

# Triple Option Installation Methods

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## General Instructions

Before beginning any installation, carefully read the General Installation Guidelines described on pages 1.2 to 1.28. We have designed the Triple Option installation method for use with all Mannington felt-backed Residential Resilient sheet products. (Prospector™ must be installed using the fully adhered method.)

## TRIPLE OPTION INSTALLATION METHODS

Mannington's Triple Option installation methods simplify the installation process of Mannington Residential Resilient felt-backed flooring products. Triple Option lets installers match the installation technique to the jobsite conditions. The three installation methods are:

- Fully Adhered: The Fully Adhered technique has a long history of proven success. It's the best option in areas subjected to heavy foot or rolling traffic, or in more complex jobsites with multiple alcove drops, center islands, or when intricate net-fit cutting is required.
  - This option requires that the flooring product be fully adhered to an acceptable substrate using Mannington V-31 adhesive.
  - Acceptable substrates are clean, dry, smooth, and include both wood panel and concrete underfloors.
  - This technique becomes an installer's only option if:
    - the vinyl roll is distorted or not rolled face-out on a 4" core
    - the backing becomes kinked, cracked, or severely folded during installation
- Perimeter-Fastened: In a Perimeter-Fastened installation, the sheet vinyl is fastened to an acceptable substrate around the perimeter of the work area and at any product seams. This installation method makes removal of the floor at the end of its life cycle easy.
  - Using this option, the vinyl can be installed over many types of substrates that may not be appropriate for a Fully Adhered installation (particleboard, chipboard, flakeboard, lightweight concrete).
  - Perimeter-Fastened installations require that the product be adhered with a 4" to 6" band of V-31 adhesive applied with a 1/16" x 1/16" x 1/16" notched trowel around the perimeter and at any seams.
  - If the substrate is wood, the product can be fastened using staples. The staples should:
    - have at least a 1/2" crown
    - be of sufficient length to fully seat into the underfloor panels
    - be spaced every 2" around the perimeter of the room
  - When a combination of staples and adhesive is being used, apply the adhesive before stapling.

- Restrictive moldings (cover base, quarter round, etc.) and transition moldings must be used in a Perimeter-Fastened installation.
- Perimeter-Fastened is not an option if:
  - the roll is distorted
  - the roll is not rolled face-out
  - the felt becomes kinked, cracked, or severely folded during installation
- Loose-Laid: Loose-Laid is the easiest of the Triple Option installation methods. Using this method, the vinyl is fit just slightly short of all vertical surfaces (approximately  $\frac{1}{16}$ " away) so that it lies completely flat with no fullness or "pinch" points. This installation method makes removal of the floor at the end of its life cycle remarkably easy.
  - Loose-Laid floors can be installed over many substrates that are unacceptable for Fully Adhered products (particleboard, chipboard, flakeboard, lightweight concrete).
  - This non-adhered installation method allows the material to be rolled back to correct any substrate problems and is easily removed when required.
  - Although the floor is referred to as Loose-Laid, V-31 adhesive is necessary at all seams and around any floor vents.
  - Restrictive and transition moldings are required.
  - Loose Laid should not be used if the jobsite:
    - is larger than two full drops of material
    - is greater than 30' in length
    - is exceptionally "cut up" and complex
  - Loose Laid is not an option if:
    - the roll is distorted
    - the roll is not rolled face-out
    - the felt becomes kinked, cracked, or severely folded during installation

Whichever option an installer chooses, it's important to:

- Employ good resilient sheet flooring work practices regarding the careful handling and fitting of the products.
- Be vigilant in underfloor selection and preparation.
- Install in indoor climate-controlled (temperature and humidity) environments.

## Cutting & Fitting

You may use pattern scribing, freehand knifing, or direct scribing techniques when installing Mannington felt-backed products (see pages 1.17 to 1.21). The material is flexible and will handle easily when cutting and fitting. Always fold the material in a wide radius to avoid sharp kinks and creases that may cause breaks in the backing.

You may flash cove all Mannington products that are fully adhered or perimeter-fastened (see pages 1.26 to 1.28).

Thoroughly sweep the surface after you have completed the entire under-floor preparation. Be sure to carefully vacuum or sweep around the perimeter of the room to remove loose dirt and debris.

## One-Piece (Seamless) Installation

Precut the floor covering to fit the area, allowing 2" to 4" extra length and width for fitting. Position the resilient flooring in the room, allowing enough material to drop into offsets, closets, alcoves, etc.



