

There Are Three Installation Methods for UltimateFlex Five MM Luxury Vinyl Tile

The recommended installation method depends upon the overall floor dimensions and the expected daily use of the flooring once installed. Product can be loose laid and net fit in areas under 20 ft x 20 ft. Areas larger than 20 ft x 20 ft require either perimeter glue or full spread with a 3/8-inch expansion gap.

1. Loose-Lay Installation (*in areas up to 20 ft width x 20 ft length*)
2. Perimeter Glue Installation Method using Mohawk M700+
3. Permanent Full Spread Installation Method using Mohawk M700+ (*must be used for "special needs" installations and all new construction*)

NOTE: Underlayments, Storage and Handling, Subfloor and Wall/Door Preparation, and Jobsite Conditions sections are the same for all three installation methods.

Materials Required for Installation

- Tape Measure
- Carpenter Square
- Sharp Utility Knife/Extra Blades
- Saber Saw/Guillotine Cutter
- Jigsaw
- Chalk Line
- 75 or 100 lb Roller
- Safety Glasses

NOTE: This product must be installed in accordance with installation instructions outlined in this document so as not to void the applicable warranties.

NOTE: Mohawk will not be held responsible for problems that may arise from alternative adhesives. Please contact the adhesive manufacturer with issues.

Asbestos Warning

Warning! DO NOT MECHANICALLY CHIP OR PULVERIZE EXISTING PREVIOUSLY INSTALLED RESILIENT FLOORING, BACKING, LINING FELT, ASPHALTIC "CUTBACK" ADHESIVES OR OTHER ADHESIVES. Previously installed resilient floor covering products and the asphaltic or cutback adhesives used to install them may contain either **asbestos fibers** and/or **crystalline silica**. Avoid creating dust. Inhalation of asbestos or crystalline dust is a cancer and respiratory tract hazard. Smoking by individuals exposed to asbestos fibers greatly increases the risk of serious bodily harm. Unless you are positive that installed 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 and may govern the removal and disposal of material. See current edition of the Resilient Floor Covering Institute (RFCI) publication "Recommended Work Practices for Removal of Resilient Floor Coverings" for detailed information and instructions on removing all resilient covering structures.

Underlayments

These vinyl flooring products can be installed directly over most existing floor coverings, EXCLUDING carpet (*including needle felt*), floating laminate, floating floor systems, luan, and cushioned vinyl flooring. You may install directly over ceramic (*well-bonded with a skim coat*), PVC, VCT (*well-bonded, on- and above-grade*), terrazzo (*well-bonded*), glued laminate, glued hardwood, and fixed wooden boards, provided they are installed over a wooden subfloor.

Wood Underlayments

Wood subfloor systems require a double-layer construction. The top layer must be underlayment grade as specified and warranted by the manufacturer. Always fasten underlayment in accordance with the manufacturer's recommendations.

- A moisture test is required using a pin-type moisture meter. The moisture content must not exceed 14%.
- Wood subfloors must be structurally sound and in compliance with local building codes.
- Double-layered, APA-rated wood subfloors should be a minimum 1-inch total thickness with a least 18 inches of well-ventilated air space beneath.
- Insulate and protect crawl space with a 6 mil vapor barrier.
- It is recommended that the chosen APA underlayment be designed for installation under resilient flooring and carry a written warranty.
- An underlayment can only correct minor deficiencies in the subfloor while providing a smooth, sound surface on which to adhere the resilient flooring.
- Always follow the underlayment manufacturer's installation instructions.
- Wood subfloors directly fastened to concrete, or sleeper constructions, are not recommended.
- APA-rated Sturd-I-Floor panels are designed as a combination underlayment/subfloor and are designed for carpet only. Installing this resilient flooring over Sturd-I-Floor panels would require installation of a minimum 1/4-inch underlayment on top of the Sturd-I-Floor subfloor.
- Mohawk flooring is not recommended to be installed directly over fire-retardant treated plywood or preservative treated plywood. The materials used to treat the plywood may cause problems with adhesive bonding. An additional layer of APA-rated 1/4-inch-thick underlayment should be installed over the top of any treated subfloor.

OSB

- OSB panels and joints must be fastened and reinforced according to manufacturer's instructions. Be aware that OSB panels, and panel joints, can exhibit high and low spots that may telegraph to the surface of the flooring after installation. It is the installer's responsibility to take measures to correct such undulations and unlevel panel joints which are not covered by any Mohawk warranty.

