

Adura® Elements

I. GENERAL INFORMATION

These installation specifications are for ADURA® ELEMENTS. All recommendations are based on the most recent information available. The information on this sheet provides general guidelines. For complete details, consult Mannington's Professional Installation Handbook. All instructions and recommendations must be followed for a satisfactory installation.

The floor covering and room temperature must be kept at a minimum temperature of 65°F or warmer for at least 48 hours before, during, and 48 hours after installation. The maximum permissible temperature is 85°F.

1. Install ADURA® ELEMENTS flooring only after the jobsite has been cleaned and cleared of other trade apparatus that may damage a finished tile installation.
2. To minimize shade variation, mix and install tiles from several different cartons.
3. All subfloor/underlayment patching must be done with a non-shrinking, water-resistant Portland cement patching compound such as Mannington MVP-2023.
4. ADURA® ELEMENTS is available in three sizes: 12" x 24", 12" x 12", 6" x 6". Each tile size can be installed with similar or different sized tiles (modular layout). When installing tiles of similar size, they can be fit tightly together or spaced to create any compatible grout spacing, when installing in a modular layout the grout size must be maintained at 1/8".

II. SUBFLOOR INFORMATION

Mannington ADURA® ELEMENTS flooring requires a clean, dry smooth substrate; correct preparation of the subfloor is a major part of a successful installation. Roughness or unevenness of the subfloor may telegraph through the new floor covering, resulting in an unsightly surface and excessive wear on high spots.

CAUTION:

Some types of nails, such as common steel nails, cement coated or some resin- or rosin-coated nails, may cause a discoloration of the vinyl floor covering. Use only non-staining fasteners with underlayment panels. The procedure of gluing and screwing underlayment panels is not recommended. Solvent-based construction adhesives are known to stain vinyl floor coverings. All responsibility for discoloration problems caused by fastener staining or the use of construction adhesive rests with the underlayment installer.

A. Wood Subfloors

1. GENERAL

All wood floors must be suspended at least 18" above the ground. Adequate cross-ventilation must be provided, and the ground surface of a crawl space must be covered with a suitable vapor barrier. Wood subfloors directly on concrete or installed over sleeper construction are not satisfactory for the installation of Mannington ADURA® ELEMENTS. Wood subfloors typically must be covered with a minimum 1/4" or heavier underlayment rated panel to assure successful finished flooring installation.

2. UNDERLAYMENT

Many times, wood panel subfloors are damaged during the construction process or are not of underlayment grade. These panels must be covered with an approved underlayment. Underlayment panels are intended to provide a smooth surface on which to adhere the finished floor covering. It must be understood that underlayment panels cannot correct structural deficiencies. Particleboard, chipboard, construction-grade plywood, any hardboard and flakeboard are not recommended as underlayment. All have inadequate uniformity, poor dimensional stability and variable surface porosity. Mannington will not accept responsibility for adhered installation over these subfloors. In all cases, the underlayment manufacturer or underlayment installer is responsible for all underlayment warranties.

3. UNDERLAYMENT REQUIREMENTS

Panels intended to be used as underlayment should be specifically designed for this purpose. These panels should have a minimum thickness of 1/4".

Any panels selected as an underlayment must meet the following criteria:

- > Be dimensionally stable
- > Have a smooth, fully sanded face so the graining or texturing will not show through
- > Be resistant to both static and impact indentation
- > Be free of any surface components that may cause staining such as plastic fillers, marking inks, sealers, etc.
- > Be of uniform density, porosity and thickness
- > Have a written warranty for suitability and performance from the panel manufacturer or have a history of proven performance

B. Concrete Subfloors

1. Concrete subfloors must be dry, smooth and free from dust, solvent, paint, wax, grease, oil, asphalt sealing compounds and other extraneous materials. The surface must be hard and dense, and free from powder or flaking.
2. New concrete slabs must be thoroughly dry (at least six weeks) and completely cured. Curing agents, surface hardeners and other additives may cause adhesive bonding failure. These should be removed by sanding or grinding.
3. All concrete slabs must be checked for moisture before installing material. Details for moisture testing can be found in the Mannington Professional Installation Handbook. The final responsibility for determining if the concrete is dry enough for installation of the flooring lies with the floor covering installer.
4. Holes, grooves, expansion joints and other depressions must be filled with Mannington MVP-2023 Latex Underlayment (or equivalent), and troweled smooth and feathered even with the surrounding surface.
5. Concrete floors with a radiant heating system are satisfactory, provided the temperature of the floor does not exceed 90°F at any point. Before installing the flooring, the heating system should be turned on to eliminate residual moisture.

Recommended Work Practices for Removal of Resilient Floor Coverings.

WARNING: Do not sand, dry scrape, beadblast or mechanically chip or pulverize existing resilient flooring, backing, lining felt, asphaltic "cutback" adhesive or other adhesive. These products may contain asbestos fibers and/or crystalline silica. Avoid creating dust. Inhalation of such dust is a cancer and respiratory tract hazard. Smoking by individuals exposed to asbestos fibers greatly increases the risk of serious bodily harm. Unless positively certain that the product is a non-asbestos-containing material, you must presume it contains asbestos. Regulations may require that the material be tested to determine asbestos content. RFCI's Recommended Work Practices for Removal of Resilient Floor Coverings are a defined set of instructions addressed to the task of removing all resilient floor covering structures.

