GENERAL INFORMATION

All recommendations are based on the most recent available information. The information In this sheet provides general 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.

- Mannington flooring is recommended for use over properly prepared concrete, suspended wood, metal, and other suitable substrates.
- Never install Mannington flooring products over residual asphalt type (Cutback) adhesive as "Bleed Through" may occur.
- Mannington flooring is not suitable for external installation or unheated locations.
- Mannington flooring, adhesive, jobsite, and subfloor must be acclimated to a stable condition before installation.
- Following installation, foot traffic should be minimized for 24 hours, point loads and rolling traffic for 48 hours, and utilize minimal wet cleaning for 5 days.
- Mannington flooring should remain at a temperature between 55° - 85° F (13°- 29°C) during its service life.
- Mannington flooring must be fully adhered using the appropriate Mannington adhesive.
- All seams must be sealed by either using Mannington Commercial MCS-42 chemical seam sealer or heat welded with Mannington solid color weld rod.

MATERIAL RECEIVING, HANDLING & STORAGE

1. All floor covering products require care during storage and handling. It is important to store flooring products in a dry, temperature-controlled interior area.
2. Material must be conditioned for at least 48 hours before beginning the installation.
3. The temperature range should be between 65º F and 100º F, and the relative humidity should be controlled and maintained between 30% to 70%.
4. If the material has been stored at colder temperatures, it will need to be unrolled and allowed to relax overnight before proceeding with the installation.
5. Report discrepancies immediately to Mannington at 1 800 241 2262 EXT 2 (Claims) for installation of products installed with visual defects, mixed production runs, or incorrect style will not be honored.

JOB SITE TESTING

1. Before jobsite testing, the building envelope must be sealed (walls, roofing, windows, doorways, etc. installed).
2. The installation area and materials to be installed shall be maintained at a minimum of 65°F (18.3°C) and a maximum of 85°F (29.4°C) for 48 hours before, during, and for 48 hours after completion of the installation. Relative humidity level extremes should also be avoided. General recommended humidity control level is between 35 – 55%. If a system other than the permanent HVAC source is utilized, it must provide proper control of both temperature and humidity to recommended or specific levels for the appropriate time duration.
3. Test sites must be properly prepared and protected for the duration of testing to achieve valid results.
4. Surface Flatness for all Subfloors: The surface shall be flat to 3/16" (3.9 mm) in 10 ft. (3050 mm) and 1/32" (0.8 mm) in 1 ft. (305 mm). To check flatness, place a 10-ft. straight edge, string, laser level, or another suitable method on the surface and measure the gap.
5. Concrete Subfloors:
   a. Concrete subfloors must be finished and cured, free of all sealers, coatings, finishes, dirt, film forming curing compounds, or other substances that may prevent proper bonding of the flooring materials (ACI 302.1 and ASTM F710).
   b. Randomly check concrete subfloor for porosity using the drop water test. Place a 1-inch diameter drop of water directly onto the concrete subfloor. If the water droplet does not dissipate within 60 to 90 seconds, the subfloor is considered non-porous.
   c. Concrete subfloors must have a minimum compressive strength of 3,000 psi. Concrete subfloors shall not consist of lightweight concrete or gypsum.
   d. Moisture Testing: Perform either the preferred In-situ Relative Humidity (RH) Test (ASTM F2170) or the acceptable Moisture Vapor Emission Rate (MVER) Test (ASTM F1869). For acceptable moisture limits, please refer to the specifications of the adhesive of choice.
   e. Alkalinity: Must test surface alkalinity (ASTM F710). A 7.0 to 9.0 pH is acceptable.

6. Wood Subfloors and underlayment panels shall have the moisture content tested using a suitable wood pin meter. Readings between the wood subfloor and underlayment should be within 3% and have a maximum moisture content of 14% or less.

MOISTURE SUPPRESSANT SYSTEM

Concrete subfloors that exceed adhesive specifications will require a Moisture Suppressant System. Due to complexities associated with moisture vapor transmission, emissions, and movement of soluble salts (alkalinity) in concrete subfloors, we do not offer, recommend, or warranty a specific solution for excess moisture in concrete slabs. However, there are many companies that offer solutions with warranties for excess moisture in concrete slabs.

