

Mats Inc. Installation Instructions for Panorama Tile

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

1. INTRODUCTION

- 1.1 Panorama Tile is recommended for indoor use only.
- 1.2 Panorama Tile 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.
- 1.3 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.

2. MATERIAL HANDLING AND STORAGE

- 2.1 Upon receipt of 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 Panorama Tile 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, welding rods, chemical welding liquid, adhesive, and maintenance products from extremes of temperature during shipping.
- 2.5 Store in the tiles on the job site where they are to be installed. Areas shall be enclosed and weather tight, at a minimum of 50°F for a minimum of 48 hours prior to commencement of installation.
- 2.6 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 the climate properly. This step will also assist the installer in identifying any shade variations and allow the installer to move these variations to a less visible area.
- 2.7 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 may 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)

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 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 "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 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 residues 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 F 710 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. *Panorama Tile in thicknesses of 8mm or less can be installed on radiant heated slabs providing the maximum temperature of the surface of the slab does not exceed 82°F (27.7°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 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 50°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 Panorama Tile products are adhered using Mats Inc. Urethane-Bond adhesive (see section 5.3). All adhesives require the use of a 50 - 70 lb roller (based on thickness of products) after the tile is set to ensure that the product is firmly set into the adhesive.

NOTE: Do not get adhesive on the top surface of the product as it is virtually impossible to remove. Using mineral spirits or similar products to remove adhesive will alter the surface appearance of the product. Any damage to the product as a result of adhesive removal is solely the responsibility of the installer. Contact Mats Inc. immediately for suggested cleaning methods if this happens.

5.2 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.

5.3 Mats Inc. Urethane-Bond instructions:

5.3.1 Use the "wet set" method (see section 5.3.3) with Mats Inc. Urethane-Bond adhesive. Coverage is approximately 60 - 80 square feet per gallon depending on porosity of substrate. Use a 1/16" x 1/16" x 1/16" V-notch trowel.

NOTE: using a larger trowel will result in excess adhesive coming up between the seams.

5.3.2 Concrete test requirements for installations using Mats Inc. Urethane-Bond adhesive:

ASTM F1869: maximum MVER of 3 lbs/1000 sq ft/24 hrs

ASTM F2170: internal relative humidity of 50% or less

5.3.3 "Wet Set" installation method (short open time):

Apply adhesive with the recommended trowel and immediately install flooring. Apply adhesive in small areas at a time so that the adhesive is wet to the touch before installing the floor covering and there is full transfer of adhesive to the back of the material. Periodically use a finger to test the adhesive to see if it has "strings" and is moist to the touch before installing the floor covering. If there is no adhesive transfer to a

finger, do not set the material into the adhesive, it has been open for too long. Remove the adhesive and spread new adhesive. Install material while staying off freshly installed material to minimize shifting, adhesive displacement, and wet adhesive oozing between the joints.

6. INSTALLATION

6.1 Square Edge Tile Installation

6.1.1 Thoroughly sweep and/or vacuum the substrate to remove all dirt and debris.

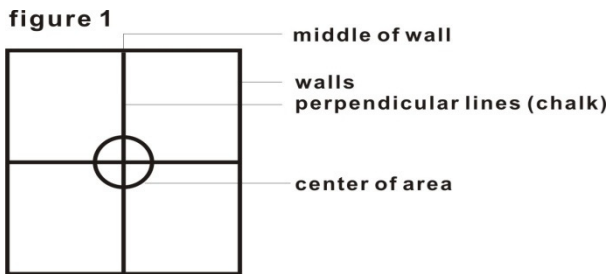
6.1.2 Follow the layout specified by the end user, architect, or designer. Shade variations are natural for rubber flooring and in no way compromise the quality of the flooring.

NOTE: During prolonged storage (more than 2 weeks), the tiles in the lower portion of the stack will compress to greater degree than those in the upper portion of the stack. This will show as thickness variation in the product taken from the top of the stack as compared to those on the bottom. Product dimensions may also be affected. A longer acclimation time will be required for product that had a longer storage time. Acclimation can take 48 – 72 hours and is complete when the product has reached the specified dimensions; check length, width and thickness periodically until the right dimensions have been reached. Do not install the product if it is not square and the appropriate thickness and the appropriate thickness has not been reached.

