

GENERAL

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. Mannington requires site and subfloor conditions like 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.

All recommendations are based on the most recent available information. The information on this sheet provides general subfloor guidelines. For complete details, consult Mannington's General Installation Guide or visit our website at www.mannington.com. All instructions and recommendations must be followed for a satisfactory installation. Good preparation is essential for a trouble-free installation. Do not install Mannington flooring until jobsite testing and subfloor preparations are finished, and the work of all other trades is complete. Site conditions must comply with relevant building codes and local, state, and national regulations.

ESSENTIAL FIRST STEPS

- Mannington requires the carpet be inspected prior to installation for proper style, color, and potential defects.
- No claims will be honored if modules are installed with visible defects.
- Read all instructions prior to beginning installation.
- 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, horizontal brick ashlar, or Quarter-turn, the recommended layout will be listed in the brochure of the architect folder or website. 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. Mannington will not accept claims for carpet installed using a different layout than recommended. Diagrams are provided on pages 4-5.
- 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.
- Conditioning - Carpet tiles must be allowed to adjust to job-site temperature for a minimum of 48 hours prior to installation.
- 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 80-percent or less. Calcium Chloride testing, ASTM-F-1869, should be five (5) pounds or less.
- Mannington's Infinity pressure-sensitive adhesive must be applied in a full-spread application using the correct notched trowel 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.

SUBFLOOR PREPARATION

Careful subfloor preparation is vital for an excellent floor appearance and good adhesion. The subfloor must be smooth, firm, flat, clean, dry, and free from defects, and fit for purpose. A suitable smoothing compound should be used to ensure that no irregularities show through to the surface of the finished floor. In all cases, the subfloor must meet the moisture and pH requirements before installation.

For porous subfloors (concrete or wood) that has a high pH and/or needs a primer use **Mannington's Universal Primer**.

Mannington's Universal Primer is an acrylic latex solution made to neutralize excess alkali and is also recommend as a primer to prevent over absorption of adhesive to ensure a better bond. Gypsum topped or patched areas must receive a full application of Mannington's Universal Floor Primer as well as any subfloor that is porous, gritty, chalky or dusty. Porous subfloors with chemical pH above 9 may require a second application.

Mannington's Universal Primer can be applied by pouring directly on the subfloor and spreading evenly with a broom or paint roller. Primer can also be applied with a garden sprayer, airless rig or similar spray equipment. Allow the primer to dry completely prior to second application or before applying adhesive. Primer is dry if there is no transfer when touched. Coverage is approximately 350-400 square feet per gallon. **Note: Do not use primer with epoxy or urethane adhesives.**

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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.

OTHER SUBFLOOR TYPES

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

- Wood – Wood floors must be smooth and level. If floor is uneven, an approved underlayment may be required. Plywood sheets must be solid and secure. Plywood seam 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 as stable, flat, and suitable for installation.
- Terrazzo / Marble – Level all grout lines with a latex based Portland cement patching compound. Glossy surfaces must be sanded for adhesive bond.
- VCT – Tiles must be well secured to the floor or removed. Broken, damaged, or loose tiles must be replaced. Wax must be removed from VCT before applying adhesive.
- Sheet Vinyl – Must be well secured, consist of a single layer, free of contaminants, not foam backed, not perimeter fastened or loose laid, and no asphalt-based adhesive.
- Existing Carpet – Unsuitable substrate for new installation. Should be removed prior to installation. Any existing adhesive should be addressed as described here.

EXISTING ADHESIVES

As a 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:

- Scrape adhesive flat and encapsulate with TriSeal (800-367-4583) or equal.
- 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® RE / INFINITY® CUSHION / INFINITY® MODULAR

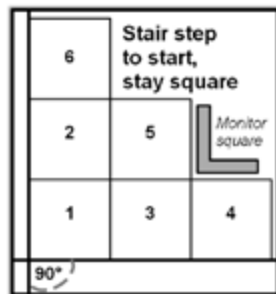
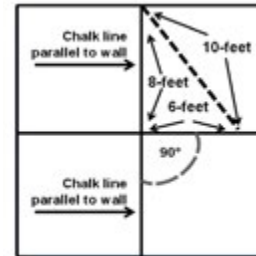
A proper start is essential to keeping a carpet tile installation tight and square throughout the installation. Please pay careful attention to these basics:

- 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 (Example: 12-inches on a 24-inch tile).

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- 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 fit tile backings tightly together.