Mannington Commercial suggests that you reference the current ASTM F710, "Standard Practice for Preparing Concrete Floors to Receive Resilient Flooring" and ASTM F301 Standard Practice for Two Component Resin Based Membrane Forming Moisture Mitigation Systems for Use Under Resilient Flooring Systems. Contact one or more of the following or other moisture suppressant system suppliers for assistance:

Ardex (724) 203-5000 www.ardex.com
Koester American Corp. (757) 425-1206 www.koesterusa.com
Mapei (800) 426-2734 www.mapei.com
Uzin Ltd. (800) 505-4810 www.ufloorsystems.com
Schönox (855) 391-2649 www.hpsubfloors.com

SUBFLOOR PREPARATION

Careful subfloor preparation is vital for excellent floor appearance and good adhesion. The subfloor must be smooth, firm, flat, clean, dry, 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 a porous subfloor (concrete or wood) that has a high pH and/or needs a primer, use Mannington's Universal Primer.

Mannington Universal Primer / pH Blocker is an acrylic latex solution made to neutralize excess alkali and is also recommended 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.

CONCRETE

Below and on-grade concrete subfloors must have a suitable vapor retarder properly installed directly beneath the slab. Always follow manufacturers' written recommendations for the use and installation of their appropriate surface preparation materials.

1. Record and file site conditions, test results and any corrective action(s) taken. It is important to maintain this documentation throughout the warranty period.
2. Subfloor must be clean (free of dirt, sealers, curing, hardening, or parting compounds or any substance that may stain or prevent adhesion), smooth, flat, sound, fit for purpose, free of movement, excessive moisture, and high alkalinity.
3. Slick surfaces such as power troweled concrete shall be abraded or profiled to allow for a mechanical bond between the adhesive and subfloor.
4. Remove existing resilient floor covering; remove all residual adhesive, paint or other contaminants following RFCI recommended work practice. The use of adhesive removers or solvents in the abatement or removal of existing or old adhesives is prohibited and may void any warranty. WARNING: ASBESTOS & SILICA - Refer to the current Resilient Floor Covering Institute (RFCI) document "Recommended Work Practices for Removal of Existing Resilient Floor Coverings" for guidance (www.RFCI.com). Note: If the flooring contractor elects to install new floor covering over an existing floor covering, the flooring contractor assumes all responsibility as to the suitability and continued performance of the existing floor covering.

5. Perform corrective actions necessary for elevated moisture or high alkalinity conditions.
6. Surface Flatness for All Subfloors: The surface shall be flat to 3/16" (3.9 mm) in 10 ft. (3050 mm) and 1/32" (0.8 mm) in 1 ft. (305 mm) Bring high spots level by sanding, grinding, etc. and fill low spots. Smooth surface to prevent any irregularities or roughness from telegraphing through the new flooring.
7. Leveling and Patching: For concrete subfloors, use only high-quality Portland cement based materials (minimum 3,000 psi compressive strength according to ASTM C109). Mix with water only, do not use latex. CAUTION: Do not lightly skim coat highly polished or slick power troweled concrete surfaces. A thin film of floor patch will not bond to a slick subfloor and may become a bond breaker causing flooring to release at the interface of the subfloor and patching material. If in doubt, perform a bond test prior to commencing with the installation.

Wood

Wood subfloors require an underlayment (double layer construction) with a minimum total thickness of 1" (25 mm). Use minimum ¼" (6 mm) thick APA rated "underlayment grade" plywood with a fully sanded face or other underlayment panel that is appropriate for the intended usage. Install and prepare panels and seams according to the manufacturers' instructions. Also refer to ASTM F1482 Standard Practice for Installation and Preparation of Panel Underlayments to Receive Resilient Flooring.

Underlayment

Many times, wood panel subfloors are damaged during the construction process or are not underlayment grade. These panels must be covered with an appropriate underlayment. Underlayment panels are intended to be used to provide a smooth surface on which to adhere the finished floor covering. Underlayment panels cannot correct structural deficiencies.

Particleboard, chipboard, construction grade plywood, OSB, flake-board, and wafer board are not recommended as underlayments. All have inadequate uniformity, poor dimensional stability, and variable surface porosity. Mannington Commercial 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.

Panels intended to be used as underlayment should be specifically designed for this purpose. These panels should have a minimum thickness of ¼" (6mm). Any panels selected as an underlayment must meet the following criteria:

- Be dimensionally stable
- Have a smooth, fully sanded face so graining or texture will not telegraph 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

Any unevenness at the joints between panels must be sanded to a level surface. Gaps between panels, hammer indentations, and all other surface irregularities must be filled and sanded.

