

## GENERAL

These instructions cover all fully adhered installations of Amtico and Spacia Luxury Vinyl Floors (LVF) in tile and plank format with Silent Solution underlayment.

The installation of Mannington LVF is straightforward and similar to the installation procedures that apply to all quality resilient floors. Good preparation is essential for a trouble-free installation. Do not install Silent Solution until jobsite testing and subfloor preparations are finished and the work of all other trades is complete. Site conditions must comply with the relevant building codes and local, state, and national regulations.

- Silent Solution is recommended for use over properly prepared concrete, suspended wood, metal, and other suitable substrates. Never install Mannington LVF over residual asphalt type (cutback) adhesive as "Bleed Through" may occur.
- Silent Solution is manufactured in rolls 6 X 127.5 lineal Feet (765 sf. / 85 sy ) and weights 195 pounds per roll.
- Silent Solution is not suitable for external installation or unheated locations.
- Flooring, adhesive, jobsite, and subfloor must be acclimated to a stable condition before installation (see "Job Site Testing").
- After installation of LVF foot traffic should be minimized for 24 hours; point loads and rolling traffic for 48 hours. In addition utilize minimal wet cleaning for 5 days (except LockSolid or ExpressStep).
- All Mannington LVF flooring should remain at a temperature between 55°-85° F (13°-29° C) during its service life.

## MATERIAL RECEIVING, HANDLING & STORAGE

- All floor covering products require care during storage and handling. It is important to store flooring products in a dry, temperature-controlled interior area.
- The temperature range should be between 65° F and 100° F, and the relative humidity should be controlled and maintained between 30% and 70% percent during storage.
- Store Silent Solution rolls vertically (on edge) or horizontally on a solid surface single layer only. You must follow these storage recommendations to prevent compression and distortion of the underlayment.
- Report product discrepancies immediately to Mannington at 1 800 241 2262 EXT 2 (Claims). Installation of products installed with visual defects will not be honored.

## JOBSITE TESTING

- Before jobsite testing, the building envelope must be sealed (walls, roofing, windows, doorways, etc. installed).
- Maintain the installation area and materials 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. Avoid extremes in relative humidity level. 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 these recommended levels for the appropriate time duration.
- Test sites must be properly prepared and protected for the duration of testing to achieve valid results.
- Surface Flatness for all Subfloors: The surface shall be flat to 3/16 (4.7mm)" in 10 ft. (3,050 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.
- All subfloors must be finished and cured, free from dust, dirt, paint, grease, wax, curing agents, oils, sealers, solvents, old adhesives, or other contaminants that may prevent proper bonding of the flooring materials (ACI 302.1 and ASTM F710). The use of adhesive removers or solvents in the abatement or removal of existing or old adhesives is prohibited and will void any warranty.
- Concrete or Light weight must have a minimum compressive strength of 3000 psi and a dry density of a minimum of 105 pound per cubic foot. Light weight or Acoustical concrete with a psi of less than 3000 or is overly porous or dusty must be primed with a compatible primer such as Mannington Premium Universal Primer. Some substrates may require a second coat.
- Concrete Subfloors- Below or On grade must have an acceptable vapor retarding membrane directly below the slab. Mannington will not be responsible for failures due to Hydrostatic Pressure or moisture vapor emissions.
  - a. Moisture Testing: Perform either the preferred In-situ Relative Humidity (RH) Test (ASTM F2170) or the acceptable Moisture Vapor Emission Rate (MVER) Anhydrous Calcium Chloride Test (ASTM F1869). Acceptable moisture limits are a maximum of 80% RH or 5 pounds.
  - b. Alkalinity: Test surface alkalinity via ASTM F710. A 7.0 to 9.0 pH is acceptable. To bring out of range pH levels down, apply Mannington Premium Universal Primer and retest. If needed, apply a second coat.
- 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.

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## SUBFLOOR PREPARATION

### Concrete

Careful subfloor preparation is vital for an excellent floor appearance and good tile/plank 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. 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 material.

**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](http://www.RFCI.com)).

- Perform corrective actions necessary for elevated moisture or high alkalinity conditions.
- The surface shall be flat to 3/16" (4.7 mm) in 10 ft. (3,050 mm) and 1/32" (0.8 mm) in 1 ft (305 mm). Bring high spots level by sanding, grinding, etc. and fill low spots. A smooth surface is required to prevent any irregularities or roughness from telegraphing through the new flooring.
- For concrete subfloors, use only high quality Portland cement based materials (minimum 3000 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 the 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 1/4" (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 F 1482 "Standard Practice for Installation and Preparation of Panel Underlayment's to Receive Resilient Flooring."
- 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. It should be understood that underlayment panels cannot correct structural deficiencies. Panels intended to be used as underlayment should be specifically designed for this purpose. These panels should have a minimum thickness of 1/4" (6 mm) 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.
- Particleboard, chipboard, construction grade plywood, any hardboard and flake-board, are not recommended as underlayments for fully adhered installations. All have inadequate uniformity, poor dimensional stability, and variable surface porosity. Mannington Commercial will not accept responsibility for adhered installation over these subfloors. Nature's Paths LockSolid can be installed over all wood and wood composition panels provided that they are smooth, flat, structurally sound, and free of deflection. This includes plywood, particleboard, oriented strand board (OSB), flake-board, and wafer board. If the surface of the subfloor is not smooth, a 1/4" underlayment should be installed over the subfloor. In all cases, the underlayment manufacturer or underlayment installer is responsible for all underlayment warranties.