Align pattern squarely in room, parallel to all walls. If the room is not square, align the pattern so the run-off is located in the least conspicuous area. **HINT:** When aligning resilient flooring with straight line patterns, avoid positioning a pattern line next to the wall. If the line falls several inches from the wall, any pattern run-off caused by an out-of-square room will be less noticeable. After the sheet is positioned, weight it to prevent shifting. Make relief cuts around unusual objects such as pipes, fixtures, floor registers, etc.



Make relief cuts on all inside and outside corners.



Rough-cut the sheet to remove excess material. Trim and fit the perimeter so the floor covering lies flat before adhesive is spread.



## Seamed Installation

To minimize pattern run-out, cut the sheets needed to complete the installation at least one day before the job begins. Tightly roll these cuts face-out on a core, maintaining as equal a diameter as possible. Install sheets in the order in which they were cut from the roll. If more than one roll of floor covering is needed, make sure that all rolls are marked with the same shade letter. Roll serial numbers should be consecutive.



Before positioning the resilient flooring material in the room, determine the best possible placement of the seam and the dry zone. Snap a chalk line indicating where the seam will be positioned (6' from the wall for 6' products and 12' from the wall for 12' products). Snap two chalk lines 18" on either side of the seam chalk line.



Fit and cut the first sheet as in a one-piece installation and weight this sheet to prevent it from shifting. (Use floor roller, tool box, adhesive container, etc.)



Position the second sheet in the room and align it to the first sheet for accurate pattern match. Once you have achieved pattern alignment, weight the second sheet to prevent it from shifting.

## Positioning Sheets



It is important to obtain accurate overlap of the selvage edges to ensure pattern match across the sheets, as well as along the length of the seam. There are several techniques you may use to determine proper overlap. The first method is to cut notches or “windows” along the selvage grout line. These notches will allow you to see the overlapped grout line and will assist you in positioning the second sheet.



This is the second method Mannington recommends to determine proper overlap. Measure the design elements across the first sheet with a tape measure to determine the pattern repeat. You may then transfer this measurement across both sheets to assist in the positioning of the second sheet.

After you have trimmed and fit the sheet to the room, apply the appropriate adhesive. Leave a dry zone approximately 18” back from the seam line. Thoroughly roll the adhered material in both directions with a floor roller (minimum 75 lbs). See the next page for complete adhesive application instructions.



**CAUTION:** To avoid shade and texture variation, plan the job layout so that you can align seams and cut along factory selvage edges, not in the center of the sheet.



**NOTE:** It is impossible to obtain an accurate pattern match when turning material 90° to another sheet. This method of “¼ turning” the material may also cause shade and texture variation. For these reasons, Mannington does not recommend “¼ turning” any of our resilient floor covering products.

## Adhesive Recommendations & Application

Mannington strongly recommends that when residential felt-backed products are fully adhered to an approved underfloor, use Mannington V-31 adhesive (see page 6.4). We have thoroughly tested this adhesive and back it by our guarantee against discoloration.

### Adhesive Application – Fully Adhered Products

Apply adhesive with the following recommended notched trowels.

**Porous underfloors:** Use a trowel notched  $\frac{1}{16}$ " wide,  $\frac{1}{16}$ " deep, and  $\frac{1}{16}$ " apart.

**Nonporous underfloors:** Use a trowel notched  $\frac{1}{16}$ " wide,  $\frac{1}{32}$ " deep, and  $\frac{1}{32}$ " apart.

It is always a good idea to allow "open time" for the adhesive before laying the sheet down. Open time is the elapsed time between when the adhesive was spread and when the floor covering material is positioned into the adhesive. This allows moisture to "flash off" the adhesive, permitting the adhesive to develop more body and tack. Open time is always dictated by the underfloor porosity and atmospheric conditions. Make certain to provide ample open time on nonporous underfloors and at seam lines.

Failure to roll the floor covering can result in the following problems:

- Lack of bond between material and underfloor.
- Telegraphing of adhesive ridges.
- Permanent indentations when heavy items are placed on the new flooring, resulting from adhesive displacement.

After trimming the material to fit the room, tube or lap it back to expose approximately one-half of the underfloor. Strike a white chalk line near the fold of the material. This line provides a guide for adhesive application.