Establish a grid. Keeping the installation tight and square requires creating a grid by establishing two perpendicular chalk lines, calculate 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. To facilitate seam blending it is recommended to tractor seams with a box tractor. 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 additional 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 24 x 24, 18 x 36, or 12 x 48, 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 1/8th 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 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 and 12 x 48 Infinity/Infinity RE carpet tiles are packaged 14 tiles, 6.22 square yards per unit. The 18 x 36 tiles are packaged 12 tiles or 6 square yards per unit.
- Accessibility - Carpet tile provides easy accessibility to 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.

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ADHESIVES

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

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

- ≤ 80-percent RH
- ≤ 9-pH
- ≤ 5-pounds

Full 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 25 yards per gallon.



For elevated moisture and 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 25 yards per gallon.



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 16 yards per gallon.

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.

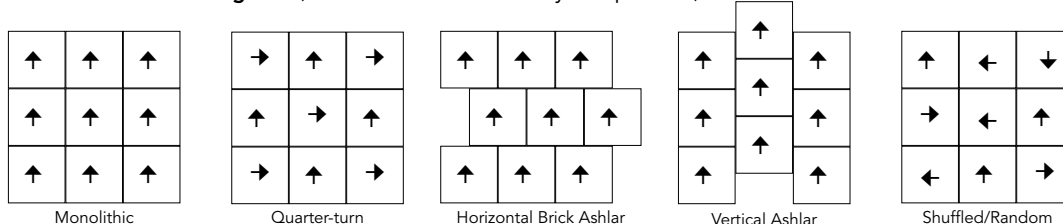
Whether using Infinity or M-Guard pressure sensitive adhesive, allow to fully dry before installing carpet tile.

Note: For Infinity Cushion backed products, the Infinity pressure sensitive adhesive must be applied full spread using a 1/16 x 1/16 x 1/16" square notch trowel on porous subfloors (16 yards per gallon spread rate) or a 1/16 x 1/16 x 1/16" V notch trowel on non-porous subfloors (20 yards per gallon spread rate).

TILE LAYOUT

Mannington carpet tile may have a specific recommended installation method. Refer to brochure inside architect folder or website for installation recommendations. Please note that all patterns and colors may not be aesthetically acceptable with certain installation methods. Mannington evaluates each product and recommends the installation method for the best aesthetics. A mock up area is recommended for review before selection of an alternate method. Mannington cannot be responsible for seam aesthetics if the installation deviates from the recommend layout for a style.

24 x 24 Installation Diagrams (Installation Methods are Style Dependent)

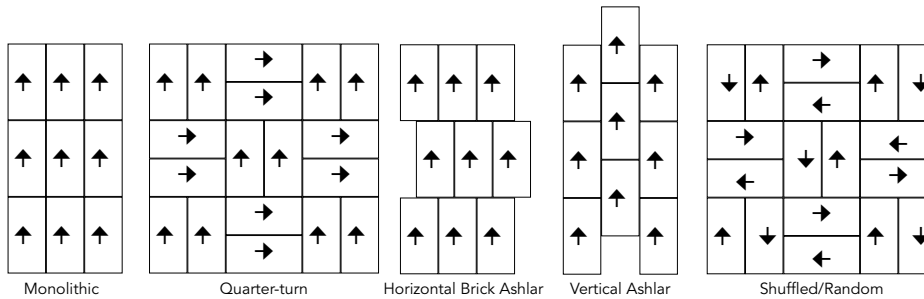


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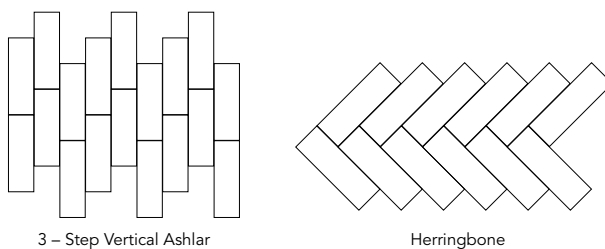
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18 x 36 Installation Diagrams (Installation Methods are Style Dependent)



12 x 48 Installation Diagrams (Installation Methods are Style Dependent)



TRANSITIONS

All carpet products must be properly protected when transitioning to other floor covering or exposed stopping points. The use of a transition molding or protective strip covering the carpet edge at ½" is required. If a transition cannot be utilized the carpet nap must be level or slightly below the adjacent floor. The carpet edge must be fully seam sealed to protect from raveling or damage.

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.
- Roll entire job with a 75-100 pound roller.
- To facilitate seam blending it is recommended to tractor seams with a box tractor.

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

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