Luxury Vinyl Plank Installation Guidelines

GENERAL INFORMATION

These installation specifications are for Luxury Vinyl Plank. All recommendations are based on the most recent available information. All instructions and recommendations must be followed for satisfactory installation. You may also visit Mannington.com for recent updates.

- Although acclimation is not specifically required, best installation practice recommends that the product be installed close to intended occupied service temperature, generally a target of 70°F (21°C), but at least between 55°F (13°C) and 100°F (38°C).
- Luxury Vinyl Plank is recommended for three season rooms and seasonal homes over concrete substrate. Installer must provide at least 5/8" (16mm) expansion.
- Luxury Vinyl Plank is not recommended where the floor might experience temperature extremes beyond -20°F (-29°C) or greater than 150° F (65°C). Occupied use temperature range is assumed to be between 55°F (13°C) and 100°F (38°C).
- Luxury Vinyl Plank can be installed up to 50' x 50' (15.2 m X 15.2 m) or total of 2500 sq. ft. (232.3 sq m) with a ¼" (6.4mm) expansion. Larger areas must provide a 3/8" (16mm) expansion up to 100' x 100' (30.4 m X 30.4 m).
- Install Luxury Vinyl Plank only after the jobsite has been cleaned and cleared of other trade apparatus that may damage a finished installation.
- Mix and install product from several different cartons to achieve desirable plank variation.
- All subfloor/underlayment patching must be done with a non-shrinking, water-resistant, high-quality Portland cement patching compound.
- Structural subfloor requirements must meet local building codes as well as Mannington criteria. For concrete subfloors, conformance to ASTM F 710 and for panel underlayment, conformance to ASTM F 1482.
- Luxury Vinyl Plank is designed to be installed as an angle/angle installation only.

SUBFLOOR INFORMATION

- Careful and correct preparation of the subfloor is a major part of a satisfactory installation. Luxury Vinyl Plank is designed using a "floating floor" installation method. Although Luxury Vinyl Plank will bridge minor floor imperfections and gaps, heavy roughness or unevenness in the subfloor may telegraph through the new floor covering.
- All subfloors should be flat to within 3/16" (4.8 mm) in 10' (3048 mm) and 1/32" (0.8 mm) in 12" (305 mm).
- Never install Luxury Vinyl Plank products over residual asphalt-type (cut back) adhesive. Residual cut back adhesive should be completely removed and covered with high quality latex underlayment.
- Radiant Heat – Concrete or wood subfloors with Hydronic radiant heating systems are the preferred system under flooring, with a minimum ½" over topping to insure a flat smooth installation surface. The surface temperature mut not exceed 85°F. Electric and mat radiant heating systems can be used under Mannington Floating SPC and WPC products provided they are specifically recommended and warranted by the radiant heat equipment manufacturer for that application. Heating system must not exceed 80°F and must provide a flat, smooth installation surface for the Resilient flooring product. Mannington warranties do not cover problems caused by inadequate radiant heating systems. Always check such systems as to their suitability, warranted coverage and use under SPC/WPC floating products.

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Wood Subfloors

- All wood floors must be suspended at least 18" (457.2 mm) above the ground. It is important to provide adequate cross-ventilation. Cover the ground surface of a crawl space with a suitable vapor barrier. Wood substrates directly on concrete or installed over sleeper construction are not satisfactory for installation.

- Luxury Vinyl Plank can be installed over many wood substrates that are not suitable for fully adhered products if they are smooth, flat, structurally sound and free of deflection – including particleboard, chipboard, flake board and OSB. Caution: Damage may occur on wood panel subfloors during construction. The suitability of these floors is the responsibility of the installer.

- If the surface of the wood subfloor is not smooth, a 1/4" (6.4mm) underlayment panel should be installed over the subfloor. Any panels selected as an underlayment must meet the following criteria:
  - o Be dimensionally stable
  - o Have a smooth, fully sanded face so the graining or texturing will not show through
  - o Be resistant to both static and impact indentation
  - o Be free of any surface components that may cause staining such as plastic fillers, marking inks, sealers, etc.
  - o Be of uniform density, porosity and thickness
  - o Have a written warranty for suitability and performance from the panel manufacturer or have a history of proven performance

CAUTION: Wood substrates directly fastened to concrete are not satisfactory for the installation of wood floor coverings. This non-ventilated construction practice will result in deterioration of the wood substrate system and may cause problems such as underlayment joint telegraphing. Mannington will not accept claims regarding performance of our flooring products installed over this subfloor construction.

Concrete Subfloors

- 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.

- Surface of the slab should be flat to within 3/16" (4.8 mm) in 10' (3048 mm) and 1/32" (0.8 mm) in 12" (305 mm).

