

## GENERAL

Infinity® Modular is a vinyl composite backing engineered for performance. Infinity® RE offers similar performance characteristics to those of Infinity® Modular, but Infinity® RE also includes 30-percent recycled content. Both versions of Infinity are available in standard 24x24-inch or, in some specific styles, 18x36-inch carpet tile.

## ESSENTIAL FIRST STEPS

Mannington adheres to basics of the Carpet and Rug Institute's (CRI) Installation Standard, which offers general minimum requirements. In addition to the minimums from CRI, this guide provides specific detail required for Mannington products. Infinity® Modular or Infinity® Modular RE requires site and subfloor conditions similar to those for any carpet tile. Site should be fully enclosed with an HVAC system functioning to maintain temperature within a range similar to levels maintained when occupied as explained here. Each of the following steps is essential for a successful installation of Infinity/Infinity RE and is required to maintain full warranty coverage:

- Check style, color. Upon receiving carpet tile, installation contractor should visually confirm all styles and colors are correct for the project.
- Confirm layout. Each style of Mannington carpet tile will have a recommended layout or method for installation that will be specific to that style. Whether the layout is monolithic, brick, ashlar, or quarter-turn, the recommended layout will be listed on the specification sheet or architect folder. Mannington evaluates each style in a range of layouts to help maximize seam appearance. Customer should evaluate a small mock up of the recommended layout and tile direction prior to proceeding with full installation. Use of any other layout can compromise seam aesthetics. Diagrams are provided on pages 5-6.
- Site conditions. Maintain temperature at 60-85 degrees Fahrenheit with ambient humidity between 40-60 percent for 48-72 hours before, during installation and at least 48-72 hours after installation. Maintain temperature between 55-90 degrees Fahrenheit for product life.
- Subfloor testing. Concrete subfloors must be tested to determine whether chemical pH and moisture emission levels are suitable. Chemical pH should be between 7-9\*. Relative Humidity, ASTM-F-2170 (preferred test method) should be 75-percent \* or less. Calcium Chloride testing, ASTM-F-1869, should be three pounds or less.
- High moisture, pH. When testing determines concrete subfloor moisture emission is 85-percent RH or less (8-pounds calcium chloride) with pH of 10 or less, use Mannington's M-Guard 718, premium carpet tile adhesive, as detailed later in this guide.

**Important note: Mannington adhesives are specifically formulated to be fully compatible with backings chemistry and to maximize the performance of Mannington products. Using substitutes or failing to use Mannington adhesives as recommended can cut-short product life, cause installation failure, and/or lead to a chemical reaction, such as hydrolysis, which will permanently damage the tile backing and will void all applicable warranty coverage.**

- Conditioning. Carpet tiles must be allowed to adjust to job-site temperature for a minimum of 48 hours prior to installation.
- Full spread. Mannington's Infinity pressure-sensitive adhesive must be applied in a full-spread application using the correctly notched trowel as detailed later in this guide.

## CONCRETE

Before proceeding with installation on any concrete subfloor, please make sure:

- Levelness and finish meets or exceeds American Concrete Institute standards, ACI 301.
- Moisture and alkalinity levels meet requirements as detailed earlier.
- Curing compounds are mechanically removed. Many concrete curing agents can prevent adhesives or sealers from forming a proper bond, especially those with silicate compounds.
- Chemical agents are avoided for removal of curing compounds or old adhesives.
- Portland cement-based compounds are always used and mixed according to manufacturer's instructions when patching cracks, holes and when leveling is required.
- Gypsum-based patching compounds are always avoided.

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- Use Mannington's Universal Floor Primer on any subfloor that is porous, gritty, chalky or dusty. Excessively porous subfloors or those with chemical pH above 9 may require a second application. Allow the primer to dry completely prior to second application or before applying adhesive. Primer is dry if there is no transfer when touched.

