



# Loose Lay Luxury Vinyl Tile

## INSTALLATION INSTRUCTIONS

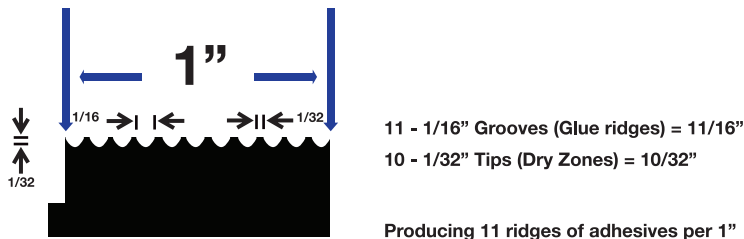
This document has been created to provide installation instructions for Mohawk Group's LVT products that require specific adhesive and installation techniques. Please read the entire document prior to beginning the installation and follow these exact instructions. Failure to follow the published installation steps will void all product warranties.

All instructions and recommendations are based on the most recent information available and should be followed for an ideal installation. For questions about product installation contact Mohawk Group Technical Services at [product\\_tech@mohawkind.com](mailto:product_tech@mohawkind.com) or visit our website at [www.mohawkgroup.com](http://www.mohawkgroup.com) to ensure you have the most up to date version of our installation instructions.

## MATERIAL RECEIVING, STORAGE AND HANDLING

Upon receipt of material, immediately remove any pallet wrapping materials and verify that the correct product and color was received and that the cartons are free from damage. Be careful not to drop any cartons as this may damage the flooring. No labor claims will be honored on materials installed with visible defects.

Store cartons of tile or plank products flat and squarely on top of one another. Select a storage location that is in the center of the installation area and away from vents, direct sunlight, etc. Check the carton label to verify that all materials are from the same run/lot number.



## TOOLS

- Trowel (see diagram below): 1/16" (width) x 1/32" (depth) x 1/32" (spacing) U-notch with an approximate spread rate of 220-260 sq. ft./gallon
- 75 – 100 lb. 3-section roller if adhesive is being used
- In situ RH moisture probes
- pH testing kit
- Infrared thermometer
- Chalk line
- Framing square
- Utility knife
- Tape measure

## REQUIRED ADHESIVES FOR PERIMETER OR FULL SPREAD

### M99 Adhesive

M99 Adhesive is a solvent free, water-based acrylic adhesive recommended for use in occupied buildings as it is low in odor and



contains zero (calculated) VOC's. M99 is designed with extended open time which allows the flooring to be installed up to 4 hours after drying. The adhesive should be allowed to dry to the touch to prevent slippage. Non-porous substrates require adhesive to be dry to the touch with no transfer to the finger. Do not install flooring into wet adhesive on a non-porous substrate.

**Testing Requirements: Slabs up to 99% RH and 12 pH.**

### **M700 Plus Adhesive**

M700 Plus Adhesive is a pressure sensitive, high-strength, high-tack adhesive for installing multiple types of dimensionally stable floor coverings such as vinyl tile & plank, solid vinyl tile, PVC and non-PVC-backed carpet tiles, and vinyl sheet flooring, over porous and non-porous substrates. M700 Plus offers extended open time, fast dry time, and ease of application. This unique adhesive has outstanding water resistance and tenacious bond strength for demanding installations such as hospitals, schools, nursing homes, hospitality, and food preparation centers. The low odor is ideal for occupied buildings.

**Testing Requirements: Up to 95% in situ RH and a pH of 5.0–10.0.**

### **MS160 Adhesive**

MS160 Spray Adhesive is a water-based adhesive recommended for installations of resilient floor coverings. It is particularly convenient for use in occupied buildings and greatly reduces the handling and application requirements associated with conventional adhesives. Normal traffic is allowed as soon as the installation is complete. MS160 Adhesive demonstrates highly aggressive grab and shear strength and has outstanding water and plasticizer resistance.

**Testing Requirements: Slabs up to 95% RH and 11 pH or less.**

### **Total Bond Adhesive**

Designed with safe, single-part, moisture-cured chemistry, Total Bond is a faster, more install-friendly alternative to two-part epoxy systems. Total Bond is engineered for heavy rolling loads and challenging environments and its waterproof design forms an unlimited moisture vapor barrier that can also take the punishment introduced by topical liquids.