Existing Floor Coverings

To achieve maximum product performance, it is always best to remove existing floor covering and prepare the substrate before installing new products in commercial settings. In the case where removal of the existing floor covering in not an option, the existing flooring must be covered with Portland Based Embossing leveler or other appropriate porous underlayment. Existing flooring can adversely affect the performance properties of the new flooring, such as indentation or adhesive bond. If you choose to install over an existing floor, please refer to the existing floor covering section of our installation manual for a list of things to consider.

Note: If the flooring contractor elects to install new floor covering over an existing floor covering, the flooring contractor assumes all responsibility as to the suitability and continued performance of the existing floor covering.

INSTALLATION PROCEDURES

Before starting installation, ensure the following are satisfactorily completed:

- Acclimation: The installation area and materials to be installed shall be maintained at a minimum of 65°F (18.3°C) and a maximum of 85°F (29.4°C) for 48 hours before, during, and for 48 hours after completion of the installation. Relative humidity level extremes should also be avoided. General recommended humidity control level is between 35 – 55 %. If a system other than the permanent HVAC source is utilized, it must provide proper control of both temperature and humidity to recommended or specific levels for the appropriate time duration.
- Flooring Materials: Check that the quantity of flooring and adhesive are sufficient for area to be installed. Check for visual Defects before installation. Installation of flooring acknowledges acceptance of materials. Report discrepancies to Mannington at 1 800 241 2262 EXT 2 (Claims), for installation of products installed with visual defects or incorrect style will not be honored.
- Expansion joints, isolation joints, or other moving joints are incorporated into concrete floor slabs to permit movement without causing random cracks in the concrete. These joints must be honored and not be filled with underlayment products or other materials, and floor coverings must not be laid over them. Expansion joint covering systems should be detailed by the architect or engineer based upon intended usage and aesthetic considerations.
- Surface cracks, grooves, depressions, control joints, other non-moving joints, and other irregularities shall be filled or smoothed with high quality Portland cement based patching or underlayment compound for filling or smoothing, or both. Patching or underlayment compound shall be moisture, mildew, and alkali-resistant, and shall provide a minimum of 3,000 psi compressive strength after 28 days, when tested in accordance with ASTM C109 or ASTM C472, whichever is appropriate.
- Subfloor Preparation: Ensure all surfaces to be covered are completely clean, dry, and smooth and that all necessary subfloor preparation has been properly completed and documented.
- Inspect Substrate: Perform final acceptance inspection of substrate.
- Adjacent Surfaces Protection: Protect adjacent work areas and finish surfaces from damage during product installation.
- Flooring Protection: Mannington flooring should be the last material installed to prevent other trades from disrupting the installation and adhesive set-up or damaging the floor.

CUTTING & FITTING

Mannington Commercial sheet products are flexible and will handle easily when cutting and fitting. This product characteristic enables the installer to fit the material using freehand knifing techniques.

- Reverse sheets for seaming. Directional arrows are applied to the back of sheet for proper placement. See seaming section for details.
- If the job site is complex and requires a precise fit, use pattern-scribing techniques.
- The material may also be fit using direct scribing techniques.
- Once the material has been fit, it is necessary to tube or lap back half of the sheet to expose the underfloor for adhesive application.
- Care should be taken when folding the material back. Always fold the material in a wide radius to avoid sharp kinks and creases, which may cause breaks in the product.

ADHESIVES: Mannington Commercial recommends the following adhesive for the installation. Only these adhesives should be used. Other adhesive may not provide adequate performance and could result in a failure.

1. Mannington Commercial V-82 Adhesive: Solvent-free, acrylic adhesive for installation on porous substrates including concrete that is dry per ASTM F-1869 3 lbs. maximum MVER or ASTM F-2170 75% maximum relative humidity. V-82 should be applied with a trowel 1/16 wide x 1/32 deep and spaced 1/32 apart. Spread rate approximately 150 – 200 sq. ft. per gallon. See adhesive specification / label for details.
2. Mannington M-Guard V-88 Adhesive: Moisture resistant transitional pressure sensitive adhesive recommended for higher moisture tolerance of 10 lbs. maximum MVER or 95% relative humidity. Maximum pH limit 12. M-Guard V-88 adhesive will not correct pre-existing moisture problems in older concrete subfloors. V-88 should be applied with 1/16 wide x 1/32 deep and spaced 1/32 apart U notched trowel for porous substrates and a 1/16 wide x 1/32 deep and spaced 5/64 apart U notched trowel for non-porous substrates. Porous spread rate approximately 250 sq. ft. per gallon. Non-porous spread rate 350 sq. ft. per gallon. For non-porous substrates, adhesive must dry completely. See adhesive specification / label for details.