C. MUL UNDERLAYMENT

Mannington MUL is a six-foot wide vinyl-coated sheet designed to be used as an underlayment with Adura® and Adura® Elements when the subfloor is not suitable for a fully adhered resilient product or when removal of the existing flooring system is not being considered. These two options are possible because the Mannington MUL is not adhered directly to the subfloor but rather is permitted to "float" over the questionable subfloor. Follow all installation instructions regarding Mannington MUL UNDERLAYMENT. Instructions are available at Mannington.com.

D. Existing Floor Coverings

1. In most cases, the existing floor covering should be removed and the substrate prepared to receive a new resilient floor covering.
2. When removal of the existing hard surface existing flooring is not an option, Mannington ADURA® ELEMENTS can be installed over a properly prepared single layer of existing floor coverings.
3. Prepare the existing hard surface flooring by thoroughly stripping the surface of all dirt, wax, oils, or grease and then covering with an appropriate cementitious topping designed for this purpose. (such as Mannington MVP-2023 /latex).
4. It is the floor covering retailer's or installer's responsibility to determine if the existing floor covering is suitable as an underfloor for the installation of any Mannington flooring product. If there is any doubt about the suitability of the existing floor, remove it or cover it with an appropriate underlayment.

III. INSTALLATION

A. Tile Layout

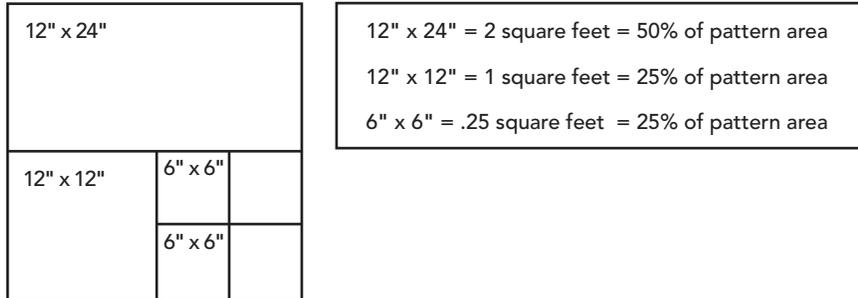
As with all tile formats, ADURA® ELEMENTS tiles should be "balanced" in the work area. Tiles may be laid squarely in the work area or laid out diagonally in the work area. In either case, the room must be accurately measured to square off the area and to determine the center point of the area. The work area should be divided into quadrants designated by striking chalk lines. It is critical that the intersection of the chalk lines be square at 90°. All border tiles should be of nearly equal dimensions and at least one-half of a tile wide. Careful and precise measurements must be taken during tile layout. Lay all tiles in the same direction, with all directional arrows pointing in the same direction.

When installing tiles of similar size, they can be fit tightly together or spaced to accommodate a compatible grout line; when installing in a modular layout, the grout size must be maintained at 1/8".

B. Determining Modular Layouts

1. In order to determine the specific quantities of each size component within a modular pattern, the total pattern design must be determined.
2. Once this is determined then the total number of square feet in the design pattern must be determined.
3. The total square feet of each individual tile size must be determined, and then the number of identical tiles within the pattern must be determined.
4. Divide the total square feet of each specific tile size total square feet by the overall pattern square feet to determine the percentage of that specific tile size. To determine how much of each size is required, take the overall square feet of the job and multiply by the percentage of each tile.
5. This square foot total for each tile must then be divided by each tile's square foot area to determine the number of pieces required. Always round up to the next full carton size; remember to add in "waste factor".

In this example, the overall pattern is 4 square feet:



For example:

Room size is 14' x 26' = 364 square feet

$12" \times 24" = (364 \times 50\% = 184 \text{ square feet})$	$184 \text{ square feet} \div 2 \text{ square feet} = 91 \text{ pieces}$
$12" \times 12" = (364 \times 25\% = 91 \text{ square feet})$	$91 \text{ square feet} \div 1 \text{ square feet} = 91 \text{ pieces}$
$6" \times 6" = (364 \times 25\% = 91 \text{ square feet})$	$91 \text{ square feet} \div .25 \text{ square feet} = 364 \text{ pieces}$

C. Adhesive Application

Mannington MT-711 adhesive is required for adhering ADURA® ELEMENTS to all approved substrates. Apply the adhesive with a 1/16" wide, 1/16" deep and 1/16" apart notched trowel. The MT-711 adhesive should be given sufficient open time so that the trowel ridges appear "cloudy" or "hazy" and the trowel "Valleys" are clear. The adhesive must be sufficiently tacky to prevent tile slippage during placement. After the MT-711 has had sufficient open time, begin laying the tile at the intersection of the working lines. Be certain this tile is installed squarely on the lines. After the first tile is in place, begin laying tiles outward along both guidelines. Press tiles firmly against adjoining tiles or use appropriate tile spacers to provide a controlled grout line and press tiles into the adhesive. Begin stair stepping the tiles into the field area. Maintain the squareness of the installation by keeping tiles along guidelines. Lay all tiles in the same direction, with all directional arrows pointing in the same direction.