### OTHER SUBFLOOR TYPES

Any subfloor surface must be smooth, level, clean, and secure prior to installing Mannington floor covering products.

- Wood floors. Plywood sheets must be solid and secure. Any existing finish must be clean, free of wax. Plywood seams may need to be sanded smooth. Dust must be thoroughly vacuumed. Fire-retardant plywood is not recommended.
- Plank floors. Plank floors should be covered with plywood as detailed above to provide a stable, flat subfloor suitable for installation of Infinity carpet tile.
- Terrazzo/marble. Level all grout lines Portland cement-based patching compound as described above. Glossy finishes may need to be sanded to provide a suitable surface.
- Vinyl composition tile. Individual tiles must be solidly bonded to the subfloor or removed. Broken, damaged, or loose tiles must be replaced. Remove any wax.
- Sheet vinyl. Unsuitable for modular installation and should be removed prior to installation.
- Existing carpet. Unsuitable substrate for new installation. Should be removed prior to installation. Any existing adhesives should be addressed as described here.

### EXISTING ADHESIVES

As a general rule for any new installation, existing adhesives from previous installations should always be scraped flat and thoroughly encapsulated with a Latex Portland Based Patch or approved sealer. Otherwise, an adverse reaction could occur, voiding applicable warranty coverage and leading to installation or product failure.

- Multipurpose/pressure sensitive. Use one of the following methods to prevent possible reaction between the existing adhesive and the new installation:
  1. Scrape adhesive flat and encapsulate with TriSeal (800-367-4583) or equal.
  2. Thoroughly remove existing adhesive, sand away remaining residue, and then skim coat with a Portland cement-based patching compound.
- Cutback. Wet with a mixture of water and a small amount of liquid soap. Allow to soak for several minutes before scraping away adhesive. Encapsulate any remaining trace of adhesive residue with TriSeal (800-367-4583) or equal. Existing cutback adhesive must be thoroughly removed and fully encapsulated to prevent possibility of irreversible product damage, installation failure and voiding Mannington's warranty coverage.

### INSTALLING INFINITY®/INFINITY® RE

A proper start is essential to keeping a carpet tile installation tight and square throughout the installation. Please pay careful attention to these basics:

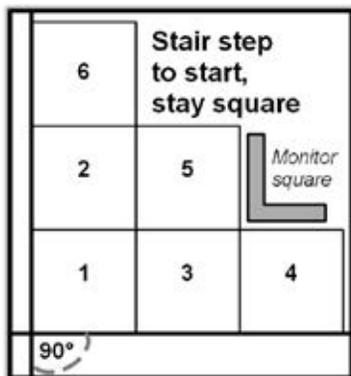
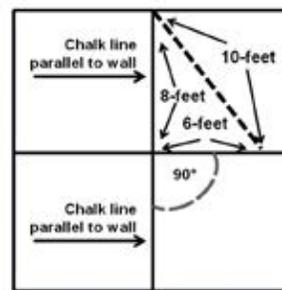
- Establish center point. Measure area to receive carpet and determine a center starting position by measuring from dominant walls or similar architectural features.
- Adjust for cuts. Initial placement of the center point may need to shift slightly to make sure perimeter tile cuts are at least half the tile's width (12-inches on a 24-inch tile.)
- Set perpendicular lines. Establish two chalk lines that cross at adjusted central point and intersect at right angles. The base line should be the longest measurement in a rectangular area and parallel to a wall or architectural break point. Having four equal quadrants with perpendicular lines at right angles will provide an essential guide to anchor the first tiles, to help keep the installation square, and tile backings tightly together.

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Establish a grid. Keeping an installation tight and square requires a creating grid by establishing two perpendicular chalk lines, calculated at right angles on the area's center point and then by anchoring first tiles installed snug against the two chalk lines. The two lines intersect to form a right angle and are 'square' when two points, one at 8-feet vertically and one at 6-feet horizontally from center point are exactly 10-feet apart. Use the 3, 4, and 5-foot formula as described above to set perpendicular chalk lines in smaller areas.