3. Mannington Commercial V-95 Adhesive: Solvent-free two-component, epoxy for use on non-porous substrates, under hospital beds, operating room tables, heavy rolling loads, areas subject to standing water, topical moisture, or where high performance is needed. Moisture limits are per ASTM F-1869 3 lbs. maximum MVER or ASTM F-2170 75% maximum relative humidity. V-95 should be applied with a 1/16 wide x 1/32 deep and spaced 1/32 apart. Spread rate is approximately 185 – 245 sq. ft. per gallon. See adhesive specification / label for details.
4. XpressStep Spray Adhesive for Sheet Vinyl: Water-based spray adhesive recommended for installation over porous and non-porous substrates. Maybe used under hospital beds, operating room tables, and heaving rolling loads. Moisture limits are 10 lbs. maximum MVER or 95% relative humidity. Maximum pH limit 11. Spread rate is approximately 150 – 185 sq. ft. per can. See adhesive specification / label for details.

Important note: Mannington adhesives are specifically formulated to be fully compatible with our product chemistry and to maximize the performance of Mannington flooring. 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 product and will void all applicable warranty coverage.

APPLYING ADHESIVE

- Fully adhere Mannington Commercial resilient sheet flooring to an approved underfloor.
- After you have trimmed the material to fit the room, tube or lap it back to expose the underfloor. Apply adhesive with the recommended notched trowels found in the adhesive label.
- Spread adhesive over 100% of the exposed subfloor, leaving no gaps or puddles.
- Maintain uniform coverage by keeping the trowel clean and properly notched.
- In most cases it is advisable to give the adhesive sufficient open time. Open time allows the moisture to flash off the adhesive, permitting the adhesive to develop more body and immediate tack. Subfloor porosity and atmospheric conditions can determine open time. Be certain to provide ample open time on non-porous subfloors and at seam lines.
- After the adhesive has begun to tack-up, roll the sheet forward into the adhesive to avoid trapping air. Do not drop or flop the material into the adhesive. Roll the floor covering with a three-section, 100 lb. (or heavier) floor roller in both directions.
- After the first half of the sheet has been adhered and rolled, fold back the second half, and repeat the procedure.

CAUTIONS:

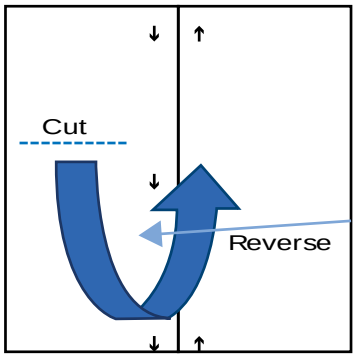
- When providing open time, do not permit the adhesive to “skin over” or dry. Too much open time will result in insufficient bonding.
- Use V-82 adhesive over porous substrates. Use V-95 adhesive over non-porous substrates. M-Guard V-88 may be used over both porous and non-porous subfloors.
- V-95 adhesive has low initial tack. It may be necessary to apply weights to the floor covering, especially in the seam area, until the adhesive sets. When using V-95 adhesive, roll the adhered flooring with a 100 lb. (or heavier) roller within one hour after the flooring is installed.
- V-95 must be used over non-porous substrates, under hospital beds, operating room tables, heavy rolling loads, areas subject to standing water, topical moisture, or where high performance is needed.
- Wait one to two hours and re-roll the flooring again to ensure full contact has been achieved. Re-rolling the material will also help remove any trapped air bubbles.