Spread the adhesive, leaving no gaps, voids, puddles, or thin spots, over 100% of the exposed underfloor. Keep the trowel clean and properly notched to maintain this uniform coverage.

After the adhesive has begun to tack-up, gently position the sheet into the adhesive. Roll the floor covering forward into the adhesive to eliminate trapping air. Do not drop or flop the material into the adhesive. Using a 75-lb (or heavier) three-section floor roller, roll the material in both directions, starting in the middle of the sheet width and rolling toward the edges. This process eliminates air and embeds the floor covering into the adhesive. Roll areas that cannot be reached with a floor roller with a hand seam roller.

Once the first half of the material is adhered and rolled, fold back the second half and repeat the procedure. When folding back the sheet use extreme caution to prevent tearing the felt backing at the glue line. Also, be careful to regulate the adhesive spread at the glue line. This will avoid an adhesive ridge left in the center of the sheet.

## Adhesive Application – Perimiflex®-Fastened

### Adhesive Recommendations & Application

When installing resilient sheeting using the Options Felt Backing Perimeter installation system, the material is only fastened around the perimeter of the work area as well as the seam line. Fasten the material using either Mannington V-31 Premium Latex Adhesive or staples.

- If the underfloor is wood, staples may be used to fasten the material. Evenly space staples every 2" apart and approximately ¼" from the edge of the resilient sheeting. Staples should have at least a ½" crown and staple length should be the longest that can be fully seated (¾" to ½"). If the job requires a combination of both staples and adhesive, complete the adhesive areas first.

**Once the material has been fit, tube or lap back the flooring material and re-sweep the underfloor and back of material before fastening the product.**



**Spread Mannington V-31 adhesive with a standard ¼" x ¼" x ¼" notched trowel in a 4" to 6" wide band around the perimeter of the room.**



**Thoroughly roll the material into the adhesive using a hand roller to ensure adhesion and to flatten out any adhesive ridges. Retrim any fullness that may have occurred in the resilient sheet.**



## Adhesive Application – Loose Laid

Even though adhesive is not required when using the loose-laid method, it is essential to apply an 8" band of V-31 adhesive at all seams, and around any floor vents.

Apply an 8" wide band of V-31 adhesive centered on the seam cut. To help prevent adhesive contamination, use 1/4"-wide tape along the seam line before applying adhesive. Allow enough open time for adhesive to tack-up, but do not allow adhesive to form a skin, or overdry.



Remove 1/4" tape and reposition the cut seam edges and roll the material into the adhesive using a hand roller. Exercise care to help prevent adhesive contamination in the seam cut.



## Seam Cutting & Seam Sealing

### Pattern Matching

When your work area requires more than one sheet of material, provide additional length on the second and succeeding sheets to allow for proper pattern alignment. Install Mannington Resilient Floors using either the "Reverse" or "Do Not Reverse" method (see Pattern Matching on page 1.16).



**NOTE:** All Mannington residential rotogravure 6' wide material is split from 12' wide rolls, thereby leaving only one true selvage edge. Installations with only one seam will not present a problem. As long as you reverse the sheets, they will overlap with selvage edge to selvage edge. With the third sheet, however, you may find it necessary to move the sheet by the width of one design unit to obtain a proper pattern match. On 6' wide "Do Not Reverse" patterns, you may have to move the sheet by one design unit to provide proper overlap and pattern alignment at all seams.

## **Seam Cutting**

Seaming is one of the most important aspects of resilient sheet installation. Often, it is the sole criteria judging the entire installation. We cannot emphasize enough the importance of taking the time to ensure a properly aligned, cut, and sealed seam. Always double-cut seams in Mannington Residential felt-back products with a new, sharp utility knife blade. Use a steel straightedge as a guide. A dull blade will not produce an acceptable seam. If the seam is long, or if it is being cut on a concrete underfloor, we advise sharpening or changing blades as needed. It is also good practice to remove any oily, protective coating on the new blades with a clean cloth before starting to cut the seam.

### **Double-Cutting of Seams**

The most accurate method for cutting seams in felt-backed products is double-cutting. As you can see from the following instructions, both sheets are cut at the same time. This ensures the edges of both sheets are cut exactly to the same delineation, with no gaps or fullness.

Many of today's resilient flooring patterns feature very narrow grout or design lines. It is very difficult to align and cut these narrow lines in the exact center. Because the grout or design lines are often the focal point of the pattern, it is extremely important to maintain the exact width of these grout lines throughout the entire installation. The most accurate method of maintaining the line width is to make the seam cut along the side of the grout line.