6.1.3 When installing the product, do not flip/reverse the tile. Reversing the tile may result in visible shade differences in the finished surface. Each tile has a sticker on the back stating: THIS SIDE DOWN. These stickers are placed on the same corner of each tile. Do not remove the sticker during the acclimation process. The sticker should not be removed until the gluing process commences.

NOTE: Uneven distribution of color granules may appear in a tile. Quarter-turning the tile should rectify this or the tile can be installed in a less visible area. Do not reverse the tile.

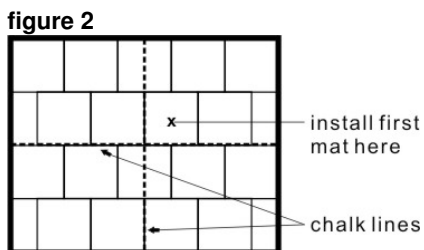
6.1.4 Measure and mark guidelines on the floor in pencil or chalk. Draw the center line as illustrated in the diagram below. Find the center of first line and draw a perpendicular line through it using the 3:4:5 method (see figure 1).



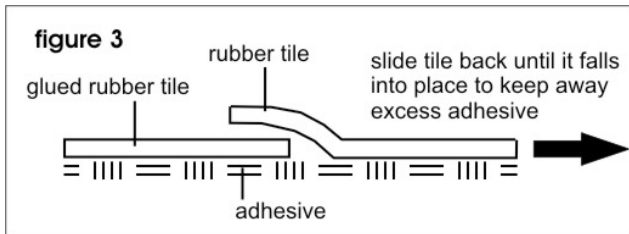
6.1.5 Dry lay tiles before beginning to be sure the pattern appears as specified and is approved. Mark guide lines on the floor in pencil or chalk.

6.1.6 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 both directions. Make sure that tiles do not run off the guide lines. Firmly butt each tile to the prior tile(s) laid. 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.

6.1.7 Start the second row on either side of the center line toward the chalk line. Install the second row by staggering the tiles (see figure 2).



6.1.8 When installing the tile, place the next tile to be glued down on top of the tile already glued down. Pull the tile towards the area you want to fill until the tile falls into place. Firmly press the tile up to the edge of the existing tile. This will keep excess adhesive from protruding between the seams (see figure 3).



6.1.9 Placing a cut edge against the uncut edge of another piece of tile may not look natural. Cut edges using a sharp knife and a straight edge for a tight fit and a smooth edge.

6.1.10 When using the “wet set” method over porous substrates, first 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.

6.1.11 Once lines are established and the floor is clean, apply adhesive according to section 5.

6.1.12 Roll the floor with 50 - 70 lb floor roller (based on the tile thickness), and then allow the adhesive to dry and cure without traffic for a minimum 12 hours (24 hours for ice skate blades and cleats), allow 72 hours for maximum strength.

Guideline:

5/32" (4mm) – 50 lb floor roller

1/4" (6mm) – 50 lb floor roller

1/2" (12mm) – 70 lb floor roller

6.2 Interlocking Tile Installation

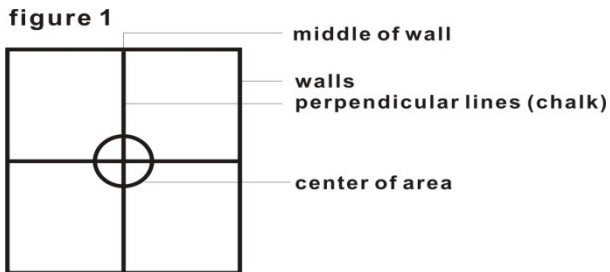
6.2.1 Thoroughly sweep and/or vacuum the substrate to remove all dirt and debris.

6.2.2 Follow the layout specified by the end user, architect, or designer. Shade variations are natural for rubber flooring and in no way compromise the quality of the flooring.

6.2.3 When installing the product, do not flip/reverse the tile. Reversing the tile may result in visible shade differences in the finished surface. Each tile has a sticker on the back stating: THIS SIDE DOWN. These stickers are placed on the same corner of each tile. Do not remove the sticker during the acclimation process. The sticker should not be removed until the gluing process commences.

NOTE: Uneven distribution of color granules may appear in a tile. Quarter-turning the tile should rectify this or the tile can be installed in a less visible area. Do not reverse the tile.

