

Mats Inc. Installation Instructions for Floorworks® dBR Flooring System

These instructions supersede any verbal or written instructions from Mats Inc. representatives

1. INTRODUCTION

1.1 The Floorworks® dBR System is a floating floor system designed to provide cushion and reduce sound transmission using a combination of Floorworks® vinyl planks and/or tiles and Underfloor dBR underlayment.

1.2 Floorworks® planks and tiles meet the requirements of ASTM F 1700, *Standard Specification for Solid Vinyl Floor Tile*. These products are recommended for indoor use only.

1.3 Floorworks® dBR System shall be installed by experienced professional installers with a minimum of five years experience installing commercial resilient floor covering products. Training programs such as those offered by International Standards & Training Alliance (INSTALL) are recommended.

1.4 Substrate testing and preparation shall follow industry standards (quoted herein in italics) and the following installation guidelines. For situations that are not covered in this document, contact Mats Inc. directly.

1.5 The Floorworks® dBR Systems is not designed for heavy rolling loads. Contact Mats Inc. for recommendations prior to installation.

2. MATERIAL HANDLING AND STORAGE

2.1 Upon receipt of Floorworks® dBR System product, immediately remove from pallet. If cartons or rolls are damaged, mark shipping documents as such before signing for the shipment. Contact shipper and/or Mats Inc. to report damage.

2.2 Floorworks® dBR System components shall be stored flat and parallel. Do not store on edge.

2.3 If material is distorted or otherwise damaged during storage or transportation, do not install.

2.4 Protect all materials, including but not limited to, underlayment panels, patching/leveling compounds, floor covering and maintenance products from extremes of temperature during shipping.

2.5 Open ends of Floorworks® cases and store in original packaging. Open rolls of Underfloor dBR and loosen the roll coil. Store all products 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.

2.6 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. With most glue down applications, any irregularities in the substrate will telegraph (show through) to the finished floor. Underfloor dBR can reduce the need for precise surface preparation but is not a substitute for proper substrate preparation.

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)

Koester: 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 Floorworks® dBR System products over lauan panels, OSB, 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).

3.4 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 Patching or "skimcoating" 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 Underfloor dBR may be used over substrates such as terrazzo, stone, ceramic tile, and similar products. For substrates with grout lines, it is recommended to fill gaps with a cement based underlayment compound per the manufacturer's instructions and ensure compliance with ASTM F 710 for use of these compounds.

3.6 Underfloor dBR may be suitable for installation over existing flooring such as hard wood, VCT, LVT, Quartz and others. All existing flooring must be inspected to ensure it is flat, stable and properly secured. If any of the existing flooring is loose, chipped, broken or has gaps, repairs must be made to ensure a flat and stable substrate surface.

3.7 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.

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

3.9 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, 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 floor covering 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. ADHESIVES AND ACCESSORIES

5.1 Depending on the use of the finished floor and the site conditions, an adhesive installation method may be recommended for the installation of the Underfloor dBR underlayment of the Floorworks® dBR System. If there is any uncertainty, please contact Mats Inc. prior to installation.

5.2 All installation methods require the use of a 100 lb roller after the Floorworks® vinyl planks and/or tiles are set to ensure that the product is firmly set into place.

5.3 Prior to installing, test for porosity. Plywood substrates and most patching/leveling compounds are considered porous. However, most concrete slabs are not porous so test first by sprinkling small amounts of water on the substrate. If the drops are absorbed, follow the instructions for porous substrates. If they remain on the surface, follow instructions for non-porous substrate.

6. INSTALLATION

6.1 Substrate must be level, smooth and dry. Readings shall not exceed MVER 6 lbs/1000 sq. ft. and Rh level <82%. If substrate exceeds these limits, a damp proof membrane is required. Moisture remedies vary depending on severity, please contact Mats Inc. for recommendation. For dust generating or flaky substrates, it may be necessary to apply a sub-floor primer prior to installation.

6.2 Thoroughly sweep and/or vacuum the substrate to remove all dirt, dust and debris.

6.3 Roll out Underfloor dBR with release film on top. Position in rows butted together so there are no gaps. Do not overlap seams. Cover the entire area with Underfloor dBR in the opposite direction of the layout planned for the Floorworks® planks and/or tiles. Do not allow edges of Floorworks® planks and/or tiles to coincide with joints of the Underfloor dBR. (See photo 1)

Photo 1



6.4 Floorworks® planks and/or tiles shall be appropriately conditioned prior to installation (see section 2). Ensure that the backs of the Floorworks® planks and/or tiles are clean and free of dust or debris. If there is any dust or debris, wipe them down using a clean, damp, lint free cloth and allow to dry off completely before installation.

6.5 Follow the layout specified by the end user, architect, or designer. Floorworks® planks and/or tiles can be laid out to run either parallel or diagonal to the room or primary wall. Install product running in the same direction (block or staggered) or quarter turned as specified. Floorworks® products can be installed in a random design or in a set pattern as desired. It is advisable in all cases to “dry lay” a section of floor prior to setting into the Underfloor dBR adhesive layer so that the owner/specifier can accept the design.

