

Mannington® APEX Installation Guidelines

GENERAL INFORMATION

These installation guidelines are for APEX. All recommendations are based on the most recent available information. All instructions must be followed for a satisfactory installation. Visit our website at www.Mannington.com for most current installation information including helpful videos.

- APEX is a completely waterproof product. Consideration for under structure or room quality and environment should always be given.
- Although acclimation is not specifically required, best installation practice recommends that the room and flooring should be allowed to adjust in constant temperature between 55°F and 90°F for 48 hrs. prior to and during installation. Temperature of room should not go below 55°F thereafter.
- APEX does not need to be acclimated if the HVAC is up and operating and material is within 15°F difference from storage to install.
- Open room area should not exceed 50 linear ft. in either direction or 2,500 sq. ft., with 1/4" expansion is recommended with no pinch points.
- Install APEX 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 aesthetic plank variation.
- All subfloor/underlayment patching must be done with a non-shrinking, water-resistant, high-quality Portland cement-based patching compound.
- Structural subfloor requirements must meet local building codes as well as Mannington criteria that is for concrete subfloors, conform to ASTM F 710 and panel underlayment must conform to F1482 guidelines.
- APEX uses an angle drop lock method, careful consideration should be given when aligning the end lock. This is necessary to avoid damage to profile.
- Never flat lay and tap close the end seam. This method will damage the profile.
- Caution end seam must be properly aligned before using mallet to tap down. This becomes even more critical with long and wide plank formats.

SUBFLOOR INFORMATION

- Careful and correct preparation of the subfloor is a major part of a satisfactory installation. Although APEX is installed as a "floating" floor, correct preparation of the subfloor is still a major part of a successful installation. Although APEX will bridge minor floor imperfections heavy roughness or unevenness of the subfloor may telegraph through the new floor covering, resulting in an unsightly surface and excessive wear on high spots. All subfloors should be flat to within 3/16" in 10' and 1/32" in 12'.
- Never install APEX products over residual asphalt-type (cut back) adhesive. Residual cut back adhesive should be completely removed and covered with high-quality latex underlayment.
- APEX already has an attached underlayment pad, use of additional underlayment pad is not recommended.

- Radiant Heat - Concrete floor with Hydronic radiant heating systems are the preferred system under flooring, with a minimum 1/2" over topping to insure a flat smooth installation surface. The surface temperature must 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.

Wood Subfloors

- All wood floors must be suspended at least 18" above the ground. Adequate cross-ventilation must be provided, and the ground surface of a crawl space must be covered with a suitable vapor barrier. Wood subfloors directly on concrete or installed over sleeper construction are not recommended.
- APEX can be installed over many wood substrates that are not suitable for fully adhered products, providing that they are smooth, flat, structurally sound and free of deflection. Including particleboard, chipboard, flakeboard or OSB. Caution: many times wood panel subfloors are damaged 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" underlayment panel must be installed over the subfloor. Any panels selected as an underlayment must meet the following criteria: 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

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" in 10' and 1/32" in 12'.
- New concrete slabs must be thoroughly dry (at least six weeks) and completely cured.
- All concrete subfloor systems must meet or exceed local building code requirements. For concrete slabs that are on or below grade it is required that they be constructed so that ground water vapor cannot penetrate.
- 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. APEX must never be installed where excessive moisture emissions may exist. In accordance with ASTM F1869, moisture emission from subfloor cannot exceed 8 lbs. per 1,000 sq. ft. per 24 hours as measured with the calcium chloride test or ASTM F 2170 In Situ Relative Humidity test. Relative humidity not to exceed 85%. Mannington will not assume responsibility for floor covering failure due to hydrostatic pressure or 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.

- Mannington does not recommend the use of 6 mil poly directly under APEX floating products.
 - o On and below grade concrete subfloors must have a suitable vapor retarder properly installed directly beneath the slab. Always follow manufacturer's written recommendations for the use and installation of their appropriate surface preparation materials. Consequently, Visqueen (6 mil polyethylene) on top of the slab is NOT a recommended solution for controlling moisture emissions above specified limits. Poor indoor environmental conditions can take place under the polyethylene and up the walls. If MVER is over 8lbs or RH of the slab is over 85% additional drying time must be allowed or use of a moisture mitigation system is required. Use a proven system that meets ASTM F3010 standard practice for two-component resin-based membrane-forming moisture mitigation systems for use under resilient floor coverings from a reputable manufacturer such as Ardex, Mapei, Schonox etc... Follow the manufacturer's installation guidelines.
- Holes, grooves, expansion joints and other depressions must be filled with a high-quality patching and 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 concrete floor does not exceed 85°F at any point. Before installing the flooring, the heating system should be turned on to eliminate residual moisture.

Recommended Work Practices for Removal of Resilient Floor Coverings

WARNING: Do not sand, dry scrape, 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

APEX can also be installed over most existing hard-surface floor coverings provided that the existing floor surface can be made smooth.