6.2.4 Measure and mark guidelines on the floor in pencil or chalk. Draw the center line as illustrated in the diagram below. Find the center of first line and draw a perpendicular line through it using the 3:4:5 method (see figure 1).

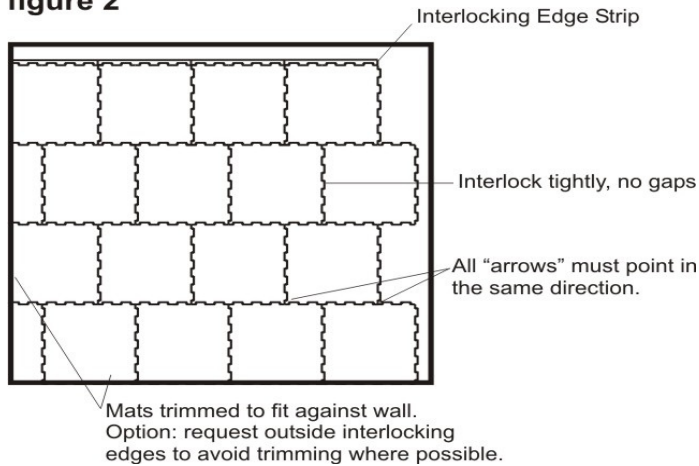


6.2.5 Start from the center of the room ensuring that the tile is laid exactly along the chalk lines. Work outward from the first tile in both directions. Make sure that tiles do not run off the guide lines. Firmly butt each tile to the prior tile(s) laid. If the first few tiles are not installed correctly, 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.

6.2.6 Start the second row on either side of the center line toward the chalk line. It is not necessary to stagger the interlocking tile. However, the staggered method is recommended to avoid four corners from meeting in the same spot. Assure a tight fit by tapping tiles as they are being installed (see figure 2).

figure 2



6.2.7 The interlocking tiles are delivered with outside interlocking edge pieces. The strips can be used to create a finished straight edge (see figure 2a). The other option is to trim off the interlocking tabs.

6.2.8 Make sure that all tiles are laid down with the "arrow" pointing in the same direction (see figure 2b).

figure 2A

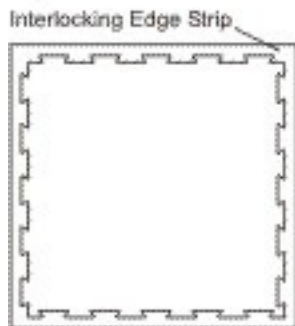


figure 2B

All "arrows" must point in the same direction.



7. CLEAN UP AND FINAL FINISH

7.1 Maintain the room temperature between 65°F and 100°F for 48 hours before installation, during installation and for 72 hours after installation. Thereafter, maintain temperature at a minimum of 55°F.

NOTE: This waiting period is not necessary for interlocking tiles that are installed without adhesive.

7.2 Check appearance of entire installation. Use a white cloth moistened with water to remove any adhesive on the surface of flooring or walls.

NOTE: Do not get adhesive on the top surface of the product as it is virtually impossible to remove. Using mineral spirits or similar products to remove adhesive will alter the surface appearance of the product. Any damage to the product as a result of adhesive removal is solely the responsibility of the installer. Contact Mats Inc. immediately for suggested cleaning methods.

7.3 If sealing the floor has been recommended, follow the latest version of the Mats Inc. Panorama Tile maintenance instructions for sealed floors available from www.matsinc.com.

7.4 Vacuum then damp mop the tile, very little detergent is necessary. Change the water frequently. Use a mild detergent.

NOTE: Products containing solvents and acids will attack the composite structure of the rubber flooring and cause deterioration. Mats Inc. does not assume responsibility for damages caused by chemical additives.

7.5 Traffic on the newly installed floor:

7.51 When using Mats Inc. Urethane-Bond adhesive, do not permit foot traffic on the new floor for 12 hours and wait 72 hours before allowing rolling traffic and furniture placement.

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 Panorama Tile 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.

8.5 Furniture: To minimize the chance of damage, proper glides must be used on chairs and other furniture that may slide directly across the floor. Chairs shall have glides that are a minimum of 1 inch in diameter. 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.

8.6 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.