NOTE: Mannington’s V-88 adhesive is an option in areas where a high moisture adhesive is needed. When installing homogeneous sheet vinyl with V-88 adhesive, it is recommended to trowel the adhesive then back roll with a short-nap paint roller to minimize the possibility of trowel ridge telegraphing. V-88 can only be used in a permanent, full spread installation method

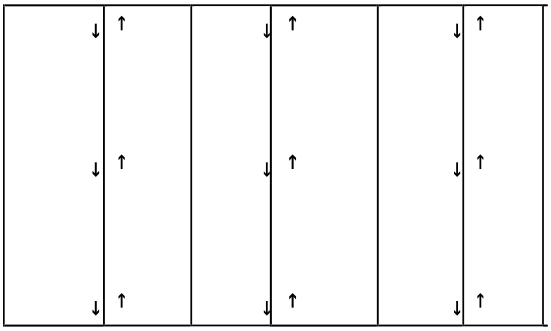
SEAMING (RECESS SCRIBING SEAMS)

- When seaming is required with BioSpec MD, recess scribing is the recommended method. Position the materials as "Reverse Sheets.” This requires positioning similar sides of the sheet together.
- Directional arrows are applied to the back of sheet for proper placement. See Reverse Seam Diagrams below.

Reverse Sheet – Cut / Single Seam



Reverse Sheet – Multiple Seams



- Cut the selvage edge of one sheet using a straightedge and a utility knife or edge trimmer. Trim off about 3/8" from the edge. Trimming is necessary since 6' rolls are typically stored on-end causing compression on one edge, or the rolls might be damaged during transport.
- Position the sheets in such a manner that the top sheet will overlap the previously straightened sheet by approximately 1/2".
- Fold back the sheets to expose the under floor and apply the appropriate adhesive. Place the trimmed sheet into the adhesive while providing sufficient overlap of the second sheet; then lay in the second sheet.
- Roll the adhered areas to within 6" of the seam line with a 100 lb. three-section floor roller.
- Adjust the recess scriber before cutting the seam by cutting a slit in a scrap piece of resilient flooring material. Insert the button on one edge of the slit. The needle should just touch the opposite side of the slit. Make sure to set the scriber to produce a net fit, neither gapped nor too full.
- Using a recess-scribing tool, insert the scriber against the straightedge piece of resilient. Use the bottom end of the tool, the guide, to follow the bottom sheet and lightly score the top sheet with the needle of the scribing tool. Keep the scribing tool perpendicular to the seam when scribing.
- Cut the seam net with a utility knife (straight or hook blade). Cut the seam by following the scribed mark. A burr may be created on the seam if the needle of the scriber is set too deep or too much pressure is applied. Remove any burrs by placing the seam with the back of a hook knife.
- CAUTION: If the scriber is pulled too tightly against the bottom sheet, the seam will be too full and have the potential to peak.
- After scribing and cutting the seam, roll the seam area with a hand seam roller to bring the seam edges level. Re-roll the entire adhered area with the 100-lb. floor roller. Thoroughly clean the seam area and wipe dry with a damp cloth. For dried adhesive, use mineral spirits on a cloth.

CHEMICAL SEAM SEALING

- Thoroughly clean the seam of all adhesives, dirt, etc., before sealing.
- If the seams are to be chemically welded, use Mannington Commercial MCS-42 Seam Sealer.
- When inserting the applicator tip into the seam cut, it is crucial that the seam sealer be applied to the full depth of the cut.
- Wipe off all sealer from the surface of the seam with a clean white cloth dampened with mineral spirits.
- Because the seam sealer should not be allowed to remain on the surface of the flooring more than 30 or 40 seconds, it is recommended 5 or 6 lineal feet of seam be sealed and then wiped clean. Be certain to overlap each application of seam sealer.

HEAT WELDING / WELD RODS

Heat welding is the preferred method for sealing seams. Heat welding is the act of fusing resilient sheets together with a heated thermal vinyl weld rod. Mannington's weld rod is available on spools and is designed to fit the most popular heat welding guns. Mannington offers a broad range of solid rod colors to coordinate with all our heat-weldable flooring.