Cut the seam net, not full. Keep the knife blade parallel to the straightedge, at a 90° angle to the floor covering. Position the knife to allow as much of the cutting edge of the blade as possible to come in contact with the floor covering. It is difficult to keep the utility knife steady if only the point of the knife is riding on the floor.



With the sheets aligned, position the steel straightedge so it completely covers the grout line of the top sheet. Using the straightedge as a guide, cut the length of the seam in the “shadow” of the grout line with a utility knife. This technique will ensure that all grout lines are of the same width. This is important, since you will completely cut away the bottom sheet grout line and will leave the grout line of the top sheet intact.



Once the seam is cut, remove the selvage edge and turn back the material to expose the subfloor.



Apply adhesive as required with the chosen Triple Option installation method.



Carefully place the second sheet into position making sure the two edges of the sheet are aligned correctly over the  $\frac{1}{8}$ " space left by the tape.



Thoroughly clean the seam area with a clean white cloth and wipe dry. Remove any adhesive that has dried on the surface with a clean white cloth dampened with a good quality-grade mineral spirits or painter's naphtha. Avoid wiping down or across the seam cut with a soiled cloth. Keep the seam cut free of soil, adhesives, or contaminants.

## Seam Sealing

Before beginning the seam sealing process, thoroughly clean the work area of all scraps, soil, tools, etc.

The long-term performance of any seam cut into a resilient sheet product depends on several significant requirements. The most important of these is the selection and application of the appropriate seam sealer for the type of resilient sheet being seamed. Information regarding the suitability and application of all seam sealing systems is readily available from resilient sheet flooring manufacturers. It is the flooring installer's responsibility to use **only** recommended sealers and to be proficient in their application.



**CAUTION: These adhesive solvents are flammable. Follow all precautions listed on the cans.**

Avoiding adhesive contamination of the seam cut is another critical requirement. Mannington seam sealers consist of a solvent (THF) and a resin (PVC). The solvents cause the edges of the seam to “melt” and permit the resins to “attach” to each edge of the seam. This process results in a chemical weld. Adhesive forced up into the cut will adhere to the edges of the sheet, inhibit solvent action, and prevent a chemical weld from occurring. Additionally, adhesive forced into the cut creates a discolored line at the seam.

Follow the techniques on pages 1.22 and 1.23 to help prevent adhesive contamination at the seam line.



**NOTE: We recommend waiting 24 hours to return the furniture or appliances into the room; circumstances, however, may otherwise require it. If so, replace appliances before starting seam sealing. Always use wood or hardboard runways when moving furniture and/or appliances, even when using an appliance dolly.**

Seal seams in Mannington Resilient floors immediately after installation with the recommended Mannington seam sealer. This seam sealing process provides a continuous, impervious surface that will be as strong as the resilient surface and will remain intact for the life of the flooring.

Mannington offers four types of residential seam sealers:

- **MHS 22 (#832222) High Gloss Sealer** (two-part seam sealer) is designed for Mannington products with a urethane-based wearlayer. The VST-96 Professional Applicator Bottle and a roll of ¼” tape is supplied with the kit. See page 6.11 for sealer instructions.



- MCT 20 (#832203) is a do-it-yourself consumer seam sealer kit. The 2-oz tube contains standard gloss seam sealer and is recommended for use with vinyl wearlayers.
- MLG 33 (#832233) Low Gloss Sealer (two-part seam sealer) is designed for Mannington products with a low gloss urethane-based wearlayer. The VST-96 Professional Applicator Bottle and a roll of ¼" tape is supplied with the kit. See page 6.12 for sealer instructions.
- MSS 20 (#832202) Standard Gloss Sealer, available in one-pint containers, is for all vinyl wearlayer products. Use the VST-96 Professional Applicator Kit (#832204). See page 6.10 for sealer instructions.

Follow the seam sealer directions on pages 1.24 and 1.25 for a thorough description of the seam sealing process.

Allow the seam sealer to thoroughly dry before traffic is allowed on the floor. Do not allow dirt to soil the wet seam sealer. Avoid walking on the seam or moving heavy furniture over it for another 24 hours. Protect the seam by placing a narrow piece of scrap floor covering along both sides of the seam.