- New concrete slabs must be thoroughly dry (at least six weeks) and completely cured.

- All concrete slabs must be checked for moisture before installing material. Details for moisture testing can be found on our website. The final responsibility for determining if the concrete is dry enough for installation of the flooring lies with the floor covering installer. Luxury Vinyl Plank must never be installed where excessive moisture emissions may exist. In accordance with ASTM F1869 moisture emission from subfloor cannot exceed 8 lbs MVER (moisture vapor emission rate) per 1,000 sq. ft. per 24 hours as measured with the calcium chloride test or ASTM F 2170 In Situ Relative Humidity Test not to exceed 85%. Mannington will not assume responsibility for floor covering failure due to hydrostatic pressure or excessive moisture vapor emission. New concrete slabs must be thoroughly dry (at least six weeks) and completely cured. Although the planks are not susceptible to damage from moisture, excessive subfloor moisture can be a breeding ground for mold, mildew and fungus – all of which can contribute to an unhealthy indoor environment. The Limited Warranties do not cover issues arising from flooding, leaking plumbing or appliances, water entering through sliding glass doors, presence of mold, discoloration from mold or fungi or similar conditions.

- Holes, grooves, expansion joints and other depressions must be filled with a high quality cementitious patching & leveling compound, troweled smooth and feathered even with the surrounding surface.

- Concrete floors with a hydronic radiant heating system are satisfactory, provided the temperature of the floor does not exceed 85°F at any point. Before installing the flooring, the heating system should be turned on to eliminate residual moisture. Mannington does not recommend heated floor mats for Luxury Vinyl Plank.

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Recommended Work Practices for Removal of Resilient Floor Coverings

WARNING: Do not sand, dry scrape, bead blast 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. These instructions should be consulted with each installation. The link can be found on our website. See www.mannington.com or go to www.rfci.com.

Existing Floor Coverings

- Luxury Vinyl Plank can also be installed over most existing hard–surface floor coverings provided that the existing floor is well bonded, and the surface made flat and smooth.
- Ceramic tile unevenness should be made smooth by applying an overlay such as cementitious patching or leveling compound.
- Existing floors should not be heavily cushioned and not exceed one layer in thickness.
- Do not install over carpet.
- Floor should be flat, smooth, dimensionally sound and free from deflection.

INSTALLATION

Luxury Vinyl Plank is designed to be installed as a "floating" floor. Do not secure the planks to the subfloor. Always undercut wood door jambs. Check local building code for metal door jambs. If they cannot be cut, then proper expansion must be maintained around the door jamb. Do not install cabinets or kitchen islands on top of Luxury Vinyl Plank. Use care when installing wall moldings and transition strips to not fasten through the product. Luxury Vinyl Plank is an angle/angle installation which provides superior joint strength.

Layout

- It is important to balance the layout of the plank format. Proper planning and layout will prevent narrow plank widths at wall junctures. Determine layout to prevent having less than half a plank width or very short length pieces.
- As with all plank products, lay the long dimension of the plank parallel to the long dimension of the work area.
- Accurately measure the room to determine the centerline, adjust this established line to accommodate a balanced layout and then transpose this line to a comfortable width away from the starting wall; approximately 2' (609.6 mm) to 3' (914.4 mm) wide. Determine if the starter row will need to be cut. If the first row of planks does not need to be trimmed in width, it may be necessary to cut off the unsupported tongue, so a clean, solid edge is toward the wall.
- Position the first plank so that both the head and side seam groove are exposed. NOTE: The groove is the longer of the locking profile, approximately 3/16" (4.8 mm). This requires installing the product from left to right in the room. Occasionally, it may be necessary to install backwards. This may be done by sliding the grooves under the tongues and working them right to left, but this is more difficult.
- Install the second plank in the row by angling the end tongue into the end groove of the first plank. Be careful not to bend the corner of the plank. It is important to know that all structures expand and contract, including hardwood and laminate product. An expansion gap of approximately 1/4" (6.4 mm) from the wall is recommended. Then cut a plank to length to start the second row. Stagger the end seam at least 6" (152.4 mm) from the first plank.