Stair-step tiles within grid. Start by placing first tile backing snug into corner where chalk lines cross. Tile backing should align with chalk lines on two sides. Form steps by sliding each subsequent tile, backing first, into tight alignment with the previous tile. Avoid overly compressing backings or trapping yarn in seams. Second tile goes on top with one side on the vertical chalk line. The third tile goes against the right side of the first tile. Continue in the same manner, etc. Use a carpenter's square to spot check frequently. Please keep in mind that seams on any new carpet tile installation will be more obvious until the yarn has acclimated, relaxed and blossomed with routine traffic and vacuuming. Keep tiles square and tight to avoid gaps.

- Check tightness. Tightness or gain should be measured periodically to assure tile backings are snug and the installation is square. Determine the amount of gain or growth in the installation by measuring the total distance between 10-tiles in both directions. Ten 24x24-inch tiles have a net measurement of 240-inches. The seam between each tile will always create some amount of gain or addition space in the installation. Measuring 10 tiles or 11 joints in either direction will provide enough seams to accurately represent the amount of gain. Whether the tile is 24x24 or 18x36, the gain or space between tiles should never be more than 1/8th inch greater than a net measurement of 10 tiles or 11 joints. For instance, 10 tiles at 24-inches each should not exceed 240-inches in either direction. If the net measurement exceeds a gain of one-eighth-inch, the affected area(s) will need to be picked-up and re-installed tighter to stay on grid.

## PLAN AHEAD

To help assure a successful project and prevent unexpected surprises, the following are also important steps to consider prior to installing any Infinity/Infinity RE carpet tile:

- Sequencing. The most uniform installation will be obtained by planning ahead and sequencing carpet tiles in the order they were manufactured. Sequencing can be easily accomplished. Select pallets by numbers located on each carton of tiles starting with the lowest numbers first and progressing lowest to highest numbers. Each pallet should have tile cartons with a similar range of numbers.
- Packaging. Mannington's 24 x 24 Infinity/Infinity RE carpet tiles are packed 14-tiles or 6.22 square yards per container. The 18x36-inch tiles are packed 12 tiles or six yards per unit.
- Accessibility. Carpet tile provides easy accessibility the subfloor and flat-wire or cable trenches. Flat-wire should be centered underneath modules.
- Raised nosing for stairs. On stairs, always use a raised nosing. Trim tile to fit nosing on both the step and riser.

## ADHESIVES

To avoid long-term performance issues and for Mannington warranties to remain in full effect, Infinity Modular/Infinity RE carpet tile must be installed in a full-spread application using Mannington Infinity adhesive as follows:

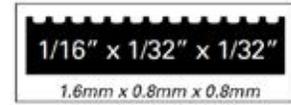
- Acceptable moisture, pH. Use only Infinity pressure sensitive adhesive when concrete sub-floor is properly tested to show moisture emission rate and chemical pH are:

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- ≤ 75-percent RH
- ≤ 9-pH
- ≤ 3-pounds
- Full spread. Spread Infinity pressure sensitive adhesive using a 1/16 x 1/32 x 1/32" U-notch trowel (as shown). Notches are 1/16" wide, 1/32" deep, 1/32" apart for a spread rate of about 200-square-feet for each gallon of adhesive.



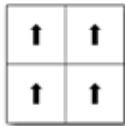
- Elevated moisture, pH. Use only Mannington M-Guard 718 adhesive as detailed here when a concrete subfloor is properly tested and found to have the following:
  - ≤ 85-percent RH
  - ≤ 10-pH
  - ≤ 8-pounds
- M-Guard 718, non-porous subfloor: Use a 1/16 x 1/32 x 1/32 " U-notch, as shown above, for a spread rate of about 200-square-feet per gallon of adhesive.