HEAT WELDING RECOMMENDATIONS

- To achieve good sealing results, knowledge of proper heat welding procedures is important.
- A repeated stop / start method will produce rough uneven seams, creating an unpleasant appearance.
- Temperature setting is critical to the success of any heat welding application. If the welding gun is set too hot or applied too slowly, the flooring is likely to burn, char, or craze the surface next to the weld rod. If the welding gun is not hot enough or applied too quickly, the weld may have poor fusion.
- After waiting 24 hours for the adhesive to dry, use a power-grooving machine or hand groover to cut a groove the entire length of the seam. Adjust the machine so the depth of the groove is about two thirds of the product's thickness. Never go all the way through material. Maintain a 3 -sided weld (2 sides and bottom). Stop machine grooving several inches away from the wall.
- Extend the groove to the wall using a hand-grooving tool.
- Prior to heat welding, allow the flooring adhesive 24 hours to completely dry. Preheat the welding gun and determine proper temperature setting and router depth by practicing on scrap pieces of flooring. Make certain the speed nozzle is clean and free of obstructions.
- Use a 4mm round narrow pre-heat speed nozzle (tip) designed for welding urethane finish flooring.
- Insert the welding rod into the speed nozzle allowing approximately 3" to extend out. Arrange welding rod in such a manner that it will not interfere with the application. Be careful when inserting the welding rod because the nozzle is extremely hot.
- Allow the welded rod to cool, and then groove the installed rod with a hand-grooving tool. Grooving the rod makes it possible to achieve complete seam coverage when you start seaming from the opposite direction to finish the job.
- Reposition yourself and your tools at the back wall and continue welding into the grooved rod just made so there are no missed spots in the seam. It is important to achieve a smooth, continuous coverage of the rod into the seam.
- After the welded rod shrinks and cools for approximately 30 minutes, trim down the excess by proceeding with the following steps:

1. Remove approximately two thirds of the exposed welded rod. Use a spatula trim knife and trim plate to trim off the top layer. There should be about 1/32" excess weld rod projected above the surface of the resilient.
2. Trim the welded rod level until it is flush with the surface of the resilient sheet. Use an extremely sharp spatula knife without the trim; place at a 5º to 10º angle to the floor surface. Keep the sharpened side down against the welded rod. Be careful not to cut or dig into the resilient surface. Inspect the finished seam carefully and remove any missed high spots with a spatula knife. If there are low spots, the seam weld may require re-application of the weld rod.
3. Once the entire area has been trimmed and inspected, smooth out the completed seam by applying heat from the welding tool. Remove the speed nozzle and use the same heat setting to direct the flow of heat from the gun along the length of the seam.
4. For optimal performance, apply a uniform coating of the Quantum Guard Seam Coater Pen to the weld rod. This protective coating will keep the seam area clean and provide optimal performance. See details below.

SEAM COATER PEN

Before use, shake vigorously to blend the ingredients, remove the cap, daub the felt tip marker a few times to begin the flow, then coat over the seam area with a thin, even application. In high traffic areas, it is a good practice to apply two or even three coats of finish from the Quantum Guard pen. Just be certain that the finish is thoroughly dry before applying additional coats. Each pen will cover approximately 300 lineal feet of seam. The Quantum Guard Pen coating is not intended to provide additional seam strength or integrity. It is a "coating" that helps retain seam appearance initially and when in service.

FLASH COVING RESILIENT SHEET PRODUCTS

All Mannington resilient sheet goods can be installed using the flash coving method. This edging technique, often preferred by hospitals and other health care facilities, is a process of extending the resilient flooring up the wall to create wall base. Normally, the floor covering is extended up the wall to a height of 4" to 6". Coving is popular with end users because it eliminates the need for a floor/wall juncture and is easy to maintain.

As with all resilient installations, proper preparation of the work area is critical to the success of the installation. Clean the underfloor carefully and make certain it is structurally sound. The juncture of the floor and wall also needs special preparation before beginning a coved installation. Follow the instructions below to install the cove cap and the cove stick (cove fillet strip).