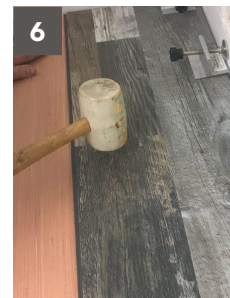
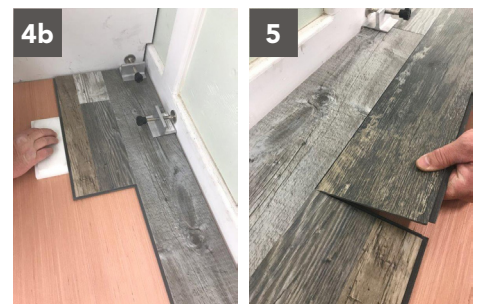
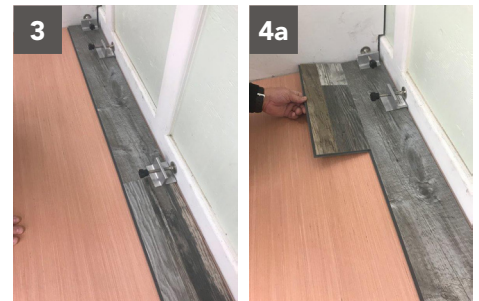
- Ceramic tiles should be well bonded, flat and even. APEX can bridge up to 1/4" in grout lines. If necessary, tiles can be made smooth using a cement-based patch or leveler.
- Existing floors should not be cushioned and not exceed one layer in thickness.
- Do not install over carpet.
- Floor should be flat, smooth and dimensionally sound, free from deflection.

INSTALLATION

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

Plank 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 center line, 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' to 3' 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.
- With plank tongue facing the wall, lay first plank flat, working from left to right, continue 1st row of plank by placing side end tongue of next plank directly over end groove, press down to engage. See (1). Use mallet to secure the lock. See (2). Complete row and slide into place using 1/4" spacers around the perimeter. See (3).
- Second row working left to right: install the 1st plank in the second row into groove while staggering the plank at least 8". See (4a). Angle the long seam into the groove and allow to lay flat. It may be helpful to tap plank with a tapping block to assure plank is fully engaged and allowed to lay flat. See (4b).
- Proceed to install the 2nd plank second row by angling and engaging long seam tongue into the 1st row groove while aligning end seam tongue to fall directly over the end seam groove. Allow plank to drop in place, you should feel it engage. See (5).
- To fully seat the end lock, use a rubber mallet to tap plank directly over the seam. This will completely lock the end joint. To prevent damage to the lock it is essential to keep plank square and aligned before using rubber mallet. See (6).
- Repeat this technique for each additional row.
- 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" short of the end wall. Planks may be cut with a saw- or guillotine-type cutter such as Bullet Tools Mega shears. 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 8". Maintain a 1/4" expansion space at all fixed vertical surfaces. Check to be certain 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 best work practice to use a Mannington Laminate tapping block (SKU#153275) to lightly tap rows as you install to fully seat the locking system assuring they are fully engaged. Use a rubber mallet only to tap down end lock.



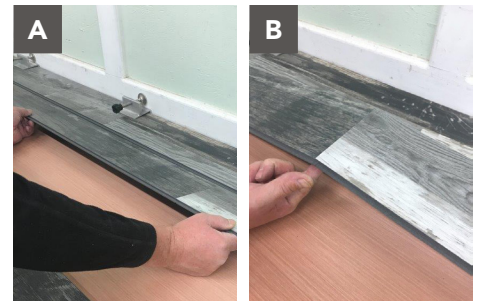
- When fitting under door casings, toe kick etc. If necessary, plank may be modified using a small block plane. Remove a thin layer from the groove to allow tongue and groove to be flat-fitted while keeping the integrity of the tongue and groove. After checking the fit apply a thin bead of MSS 20 Seam 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, APEX 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 APEX by installing wall molding and/or APEX matching moldings. Use caution to prevent the fasteners from securing the planks to the subfloor, do not allow floor to become pinched. Use 100% silicone caulk along tubs, toilet flange, etc. Considerations for transitions should be made at substrate changes, room-to-room environment changes, complicated layouts, subfloor elevation, or room size larger than recommended.
- After 48 hours, damp mop to remove residual surface dirt. Follow appropriate maintenance schedule using Mannington Ultraclean or a quality rinse-free cleaner.

REPAIRING APEX

- APEX is tough and durable, however, if a plank becomes damaged it can be replaced.
- If the damaged plank or tile 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. Do this by separating whole rows first, See (A), by carefully lifting and releasing the whole row. See (B). Disassemble the panel by carefully lifting directly under the short end seam to release the lock. Once damaged plank is removed, simply reassemble with a new plank.
- If it's impractical to just disconnect and reassemble the flooring the following procedure should be used:
 - Using a circular saw and or a multi-tool saw, cut out and remove the center of the damaged piece, leaving an approximately 1" 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.
 - Prepare the replacement plank by removing the leading edge of the tongue profile on the long side and the end of the plank. Be careful not to damage the decorative surface. Also 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 you are now ready to fully 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 Mannington MSS 20 Seam Sealer 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.
- Close your curtains or blinds where extreme sunlight hits the floor. Like with all floor coverings, protect the finished APEX installation from exposure to direct sunlight. A combination of heat and sunlight can cause fading, discoloration, or thermal expansion to most home furnishings. Avoid exposure to direct sunlight for prolonged periods. During peak sunlight hours, the use of blinds or drapes is recommended. Prolonged direct sunlight can result in discoloration and excessive temperatures may cause floor expansion (which may cause buckling).
- Oil or petroleum-based products can result in surface staining. Do not track asphalt-driveway sealer or automobile-oil drips onto the vinyl floor covering.
- Use rugs or mats labeled "non-staining" that provide a manufacturer warranty.

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

**Be sure to register your new floor at
Mannington.com/Register for a chance to win
\$100 and for proper warranty coverage.**