- M-Guard 718 on a porous subfloor: Use a 1/16 x 1/16 x 1/16" square-notch trowel, as shown here, for a spread rate of about 150-square-feet for each gallon of adhesive.
- Short-nap roller. Immediately after spreading M-Guard 718 with appropriate trowel, wet a short-nap paint roller with M-Guard 718 to avoid removing any adhesive and roll trowel ridges to force some adhesive into voids left by trowel notches.
- Let dry. Whether using Infinity or M-Guard pressure sensitive adhesive, allow to fully dry before installing carpet tile.

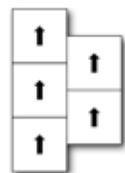
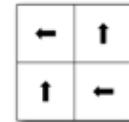
## TILE LAYOUT

The following illustrations show how arrow direction on Mannington 24x24-inch carpet tile can be varied during layout of an installation to maximize seam aesthetics. Mannington evaluates each carpet tile style to determine which of layout or layouts will work best for the style's design and color combination. Mannington cannot be responsible for seam aesthetics if the installation deviates from recommended layout for a particular style.



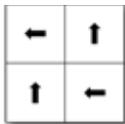
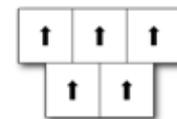
**Monolithic.** The method of layout illustrated here means that all the arrows imprinted in the carpet tile backing will be pointing in one direction. This also means that the face fiber or pile will sweep in the same direction.

**Quarter-turn.** This installation layout means arrows on tile backing will be perpendicular to each other or turned 90-degrees on every other tile.



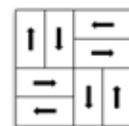
**Ashlar.** Also called "vertical ashlar," this layout means that all the arrows on the tile backing are pointing in the same direction, but each row of tile is offset or dropped vertically by 12-inches or one-half tile.

**Brick.** In this installation layout, also known as "horizontal ashlar," all the arrows are installed in the same direction, but horizontal rows are offset by one-half of a tile width.



**Random.** Some Mannington modular carpet styles are designed to permit a random layout, which allows installation of carpet tile without regard for arrow direction as illustrated here

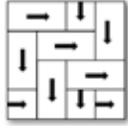
**Quarter-turn.** Some Mannington carpet styles are available in 18x36-inch rectangular modules. Rectangles also have preferred installation layout to maximize aesthetics of side seams. This diagram illustrates a quarter-turn installation pattern with 18x36-inch carpet tile.



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**Herringbone.** This diagram illustrates 18x36-inch tile installed in a herringbone pattern. Create this pattern, when recommended for specific styles, by interlocking vertical and horizontal tile combinations of two into an L-shape. All arrows on vertical tile should point in the same direction. All arrows on horizontal tile should also point in the same direction.

### PROTECT INSTALLATION

Use Masonite or plywood to prevent tile from shifting during furniture move-in. If additional protection is required to prevent damage by other finish trades, use bonded craft paper, which will allow adhesives to cure without risk to the new installation. Avoid using plastic sheeting to protect any installation. Coverings with pre-applied adhesive can leave a sticky residue, cause rapid soiling and should not be used to protect the installation.

### AFTER INSTALLATION

As the customer begins to enjoy their new installation of Mannington carpet tile, please also note the following.

- **Chair pads.** Recommended for use under chairs with rolling casters and required for full warranty coverage on Infinity RE. Chair pads can prevent premature wear even when carpet casters are used. Use only carpet-friendly casters a minimum of 5/8-to-1-inch wide.
- **Blossoming.** When loop pile carpet is cut into tile, some loops on tile edges will be cut in half. Vacuuming and routine use will expose those cut yarns that remained compressed and hidden during manufacturing or installation. This blossoming is easily remedied by clipping stray fiber exposed along tile edges.

Questions? If there are any questions or doubts about performing a successful installation of Mannington's Infinity Modular or Infinity RE carpet tile with Mannington's adhesives, please stop immediately and call Technical Services at 800-241-2262, Ext. 3.