NOTE: It is highly recommended that any sanded areas be sealed with Mohawk PrimeCoat before adhesive application.

Particle Board

- Particle board underlayment panels must be underlayment grade as specified and warranted by the manufacturer.

NOTE: Perform moisture tests using a reliable moisture meter in multiple locations. Moisture readings should never exceed 14% for plywood, OSB, particle board, chipboard, or solid hardwood subfloors. If moisture readings exceed 14%, conditions must be corrected at the jobsite before installing the Mohawk flooring.

Resilient Floor Covering as an Underlayment

- Must be single-layered, non-cushion backed, fully adhered, and smooth.
- Must show no signs of moisture or alkalinity.
- Wax, polish, grease, and grime must be removed.
- Cuts, cracks, gouges, dents, and other irregularities in the existing floor covering must be repaired or replaced.

NOTE: The responsibility of determining if the existing flooring is suitable to be installed over rests solely with the installer/flooring contractor on site. If there is any doubt as to suitability, the existing flooring should be removed, or an acceptable underlayment installed over it. Installations over existing resilient flooring may be more susceptible to indentation.

Concrete

New and existing concrete subfloors should meet the guidelines of the latest edition of ACI 302 and ASTM F710, "Standard Practice for Preparing Concrete Floors to Receive Resilient Flooring," available from the American Society for Testing and Materials (ASTM).

Moisture levels of concrete slabs before, during, and after installation must be 8 pounds or less per 1,000 square feet per 24 hours using an anhydrous calcium chloride test according to ASTM F1869 or, if using ASTM F2170 in-situ probes, moisture levels should be less than 99% RH (*relative humidity*). When using in-situ probes, penetrate a minimum of 40% of the slab. Do not test immediately after drilling holes and allow concrete to completely cool. Three tests should be conducted for areas up to 1,000 square feet. Conduct one additional test for each additional 1,000 square feet. All tests should be conducted at least five inches from an exterior wall. Always measure, record (*photograph*), and keep your test results. The pH must be between 5.0 and 9.0.

The final responsibility for determining if the concrete is dry enough for installation of the flooring lies with the flooring installer/contractor.

- On- or below-grade slabs must have an effective vapor retarder directly under the slab.
- Concrete floors shall be flat and smooth within 3/16 inch over a 10-foot span and 1/32 inch over a 12-inch span per ASTM F710.
- F-Number System: Overall values of FF 36/ FL 20 may be appropriate for resilient floor coverings.
- Glossy or waxed floors may require a higher value FF 75/ FL 50 to prevent telegraphing issues.

NOTE: Do not install flooring if moisture test results exceed recommended limits.

Old Adhesive Residue

If the adhesive is asphalt-based (*cutback*) or any other type of adhesive is present, it must be dealt with in one of two ways:

1. It may be mechanically removed using methods such as bead blasting or scarifying using a licensed professional contractor. (*See Asbestos Warning above.*)
2. A portland cement-based self-leveling underlayment may be applied over old adhesive residue. Check with the underlayment manufacturer for suitability, application instructions, and warranties.

NOTE: When using the Full Spread Installation Method, priming floors helps ensure a strong bond.

NOTE: Never use liquid adhesive remover, solvents, or citrus cleaners for removing old adhesive residue or other substances on the substrate. Solvent residue left in and on the subfloor will affect the bond between the new adhesive and the new floor covering and will cause future failures in the new flooring.

Other Approved Underlayments

- Self-leveling and patching compounds (*latex-fortified, portland cement-based only*). Patch must be mixed according to manufacturer's specifications.
- Gypcrete can be utilized when necessary due to radiant heat and in high-rise buildings. Gypcrete must be sealed using a manufacturer-approved acrylic floor primer to stabilize the surface.
- An additional layer of APA-rated, 1/4-inch-thick underlayment installed over top any treated subfloor.

Storage & Handling

- Always store and transport luxury vinyl flooring on a flat surface in neat stacks to prevent warping. Never store the cartons upright or in moist, dusty rooms or in places with extreme temperatures. Cartons should be evenly stacked and stored away from any heating/cooling ducts and direct sunlight. Do not stack higher than five cartons.
- Flooring must be acclimated in the room of installation between 55°F and 85°F (13°-29°C) for 48 hours before installation. These temperatures should be maintained before, during, and after the installation is complete.

NOTE: Installation in three-season rooms is at the customer's discretion, but no manufacturer's warranty is available for such installations.