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- Install the first plank in the second row by inserting the long side tongue into the groove of the plank in the first row. This is best done with the low angle of the plank. Do not install Luxury Vinyl Plank planks flat.
- Install the second plank in the second row by inserting the short end tongue tightly into the previously installed plank end groove. Align the plank so the long side tongue tip is positioned just over the groove lip of the plank in the first row. Working from the end seam, with a low angle, slide the long tongue into the groove of the adjoining plank. Use of finesse and slight pressure is required to seat the tongue into the groove. You will feel the tongue lock into the groove.
- Work across the length of the room installing planks along the wall in the first row and then aligning the planks in the second row. It is critical to keep these two rows straight and square, as they are the "foundation" for the rest of the installation. Check squareness and straightness often.
- Cut the last plank in the first row to fit approximately 1/4" (6.4 mm) short of the end wall. Planks may be cut with a saw or guillotine type cutter such as Bullet Tools Mega Shear. Often the remainder of this plank may be used to start the third row.
- Continue installing planks, being certain to maintain a random appearance and offset end seams by at least 6" (152.4 mm). Maintain a 1/4" (6.4 mm) expansion space at all fixed vertical surfaces. Make sure all planks are fully engaged – if slight gapping is noticed the gap can be tapped closed by using a scrap of flooring and a tapping block. It is always work practice to use a Mannington Laminate Tapping Block to lightly tap rows as you install to ensure they are fully engaged in the locking system.
- When fitting under door casings, toe kick etc. plank must be modified using a small block plane. Remove a thin layer from the tongue to allow tongue and groove to be flat fitted while keeping the integrity of the tongue and groove. After checking the fit, apply a thin bead of MSS 20 or MCS 42 seam sealer on the groove then slide planks together to seal the joint tight. Wipe any excess sealer off the surface. If necessary, a flat pull bar may be used to assist in adjoining the modified planks. When fitting around obstacles or into irregular spaces, Luxury Vinyl Plank can be cut easily and cleanly using a multi tool or jigsaw. It is often beneficial to make a cardboard template of the area and transfer this pattern to the plank.

FINISHING THE JOB

- Protect all exposed edges of Luxury Vinyl Plank by installing wall base and/or Luxury Vinyl Plank matching moldings. Use caution to prevent the fasteners from securing the planks to the subfloor. Do not allow the floor to become pinched. Considerations for transitions should be made for substrate changes, room to room environment changes, complicated layouts and subfloor elevation. Please see insert information on full glue step (using urethane adhesive) and Flush mount Stairnose installation (using urethane adhesive). Caulk along tubs, toilet bowls, etc. using 100% silicone caulk.
- After 48 hours, damp mop to remove residual surface dirt. Follow appropriate maintenance schedule using Mannington Ultraclean or quality rinse free cleaner.

REPAIRING LUXURY VINYL PLANK

- Luxury Vinyl Plank is tough and durable; however, if a plank becomes damaged it can be replaced.
- If the damaged plank is along the perimeter of the room, the easiest technique is to just disconnect the planks until the damaged plank is removed. Replace the material and reassemble the planks.
- If it is impractical to just disconnect and reassemble the flooring, follow this procedure:
- Using a circular saw and or a multi-tool saw, cut out and remove the center of the damaged piece, leaving approximately a 1" (25.4mm) strip attached to the surrounding material.
- Carefully cut back from the corners of the plank or tile to the inside edge.
- Remove the edges by wiggling the cut plank out from the tongue and groove of the surrounding pieces.

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- Prepare the replacement plank by removing the leading edge of the tongue profile on the long side and the end of the plank. Careful not to damage the decorative surface. Remove the bottom of the groove on the short end side by cutting on an angle to remove. Once the plank is prepared, install groove into tongue to test the fit. Once you check the fit is correct you are now ready to complete the install.
- Position the replacement piece by engaging the groove into the tongue of the adjoining material. "Hinge" the prepared replacement plank into position.
- Slightly lift prepared side of plank and apply a thin application of MSS 20 or MCS 42 onto the three exposed seams and carefully position plank into place, wipe excess from surface.
- Use a hand roller to assist in aligning the edges into position.
- Weight the replaced plank for at least 15 minutes until the sealer secures the material.

CAUTIONS AND MISCELLANEOUS

- Furniture should be moved onto the newly installed floor using an appliance hand truck over hardboard runways.
- Heavy furniture should be equipped with suitable non-staining, wide-bearing casters or protectors. Non-staining felt protectors are recommended for table and chair legs to help prevent scratching.
- Like with all floor coverings, it is best to protect Luxury Vinyl Plank installation from exposure to direct sunlight. A combination of heat and sunlight can cause most home furnishings to fade and discolor. Avoid exposure to direct sunlight for prolonged periods. During peak sunlight hours, the use of blinds or drapes is recommended.
- Oil or petroleum-based products can result in surface staining. Do not track asphalt-driveway sealer or automobile-oil drips onto the Luxury Vinyl Plank.
- Use rugs or mats labeled "non-staining" that provide a manufacturer warranty.
- Inspect all flooring prior to installation. If you have any questions or concerns, please contact Mannington's Customer Care team at 800-356-6787. Claims will not be accepted for product that has not been inspected prior to installation.

U.S. Patent 6,291,078; U.S. Patent 6,218,001; U.S. Patent 7,384,697 and other patents pending.

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