**Testing Requirements: No RH or pH testing required.**

## **JOB SITE CONDITIONS**

Flooring material and adhesive must be acclimated to the installation area for a minimum of 48 hours prior to installation. If the area is not within the recommended temperature and relative humidity requirements, the product should **NOT** be installed until those requirements have been met.

- Installation of resilient floor covering should not begin until all other trades are completed.
- Areas to receive flooring shall be clean, fully enclosed, with permanent HVAC systems in place set to a uniform temperature range of 65° F to 85° F and maintained following the installation. Never allow the area to drop below 55° F.
- Ambient humidity should be no greater than 65% RH.
- Areas to receive flooring should be adequately lighted during all phases of the installation process.

### **Temperature – Radiant Heat**

- Radiant heated substrates must never exceed a surface temperature of 85° F.
- 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 slab.
- Three days prior to installation, lower the temperature to 65° F. 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.

## APPROVED SUBSTRATES AND TESTING REQUIREMENTS

All substrates to receive flooring must be tested for moisture. Do not install flooring if moisture test results exceed recommended limits. Stop the job and advise the customer that installation cannot continue without the proper treatment for moisture conditions.

All substrates to receive resilient flooring shall be dry, clean, smooth, and structurally sound. They shall be free of dust, solvent, paint, wax, oil, grease, residual adhesive, adhesive removers, curing, sealing, hardening, or parting compounds, alkaline salts, excessive carbonation or laitance, mold, mildew, and other foreign materials that might prevent adhesive bond.

## ASBESTOS WARNING

DO NOT MECHANICALLY CHIP OR PULVERIZE EXISTING 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 positively certain that the previously 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. [www.RFCI.org](http://www.RFCI.org).

## Old Adhesive Residue

If the adhesive residue is asphalt-based (cut-back) or any other type of adhesive is present, it must be mechanically removed completely.

**Note:** Never use solvents or citrus adhesive removers to remove old adhesive residue. Solvent residue left in and on the subfloor will affect the bond between the new adhesive and the new floor covering and will void all Mohawk Group warranties.

## Type: Concrete Substrates

New and existing concrete subfloors should meet the guidelines of the latest edition of ACI 302 and ASTM F 710, “Standard Practice for Preparing Concrete Floors to Receive Resilient Flooring” available from the American Society for Testing and Materials.

- Every concrete substrate on or below-grade must have an effective vapor retarder directly under the slab.
- Concrete floors shall be flat and smooth within 3/16” (3.9mm) in 10 feet and within 1/32” (0.8mm) in 12 inches.
- F-Number System: Overall values of FF 36/FL 20 may be appropriate for resilient floor coverings.
- Smooth, glossy resilient flooring may require a higher value FF 75/FL 50 to prevent telegraphing issues.

## Relative Humidity (RH)

Tests must be performed per the latest edition of ASTM F 2170 - RH (Relative Humidity test). Three tests should be conducted for areas up to 1000 SF; and one additional test is required for each additional 1000 SF. RH limits are based on adhesive used. Refer to adhesive section.

- RH reading depends on adhesive used. Refer to adhesive section.
- RH must not exceed 90% in loose lay installation or areas of loose lay with perimeter glue application.



- If RH is over 90% then a full spread application of adhesive must be used. Recommended adhesive is based on moisture readings.

**Note:** It may not be the floor covering installer's responsibility to conduct the tests. It is, however, the floor covering installer's responsibility to make sure these tests have been conducted and that the results are acceptable prior to installing the floor covering. When moisture tests are conducted, it indicates the conditions only at the time of the test.

Use of cement-based patching and/or self-leveling compounds which contain portland or high alumina cement and meet or exceed the compressive strength of 3000 psi.

### **Type: Lightweight Concrete**

New and existing light weight concrete floors should meet the ASTM F2471, Standard Practice for Installation of Thick Poured Lightweight Cellular Concrete Underlayments and Preparation of the Surface to Receive Resilient Flooring.

All recommendations and guarantees as to the suitability and performance of lightweight concrete under resilient flooring are the responsibility of the lightweight concrete manufacturer. The installer of the lightweight product may be required to be authorized or certified by the manufacturer. Correct on-site mixing ratios and properly functioning pumping equipment are critical. To ensure proper mixture, slump testing is recommended.