Subfloor & Wall/Door Preparation

- Floor must be clean, smooth, flat, dry, and with minimal deflection ($L/360$). Fill all holes and cracks with a latex-fortified, portland cement-based patching compound. Mix all patching materials according to the patch manufacturer's instructions.
- Sand high spots to eliminate the possibility of telegraphing. Prime floor if needed with a manufacturer-approved acrylic latex primer to prevent over-absorption of adhesives and dust containment and to ensure a better bond of the adhesive to the subfloor.
- Any unevenness of more than 3/16 inch over a 10-foot span (5 mm over a length of 3 m) and 1/32 inch over a 12-inch (0.80 mm over a length of 304 mm) span per ASTM F710, must be leveled out.
- Fill any low spots in the subfloor and cracks or gaps 3/16 inch (4 mm) in width or greater with a portland cement-based leveling compound.
- Ceramic tile and embossed flooring exceeding the above requirements will require skim coating with a portland cement-based patch to avoid bottom-up pattern telegraphing.
- Remove any existing floor molding. Removal of wall baseboards is optional, providing quarter round is installed to cover the required expansion gap.
- Undercut doorjamb allowing the flexible luxury vinyl flooring to slip under doorjamb/case molding.
- Sweep the subfloor clean. The floor must also be free of all contaminants.

Jobsite Conditions

- It is recommended that resilient floor covering installation not begin until all other trades are completed.
- Areas to receive flooring shall be clean, fully enclosed, with the permanent HVAC set at a uniform temperature range of 55°F (13°C) and 85°F (29°C) and maintained following the installation.
- Adhesive working and open times vary based on job conditions, substrate, temperature, and humidity.

Temperature - Ambient Heat

- Controlled environments are critical for testing and installation. Fully operational HVAC systems are the best way to ensure temperature and humidity control.
- Do not install resilient flooring products until the work area can be temperature controlled. Minimum installation temperature is 55°F (13°C) with a maximum installation temperature of 85°F (29°C) and humidity below 65% for 48 hours prior to, during, and after installation.

Temperature - Radiant Heat

- Radiant heated substrates must never exceed 85°F (29°C) surface temperature.
- Several days prior to installing resilient products over newly constructed radiant heat systems, make sure the system has been on and operating at maximum temperature to reduce residual moisture within the concrete.
- Three days prior to installation, lower the temperature of the radiant heat system to 65°F (18°C). Twenty-four hours after installation, gradually increase the temperature in increments of 5°F.
- After continuous operation of the radiant heat system, ensure the surface of the floor does not exceed 85°F (29°C).

Installation Instructions

Inspection of flooring material prior to installation is required. Before installation, defects should be immediately reported to the retail store from which the flooring was purchased. Mohawk will not be responsible for labor costs to repair or replace material with defects that were apparent before or noticed at the end of an installation.

NOTE: The starter rows will consist of the first and second row to provide additional stability.

NOTE: Do not install cabinets on top of vinyl flooring.

NOTE: In place of a guillotine cutter, a jigsaw (with the blade cutting into the design of the plank) can be used to cut the luxury vinyl flooring. A utility knife can also be used, scoring the top of the pattern and then cutting plank from underside.

NOTE: Mohawk recommends an application of PrimeCoat prior to applying adhesive to any substrate to ensure a proper adhesive bond with the flooring product.

- Use a Mohawk adhesive following the directions on the adhesive label.
- Ensure that moisture and pH tests have been conducted and that the results do not exceed adhesive used.
- Adhesive working and open times vary based on job conditions, substrate, temperature, and humidity.
- Plan the layout so plank joints fall at least 6 inches away from subfloor and underlayment joints.
- Find the center point in the room. Divide the room into equal quadrants by marking two perpendicular lines on the subfloor intersecting at the center point. Depending on the layout, you may also start the row along a wall. Since walls are not always straight, snap a chalk line. Do not install over expansion joints.
- End joint staggers should not be less than 8 inches.
- Cut planks should not be less than half the plank width. The starter row may need to be cut to avoid a thin plank on the last row.
- Install tiles running in same direction when arrows are on back of tile. Ensure that all recommendations for subfloor and jobsite conditions are met prior to beginning the installation.
- If more than one run/lot is to be used, the job should be laid out so that different run numbers are not installed side by side.
- Once the installation is started, site conditions are accepted.