6.6 Position Floorworks® planks and/or tiles so that all edges do not align with seams of the Underfloor dBR. One of several installation techniques that may be employed is as follows:

6.6.1 With the Underfloor dBR release film still intact, position the first row of Floorworks® planks and/or tiles along the selected starting wall. Because this is a floating floor installation, it is recommended that a **3mm expansion gap** be maintained between the wall and the Floorworks® planks and/or tiles around the entire perimeter of the room. This is necessary to accommodate slight expanding and contracting that may occur with changes in temperature and humidity.

6.6.2 Position the next 3 or 4 rows of Floorworks® planks and/or tiles with the release film still intact to ensure that the configuration and set up is correct. Ensure that the alignment of the Floorworks® planks and/or tiles is square to the center line of the room and the perimeter will have a sensible size to cut against the wall.

6.7 With several rows of Floorworks® planks and/or tiles placed on top of the Underfloor dBR release film, scribe a line in the release film approximately 12” in front of the rows (width to set at least two rows Floorworks® planks and/or tiles). Take care to cut only the release film and not the cushioned layer. (See photo 2)

Photo 2



6.8 Remove the release film only from the area you intend to work in immediately and ensure that no dirt, dust or debris is introduced onto the adhesive membrane. No open time is required, installation can commence immediately once the adhesive membrane has been exposed.

6.9 Keeping the first several rows in place (still on top of the release film – see Photo 3) and ensuring that the alignment is parallel to the center line of the room, place Floorworks® planks and/or tiles gently onto the exposed Underfloor dBR adhesive membrane. Ensure each joint of Floorworks® planks and/or tiles is tight. Do not apply downward pressure onto the newly placed Floorworks® planks and/or tiles so that they can easily be repositioned if necessary.

6.10 After precisely positioned, press Floorworks® planks and/or tiles firmly onto the adhesive membrane to lock them in place. The bond will strengthen with increasing downward pressure.

6.11 Once Floorworks® planks and/or tiles are installed to cover the first section of exposed adhesive membrane, remove the release film from underneath the rows at starting wall (See photo 3). Place Floorworks® planks and/or tiles onto the adhesive membrane working from rows of adhered Floorworks® planks and/or tiles back towards the starting wall (See photo 4). Ensure that all joints are tightly butted together.

6.12 To cut perimeter pieces, use either the overlap method or the scribe method depending on the straightness of the wall. Placing a cut edge against the uncut edge of another piece of tile or plank may not look natural. Cut edges using a sharp knife and a straight edge for a tight fit and a smooth edge. In border areas where tile/plank edges will be covered with moldings, a tile cutter or a utility knife can be used.

Photo 3



Floorworks® planks on top of release film

Floorworks® planks attached to adhesive membrane

Photo 4



6.13 Continue with installation by removing sections of release film and placing Floorworks® planks and/or tiles on the remaining floor, allowing for the planks or tiles to be fitted in a manner as shown in Photos 5,6,7 & 8.

Photo 5



Photo 6



Photo 7



Photo 8



6.14 After each large section is installed, roll the floor in both directions with 100 lb floor roller. Repeat this process for all additional sections until the floor is complete.

6.15 Use a small hand roller at perimeters and other areas inaccessible using a floor roller.

7. CLEAN UP AND FINAL FINISH

7.1 Covering exposed edges of flooring is recommended including base molding on the walls around perimeter of room and protective molding at doorways or areas where the new flooring will fit against existing flooring.

7.2 Maintain the room temperature between 65°F and 80°F for 48 hours before installation during installation and for 48 hours after installation. Thereafter, maintain temperature at a minimum of 55°F.

7.3 Sweep or vacuum to clear the area of debris and grit. Do not use a “beater bar” vacuum.

7.4 Protection of the floor:

If construction is to continue after the floor is installed, 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. Do not roll heavy equipment or furniture directly on top of the newly installed floor. To move furniture and equipment across the floor, wait 36 hours after the floor is installed. Sweep or vacuum the floor, cover with brown Kraft paper and plywood or hardboard panels.

8. INITIAL MAINTENANCE

8.1 Initial Cleaning: The newly installed floor can be swept and damp mopped. Do not wet clean the floor for at least 4 days.

8.2 Maintenance shall follow the latest version of the Mats Inc. maintenance instructions for Floorworks®, available from www.matsinc.com.

8.3 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 floors.

8.4 Furniture:

8.4.1 Exercise caution with heavy point loads to avoid possible denting.

8.4.2 To minimize the chance of damage, proper glides must be used on chairs and other furniture that may slide directly across the floor.

8.4.3 Chairs shall have glides that are a minimum of 1 inch in diameter. A floor protection mat is recommended for castor wheeled chairs.

8.4.4 Heavy objects such as equipment, appliances, fixtures and heavy furniture shall not be moved directly across the floor. Using protective boards will reduce the chance of damage in these cases.

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

*ASTM F 710 *Standard Practice for Preparing Concrete Floors to Receive Resilient Flooring*, ASTM International, West Conshohocken, PA, 2003, www.astm.org.