## ADHESIVE

Amtico requires Amtico PSA or XpressStep LVT adhesive for the installation of MSS underlayment system. Other adhesives may not provide adequate performance and could result in a failure.

## INSTALLATION

Follow all guidelines and instructions for floor prep and site conditions for LVF products.

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CAUTION: Temperature directly affects adhesive working and setting times. Warmer temperatures shorten working times and colder temperatures lengthen working times of adhesive. Follow instructions on container for proper application.

- Thoroughly clean the subfloor by sweeping and vacuuming all dirt and debris.
- Roll out the Silent Solution underlayment. Be certain to have felt side facing up. Trim underlayment to 1/8" - 1/4" gap around the perimeter. Sheets should be flat. Lay the Silent Solution underlayment at right angles (perpendicular) to the direction of the LVF. Avoid placing seams in the LVF over underlayment seams.
- When multiple drops of underlayment are required, place each drop with the side and or butt seams with a net fit, no overlaps or gaps. If the factory edge is not suitable overlap the underlayment 1 1/2" - 2" minimum and double cut with a utility knife and straight edge.
- After trimming, pull back one half of the underlayment. Make sure to keep the floor clean.
- Spread the adhesive evenly over the subfloor with a 1/16 wide x 1/32 deep x 1/32 apart U notched trowel. Hold the trowel at 60 degree angle, avoiding skips or voids and excessive adhesive application. Proper spread rate is essential
- For Xpress Step LVT Spray Adhesive apply evenly. Do not spray in a sweeping motion as this may result in inconsistent pattern. Proper spray pattern essential to a successful installation. See adhesive label for details.
- Lay the underlayment into the adhesive, with valleys dry and ridges wet.
- Butt underlayment seams together, leaving no gaps or overlaps.
- A 100% adhesive transfer rate to the Silent Solution underlayment is required. If proper transfer is not achieved, remove the dried adhesive and reapply before proceeding.
- Follow the same procedures to install the second half of the underlayment.
- Roll the completed installation with a 75 pound, three-section roller in two directions (i.e., north-south, then east-west) to ensure adequate coverage.
- A minimum of 2 hours cure time before allowing traffic on the installed underlayment. If flooring is not to be installed on the same day, take care to protect the underlayment from damage by using plywood panels or other solid protection until the Mannington LVF is installed.

## INSTALLATION - LVF

- Follow all Mannington LVF installation instructions. All directional arrows should be flowing in the same direction.
- To install the LVF, spread the adhesive over the Silent Solution underlayment using the 1/16 wide x 1/32 deep x 1/32 U notched trowel.
- Allow the adhesive to dry completely from yellow to tan, then lay in the tile or plank within 3 hours. The highly aggressive pressure sensitive grip prevents slippage and minimizes seam gaps. Drying time is 45-90 minutes and will vary depending on temperature and humidity.
- Installation over areas of incomplete drying can result in job failure.
- Install rows making sure tiles/planks are precisely aligned with your chalk line and adjacent tiles.
- Randomly check tiles/planks for complete coverage of adhesive onto the back of the tile, especially near the end of each adhesive spread.
- If tiles/planks shift, use releasable masking tape diagonally over the seams to keep the tiles tight and aligned.
- Roll the floor in both directions using a 100 lb 3-section roller. Roll the floor as soon as conditions permit without the tiles/planks sliding or adhesive bleeding to the surface. Roll the floor again at 90 degrees to the first within 1 hour. Be sure not to exceed the 3 hour working time. The V-88 adhesive will not transfer 100% to the backing of the tile/plank and a failure could occur.
- Clean excess adhesive as you install before it is allowed to dry. Use a soapy clean soft cloth to remove wet excess adhesive.
- Wait 24 hours for normal foot traffic and wait 48 hours for point and rolling loads after installation.
- During first five days, minimize heavy wet cleaning to allow adhesive to fully set.

Contact Mannington Technical Services for additional guidance about subfloor testing and installation recommendations. Technical Services can be reached Monday to Friday, 8:00 a.m. to 5:00 p.m. ET at (800) 241 2262, option 3.

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