Loose-Lay Installation *(In areas no greater than 20 ft x 20 ft in length and width)*

- Product can be loose laid and net fit in areas under 20 ft x 20 ft.
- No expansion space is required when loose-lay method is selected for the area specified here.
- Install the base moldings. Use silicone caulking to seal all areas that may be exposed to surface spills (*i.e., tubs, toilets, and showers*).
- Return appliances and furniture to the room by rolling or sliding them over strips of hardboard.

Perimeter Glue Installation Method using Mohawk M700+

- Areas larger than 20 ft x 20 ft in length and width require either perimeter glue or full spread and a 3/8-inch expansion gap.
- Perimeter adhesive should be the width of the recommended trowel.
- Restrict the installation area to light foot traffic for a minimum of 24 hours. Restrict heavy traffic and rolling loads, or furniture placement, for a period of 48 hours after installation. Additional time may be necessary if the product is installed over a nonporous substrate.
- Install the base moldings. Use silicone caulking to seal all areas that may be exposed to surface spills (*i.e., tubs, toilets, and showers*).
- Return appliances and furniture to the room by rolling or sliding them over strips of hardboard.
- Allow at least five days following the installation before performing wet maintenance.

Permanent Full Spread Installation Method using Mohawk M700+ *(must be used for "special needs" installations)*

- In areas of high foot traffic, more volatile temperature variations or excessive rolling loads, full spread adhesive is recommended.
- Immediately after installation, roll the floor with a 75- or 100-pound, 3-section roller and roll again after 45–60 minutes in the opposite direction, ensuring the entire installation is rolled.
- Immediately remove any excess adhesive from the surface of the flooring using a clean, white cloth dampened with water. You may also use rubbing alcohol or denatured alcohol to remove tacky or dried adhesive. Dried adhesive may be removed with a clean, white cloth dampened with mineral spirits.
- Restrict the installation area to light foot traffic for a minimum of 24 hours. No heavy traffic, rolling loads, or furniture placement for 48 hours after installation. Additional time may be necessary if the product is installed over a nonporous substrate. Install the base moldings. Use silicone caulking to seal all areas that may be exposed to surface spills (*i.e., tubs, toilets, and showers*).
- Return appliances and furniture to the room by rolling or sliding them over strips of hardboard.
- Allow at least five days following the installation before performing wet maintenance.

Additional Instructions/Notes

- Aside from areas less than 20 ft x 20 ft installed net fit, all floor moldings and transition strips need to provide a 3/8-inch expansion space to allow expansion and contraction.
- Ensure moldings and transitions strips will not pinch the flooring.
- For rooms that have a run greater than 50 feet, a transition strip must be installed.
- Never allow nails or screws to enter the luxury vinyl flooring or the expansion zone around the flooring perimeter as it will prevent proper expansion and contraction of the flooring.
- Quarter round, base board, door jambs, etc., should never pinch the flooring as this may prevent the floor from properly expanding and contracting.

Care & Maintenance

To help protect and keep the floor clean, follow these care and maintenance guidelines:

Preventative Maintenance

- Prevent indentations and scratches by using nonstaining floor protectors on the legs of chairs, appliances, and all heavy furniture. Floor protectors should be at least 1 inch in diameter.
- Do not flood the floor or subject it to standing water.
- Protect the floor from tracked-in dirt by using walk-off mats at all outside entrances. Mats should have a non-rubberized backing and be marked as non-staining.
- Avoid tracking in tar or asphalt from driveways.
- Avoid high-heeled shoes on the floor as they can cause permanent indentations.
- Protect the floors against burns. Burns from cigarettes, matches, or other extremely hot items can cause permanent damage.
- Avoid exposure to direct sunlight for prolonged periods as this can cause discoloration.

Cleaning & Maintenance

- Sweep the floor regularly with a soft-bristle broom to remove loose dirt.
- Wash the floor with nonabrasive, neutral pH floor cleaner.
- For everyday maintenance, a mop moistened with warm water will suffice.
- Spills should be cleaned up immediately.

DO NOT use the following on your luxury vinyl floor:

- Soap-based detergents
- Abrasive or mop-and-shine products
- Vacuum cleaners with a rotating beater bar
- Ammonia
- Floor wax
- Bleach solution greater than 3%

NOTE: Always read the cautionary information on all cleaners prior to use.

NOTE: Never push, pull, or drag furniture, appliances or other items across the floor. When moving furniture or heavy items, always lift and carry the items. To minimize the risks of scratches and gouges when moving heavy objects, place plywood underlayment between the flooring and the object to be moved.