- Measure desired height for the cove caps at each corner and strike a chalk line.
- Attach aluminum or vinyl cove caps at this height using flathead nails with a hammer or brad pusher, or use contact cement.
- Always miter inside and outside corners in the cap. When mitering the outside corners, file the ends of the cap smooth. Use a specially designed miter tool with interchangeable die sets to make corners on the cove cap. This tool eliminates sharp edges at the outside corners.
- Cove sticks support the resilient flooring as it is flashed up the wall, eliminating the chance of puncturing the resilient flooring. Firmly secure plastic or wood cove sticks where the floor meets the wall with adhesive or nails.
- Use non-staining nails and set flush with the stick. The stick should have a minimum radius of 1 1/8" and be precisely mitered at all inside and outside corners.
- Provide a smooth transition in the door casings and other areas where the coving ends by cutting back to the cove stick.
- Tack the scribing felt to the wall with brad type nails before beginning to scribe it. Use a combination square, a small metal ruler, or a 1" piece of resilient to pattern scribe the felt.
- Fit the scribing tool up inside the cove cap and scribe the felt by sliding the tool along the cap as you mark the felt with a pencil.
- Scribe and cut the outside corners of the felt using a utility knife and the inside corners of the felt using dividers. After scribing the entire work area, position the pattern squarely on the resilient sheet flooring and transcribe the pattern with pencil dividers. Be careful when cutting the material on the inside and outside corners.
- Dry fit the material. Inside corners should fit snug, but not be forced into position. Make sure to always position the shorter side first and then the longer side.
- Gently pull the material away from the wall. Apply the appropriate adhesive to the floor, wall, cove cap, and cove stick.
- Allow the appropriate amount of open time, determined by what adhesive is used. Fit the material back into place. Remember to always position the shorter side first.
- Roll the flooring with the appropriate size roller (use a hand roller on coved areas). Apply the appropriate seam sealer at all seams, following the recommended directions for the resilient floor being installed.
- The most demanding aspect of a coved installation is forming the outside corners. Fill outside corners with a " boot" type plug, rather than a V-type plug, on the least visible wall. The plugged corner fill piece should extend back at least several inches from the corner. The seam of the floor should be below the cove stick. Using an underscriber, scribe the back of the plug at the corner. This will mark the pattern of the corner on the plug.
- Cut along the scribed line at a 45° angle with a curved trim knife or a utility blade while holding the plug steady with a metal ruler and your other hand. When cutting, leave the face of the plug longer than the back.
- Check the fill piece for accurate fit. Make any minor adjustments to the plug as necessary to fill the space correctly. Remove the fitted fill piece and apply the appropriate adhesive. Reposition the fill piece and apply seam sealer.

FINISHING & MAINTENANCE

- Protect all exposed edges of floor covering with trim or restrictive moldings, wood or vinyl cove base.
- Use metal strips in doorways or where new flooring joins another floor covering.
- Caulk along tubs, toilet bowls, etc.
- Remove all adhesive smears or residue from the surface of the floor covering with a clean cloth dampened with mineral spirits.
- Do not wash the floor for 48 hours after installation.
- Follow appropriate maintenance schedule and guidelines.

CAUTIONS AND MISCELLANEOUS

- Do not place heavy items on newly installed floor covering for at least 48 hours after completion of the installation.
- Heavy furniture should be equipped with suitable non-staining, wide-bearing casters.
- Furniture should be moved on the newly installed floor using an appliance hand truck over hardboard runways.
- Floor covering subjected to excessive heat and light is subject to thermal degradations. Use appropriate precautions to minimize potential effects on the floor covering.
- Oil and petroleum-based products can result in surface staining. Do not track asphalt driveway sealer or automobile oil drips on the vinyl floor covering.
- Use non-staining walk-off mats at building entrances to remove excess dirt and grit from the foot traffic. Rubber can discolor vinyl floor covering.

Choices that Work.

For more information, please contact Mannington Technical Services at 800 241 2262 Ext. 3 or visit www.manningtoncommercial.com.

- Radiant Heat: Mannington Commercial resilient sheet flooring can be installed over radiant heating (hydroponic) systems. The maximum temperature of the subfloor surface must not exceed 85°. Before installing flooring products over newly constructed radiant-heating system, set the thermostat to a comfortable room temperature for the installation. For existing systems, the system must be switched off for a minimum of 48 hours before, during and 48 hours after flooring installation.
- Direct Sunlight: Installations in areas where there is heavy direct sunlight exposure for long periods of times should utilize window treatments and/or Mannington's V-95 two-part urethane adhesive in these areas.
- Protecting New Installations: New installations must be protected while the adhesive cures. Early foot traffic, point, or rolling loads can cause adhesive displacement or breaking of the bond between the adhesive and the sheet or substrate.

REPAIRS

Replacing Damaged Areas

- If possible, the floor covering repair piece should come from the original installation. Typically, consumers retain leftover pieces from the original installation for attic stock.
- Tape the repair piece over the damaged area and double-cut using a steel square as a guide.
- Remove the damaged area and scrape the subfloor clean. Apply adhesive on the back of the repair piece and insert into the flooring.
- Roll the repair piece with a hand seam roller.
- Use the appropriate Mannington seam sealer to seal all cuts.