After all seams are sealed, pour the remaining seam sealer from the applicator bottle back into the can. The bottle can be reused after a thorough cleaning with a solvent. The solvent will gel the residual sealer in the bottle, so it can be removed easily. Be sure the applicator bottle is completely dry before using it again. Clean the cap and applicator tip in the same manner. Insert the cleaning wire into the applicator tip to keep it clean for later use.



**NOTE:** MHS 22 and MLG 33 seam sealers *cannot* be saved for later use. Properly dispose of any remaining sealer.

## Flash Coving Mannington Options Products

Traditional flash coving fitting procedures may be used with the Triple Options installation method only when fully adhered or perimeter-fastened. Resilient floors installed with the loose-laid option cannot be flash coved.

- Install cove stick with a minimum 1½" radius to fully support the flooring.
- Fully adhere the flooring with Mannington V-31 adhesive to the wall and cove stick, and apply an 8"-10" wide band of adhesive around the perimeter of the floor.
- It is very important that the flooring material lie flat with no fullness or puffiness. Extra care should be taken to avoid distorting the flooring during a coved installation.



**NOTE:** See pages 1.26-1.28 for complete flash coving procedures.

# Finishing & Maintenance

## Molding & Base Installation

Protect all exposed edges of the flooring with trim or restrictive molding.

- In most cases, the flooring mechanic will replace any moldings removed prior to installation of the flooring.
- Nail wood moldings into the wall and not into the floor covering.
- When installing vinyl or rubber cove base, follow the manufacturer's installation recommendations. Use recommended adhesives.
- Use metal or vinyl transition or reducer strips where resilient flooring meets other types of flooring, and at doorways.
- Apply a bead of silicone or latex caulk around bathtubs, shower stalls, toilets, and patio doors.

## Jobsite Cleanup

To enhance the appearance of the finished installation, it is always good practice to thoroughly clean the area before leaving.

- Sweep the floor.
- Remove all scraps and trash from the jobsite. (Leave any large pieces of flooring, rolled face-out, with the customer for future repairs.)
- Remove any adhesive smears or residue from the surface of the flooring with a clean cloth dampened with mineral spirits or lighter fluid.
- If possible, wait 24 hours before moving furniture or appliances onto or across the floor. Always use wood or hardboard runways to move furniture and/or appliances, even when using a dolly.
- Leave Mannington Maintenance and Warranty literature with the customer. These are available from your Mannington Distributor.

## Repairs

### Small Cuts, Punctures, & Minor Burns

If the wearlayer is still intact, you can repair small cuts, punctures, and minor burns with Mannington seam sealer.

- Clean and dry the damaged area.
- Apply appropriate Mannington seam sealer to the affected area.

## Replacing Damaged Areas – Plugs

- If possible, the floor covering repair piece should come from the original installation. Typically, consumers retain leftover pieces from the original installation.
- Make the repair in a geometrical pattern if at all possible (e.g., square, triangle, rectangle, etc.).
- Carefully match the repair piece over the damaged area and tape it in place.
- Cut inside the grout lines using a steel square as a guide. Position the square so you can make two cuts without moving the square.
- Remove the repair piece, making certain to keep the piece in proper alignment.
- If fully adhered, delaminate the damaged piece and carefully remove the existing felt with a small wood chisel or putty knife. Split felt from the floor at the adhesive line. **Do not sand or abrade the existing felt.**
- Spread a light coat of adhesive onto the repair piece or into the repair area with your fingers or a small brush.



**CAUTION: Keep adhesive from getting onto the edges of a repair.**

- Position the repair piece and roll it with a hand seam roller.
- Use appropriate Mannington seam sealer to seal all cuts. (See Mannington Adhesives and Sealers charts on page 6.2.)

## Replacing Damaged Areas – Mold/Mildew Concerns

- For flood damage it is recommended that the damaged flooring material be removed. The subfloor must be allowed to thoroughly dry out. If there is any structural damage or signs of mold and/or mildew, it must be corrected prior to reinstalling resilient flooring.
- For water damage due to leaking fixtures, the source of the leak must be located and corrected. Any structural damage must be repaired and any signs of mold or residual moisture must be dealt with prior to replacing the resilient flooring in the affected area.

For additional information and precautions regarding how to properly deal with moisture and mold concerns, it is suggested to refer to the U.S. EPA website [www.epa.gov/iaq/](http://www.epa.gov/iaq/) index listing section titled Molds & Moisture. (See page 1.6).