D. Cutting and Fitting

ADURA® ELEMENTS can be cut with a large tile cutter or by using the score and snap technique. Direct or pattern scribe the tiles to fit into complicated, irregular walls or pipes, etc.

E. Grouting

ADURA® ELEMENTS may be grouted using Mannington pre-mixed Adura® acrylic grout. Specific installation procedures must be followed when grouting Adura®.

1. Required tools

- > Hard-edge rubber grouting float
- > Dense, square-edge sponge
- > Nylon scrubbing pad
- > Plastic spacers
- > Water buckets
- > Tile spacers

2. Procedure

The desired grout width must be determined before tile layout begins. It's critical to include grout width measurement to tile size to insure a balanced layout. Grout width should be at least 1/16" wide and no more than 1/4" wide. When installing Adura® Elements in a modular pattern, the grout line **must be exactly 1/8" wide**. Commercially available hard-plastic, ceramic tile spacers may be used to maintain equal grout joint width.

- A. Tiles may be grouted immediately after installation. Insure that the tiles are firmly bonded to the subfloor by re-rolling the entire installation with a minimum of 100-pound three-section floor roller just prior to grouting. Be certain to clean any debris from grout joints.
- B. Only Adura® Luxury Grout may be used with Adura® ELEMENTS. This pre-mixed grout has been developed to bond to Luxury Flooring and is flexible and durable. Never use cement-based, epoxy or furan grout.
- C. Apply the Adura® Luxury Grout into the tile joints with the narrow edge of the rigid rubber float. Firmly pack each tile joint so as to leave no voids or skips. As each tile joint is grouted, remove excess grout from tile edges with the stiff edge of the float pulled in a 45° angle across each joint. Grout only in small increments and clean each section as you go. Never apply grout in an area greater than 20 square feet before cleaning.
- D. Use a dampened nylon-scrubbing pad to loosen remaining grout from the tile surface. Wipe alongside of the joint with the nylon pad to avoid removing grout from the joint. Do not use excessive water during clean up. Use the special square edge sponge to remove the excess water and grout haze. Be certain to wipe diagonally across tile joints to avoid dragging grout from the joint. Rinse this sponge frequently and change the clean-up water frequently. Thoroughly remove all residual grout and grout haze before leaving the job. Dried grout haze is difficult to remove.
- E. If a slight grout haze is noticed after 24 hours, it can be removed by scrubbing with the nylon pad and a solution of 1/4 cup of ammonia in a gallon of clean water. Thoroughly rinse the area with clean water. Do not use chemical grout cleaners. If skips or voids in the grout joint are discovered after final clean up, they can be filled by applying new grout directly over the old.

F. Finishing the Job

1. ADURA® ELEMENTS must be rolled with a minimum of 100-pound three-section floor roller immediately after installation. Roll the flooring in both directions to firmly seat the tile into the adhesive.
2. Cover all exposed edges. Use wood molding or vinyl cove base along all walls, cabinet toe kicks, etc. Use transition strips in doorways or where new flooring joins another floor covering. Caulk along tubs, toilet bowls, etc.
3. Do not wash the floor for 48 hours after installation. After 48 hours, damp mop to remove residual surface dirt. Follow appropriate maintenance schedule for Adura® luxury floors.

IV. REPAIRS

Although the wear surface of ADURA® ELEMENTS is durable, it is not bulletproof. Should an accident occur that damages the surface of the product, a simple repair procedure exists. The key to this process is having ample material available to replace the damaged area(s). This should be considered when placing the original order. Extra tiles should be wrapped in their packaging and stored in an interior, climate-controlled location.

1. To remove a tile, gently heat with a hot air blower to allow the material to become more flexible. Insert a thin 2" wide putty knife in the seam and gently lift up. Be careful not to damage the surrounding flooring. If the tiles were grouted, it will be necessary to remove all of the grout surrounding the damaged tile(s).
2. Remove the damaged tile from the floor. When removing a tile, pay attention to the orientation of the embossed arrow on the back of the damaged piece so that the new tile can be installed in the same direction.
3. Inspect the subfloor for lumps of residual adhesive, remove and smooth out as necessary.
4. Using a 1/32" notched trowel, apply a thick coating of MT-711 to the back of the replacement piece. You must consider the thickness of the residual adhesive layer when determining the appropriate adhesive application to the replacement piece. Too much adhesive will cause the replacement flooring to be higher than the surrounding tile or plank.
5. Provide sufficient open time (typically 15 minutes) and then position the tile into the repair area. Roll evenly with a hand roller and, if necessary, weight the tile for several hours until the adhesive sets. If the ADURA® ELEMENTS had been grouted, replace the grout during tile replacement.