- Lightweight aggregate concretes having densities greater than 90 lbs. per cubic foot may be acceptable under resilient flooring.
- Concrete slabs with heavy static and/or dynamic loads should be designed with higher strengths and densities to accommodate such loads.

### **Type: Panel Type Wood Substrates**

New and existing panel type wood floors should meet the ASTM F1482, Standard Practice for Installation and Preparation of Panel Type Underlayments to Receive Resilient Flooring.

- 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 plywood subfloors should be a minimum 1" total thickness with at least an 18" well-ventilated air space beneath. Insulate and protect crawl spaces with a vapor barrier.
- It is recommended that the selected APA underlayment grade panels be designed for installation under resilient flooring and carry a written warranty covering replacement of the entire flooring system. Any failures in the performance of the underlayment panel rests with the panel manufacturer and not with the Mohawk Group.
- Underlayment panels 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 combination subfloor/underlayment but exposure to construction conditions, including weather, may necessitate installation of a 1/4" underlayment panel prior to resilient flooring installation.
- Mohawk Group resilient 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" thick underlayment should be installed.
- Primer such as PrimeCoat is required over any wood substrate.



## Type: Strip – Plank Wood Flooring

Due to expansion and contraction of individual boards during seasonal changes, Mohawk Group recommends 1/4" or thicker APA rated underlayment panels be installed over strip plank wood flooring.

## PRODUCT INSTALLATION & PROTECTION

### General Instructions

- Use a Mohawk Group Adhesive following the directions on the adhesive label.
- Ensure that moisture and pH tests have been conducted and that the results do not exceed the limits of the selected adhesive used.
- The permanent HVAC system must be in operation and set to a minimum of 65° F for a minimum of 72 hours prior to, during and after installation. After the installation, the maximum temperature should not exceed 85° F.
- Adhesive working and open times vary based on job conditions, substrate, temperature, and humidity.
- Install tiles running in the same direction when arrows are on back of the tile. Ensure that all recommendations for subfloor and jobsite conditions are met prior to beginning the installation.
- If more than one run/lot is used, the job should be laid out so that different run numbers are not installed side by side.
- Product can be loose laid and net fit in areas under 20'. Areas larger than 20' in any direction requires either perimeter glue or full spread and must be installed with an 1/8" expansion gap.
- In areas of high foot traffic, more volatile temperature variations or excessive rolling loads, full spread adhesive is recommended.
- Once the installation is started, site conditions are accepted.
- Accusound underlayment is double glue only. See Accusound instructions.

### Start of Installation: Planks and Tiles

Before installing the material, plan the layout so plank/tile joints fall at least 6" (15 cm.) 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 your layout, you may also start your row along a wall. Since walls are not always straight, snap a chalk line. Do not install over expansion joints.

**Step 1:** Apply adhesive with the recommended trowel (if applicable). Follow directions on adhesive label for open and working times. So you do not exceed the working time of the adhesive, spread only enough adhesive that corresponds with the amount of flooring that can be installed within the given working time.

**Step 2:** Install all planks/tiles with arrows pointing in the same direction making sure each piece is fitting tightly to the next.

**Step 3:** Repeat Step 1 and Step 2 until area is completed.

**Step 4:** If adhesive is used, roll once ASAP with a 75 or 100-pound, 3-section roller and roll again, in the opposite direction, after 45-60 minutes ensuring the entire installation is rolled.

### After Installation

- Immediately remove any excess adhesive from the surface of the flooring using a clean white cloth dampened with a 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 to light traffic/foot traffic for a minimum of 24 hours. Additional time may be necessary if the installation is over a non-porous substrate.
- Install the base moldings. Use silicone caulk to seal all areas that may be exposed to surface spills (i.e. tubs, toilets, and showers).
- Restrict heavy traffic, rolling loads, or furniture placement for 72 hours after installation.
- 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.

Mohawk Group Commercial Resilient Tile is recommended for a variety of commercial applications including educational, institutional, healthcare, retail, office and hospitality environments and may be installed over most properly prepared substrates making it suitable for installation on all grade levels where moisture conditions allow. Mohawk Group continuously makes technological advancements that improve product performance or installation techniques and methods.

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