, will assist the installer in identifying any visible defects or shade variations within the tiles and will allow the installer to move them to a less visible area. Shade variations are normal for rubber products and in no way compromise the quality of the tile.

6.2 It is the installer's responsibility to inspect the dry laid installation and notify the appropriate authority of any imperfections or irregularities prior to final adhesive installation.

6.3 Follow the layout specified by the end user, architect, or designer. Spectation™ shall be laid out in a block pattern. Do not install in a staggered (also known as ashlar or brick) pattern.

6.4 Establish center marks and determine start point to balance installation in room and have equal tile or plank widths on opposite sides of room. This can be done by dry laying tiles and marking guide lines on the floor in pencil or chalk. Draw the center line as illustrated in the diagram below: snap a chalk line from the middle of wall A to the middle of wall B. Find the center of line A-B (point C). Draw a perpendicular line through C using the 3:4:5 method to find line D-E.



Starting at center point C, measure out the length and width to the walls to ensure you will have at least a half of a tile at the border. Adjust lines A-B and D-E as needed. Once lines are established and the floor is clean, spread adhesive according to section 4.

6.5 Start from the center of the room ensuring that the tile is laid exactly along the chalk lines. Work outward from the first tile in a pyramid fashion, until the first quarter is finished. Make sure that tiles do not run off the guidelines. Make sure that each tile is firmly butted to the prior tile(s) laid. Then make the first quarter of the floor. If the first few tiles are not installed correctly, it will affect the entire installation. Never bend or force tiles into place. In corridors and small areas, it may be simpler to work lengthwise from one end, using the center line as a guide.

6.6 Always adjoin factory edge to factory edge of Spectation™. Cut edges should abut walls or other vertical surfaces.

6.7 Place tiles carefully to avoid air bubbles. Use a hand roller as needed to ensure contact with the substrate and to remove any air bubbles. Because the initial grab of Mapei Ultrabond G21 is low, it is sometimes necessary to apply weights, particularly at the seams, to maintain contact until the adhesive sets.

6.8 Make sure the tiles are laid precisely next to each other, without any gaps. Do not pressure fit or allow the seams to peak. Periodically lift the material to confirm proper adhesive transfer to the back of the tile. Use Blue painter's tape to hold tiles together if necessary. Do not use any other types of tape as they can leave a permanent residue on the surface.

6.9 As each section is completed, roll the flooring surface across the width and length with a 100 lb floor roller to break down adhesive ridges and to ensure complete removal of trapped air. Pull (rather than push) the roller, so that footprints are not left on the floor.

6.10 Spectation™ may be cut to fit irregular and fill-in spaces using a sharp utility knife. (Repeated passes should be used when cutting Spectation™ to ensure a straight cut). Cut tile to fit before spreading adhesive. After setting tile, roll with a hand roller to be sure there is contact with the adhesive.

7. CLEAN UP AND FINAL FINISH

7.1 While the adhesive is still fresh, promptly use denatured alcohol to clean adhesive smudges from the flooring material's surface and the tools. Once cured, the adhesive can only be removed by mechanical means, which may damage the tile. Clean adhesive as you complete each section to avoid having to walk across newly installed tile.

7.2 Do not walk on newly installed floor for 12 hours. If walking on the floor is necessary before this time, lay plywood boards across the floor to disperse the load. Movement of the flooring while the adhesive is setting may affect the bond. Do not allow rolling loads or heavy traffic until 36 hours after the installation, even if protective boards are used.

8. INITIAL MAINTENANCE

8.1 After 36 hours, dust mop or vacuum to remove debris and grit. Do not use a "beater bar" vacuum.

8.2 When moving furniture and fixtures, do not use or drag furniture with sharp edges (desks, shelving units, exercise equipment, etc). Furniture should be fitted with stainless steel, felt or Teflon pads. During a move-in day, floor protection should be used to prevent damage from movers, dropped furniture, or soiling from dirty moving equipment. Ideally, floor covering products should be installed after all other finishing operations and construction work is completed. However, if construction is to continue after the floor is installed, the floor must be protected from damage. After the floor is installed, sweep or vacuum the floor and then cover with brown Kraft paper to protect from soil and foot traffic. If floor will be exposed to rolling traffic, cover the Kraft paper with plywood or hardboard panels.

8.3 Do not use soft chair caster wheels, including polyurethane wheels on office chairs. Wheels must be hard polyamide or similar so that they will roll easily, preventing unnecessary wear and tear on the flooring. Do not use certain materials (for example in rubber feet, rubber mat, shopping carts) if they will be in contact with the floor for a long time, as they can cause discoloration that cannot be removed.

8.4 Entrance Matting: Because 90% of all dirt in a building comes in on footwear, Mats Inc. strongly recommends installing and maintaining entrance matting (preferably permanently installed) at all outdoor entrances (20-30 linear feet for major entrances; less for infrequently used entrances). Doing this will improve indoor air quality, reduce flooring maintenance costs, and lengthen the life of your interior floors.

8.5 Sunlight: Direct sunlight can damage most interior finishes so proper protection in the form of window coverings is recommended

8.6 Refer to Maintenance Instructions for Spectation™ (available from www.matsinc.com) for complete maintenance instructions.

* ASTM Standard F710 *Standard Practice for Preparing Concrete Floors to Receive Resilient Flooring,* ASTM International, West Conshohocken, PA, 2003, www.astm.org.