Commercial Dry Back Enhanced Resilient Tile

INSTALLATION GUIDELINES
Mohawk 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 do not exist.

Substrate & Testing Requirements

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, alkaline salts, ex-cessive carbonation or laitance, mold, mildew, or curing, sealing, hardening, or parting compounds, or other foreign materials that might prevent adhesive bond.

All substrates to receive moisture sensitive floor covering must be tested for moisture.

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.

Concrete Substrates

Substrates


- Never use liquid adhesive remover or solvent cleaners for removing old adhesive residue or other substances on the substrate; their use will cause failure.
- Slabs on or above grade require an effective vapor retarder directly under the slab.
- Wet curing of seven days is preferred for new concrete.
- Do not use curing compounds. If present, they can interfere with the bond of the adhesive to the concrete.
- Remove curing compounds 28 days after placement, so concrete can begin drying.
- Concrete floors shall be flat and smooth within the equivalent of 1/32” in 12” and 3/16” in 10’.
- 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 of FF 75/ FL 50 to prevent telegraphing issues.

Relative Humidity (RH) – Tests must be performed per the latest edition of ASTM F 2170 - Internal Relative Humidity (IRH). Three tests should be conducted for areas up to 1000 SF. One additional test should be added for each additional 1000 SF.

pH

Concrete floors must be tested per the latest edition of ASTM F 710.

- pH reading must not exceed 10.0.
- Readings below 7.0 and in excess of 10.0 affect resilient flooring and adhesives.
- Rinsing the surface by damp mopping with clear water is the best way to lower alkalinity.
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 ensure that 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 only portland based patching and leveling compounds. Do not install Mohawk resilient flooring over gypsum based patching and/or leveling compound.

**Lightweight Concrete**

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 concrete product may be required to be authorized or certified by the manufacturer. Correct onsite mixing ratios and properly functioning pumping equipment are critical. To ensure proper mixture, slump testing is recommended.

- Lightweight aggregate concretes of 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.

**Relative Humidity (RH)**

Tests must be performed per the latest edition of ASTM F 2170 or manufacturer’s recommended moisture test procedures. Three internal relative humidity tests should be conducted for areas up to 1,000 SF. One additional test should be added for each additional 1,000 SF.

**Wood Substrates**

- A moisture test is required using a pin-type moisture meter. The moisture content must not exceed 15%.
- 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 18” well ventilated air space beneath. Insulate and protect crawl spaces with a vapor barrier.
- It is recommended that your chosen 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 Mohawk.
- 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.
- Sleeper construction or wood subfloor directly fastened to concrete is not recommended.
- APA rated Sturdi-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 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 1/4” thick APA rated underlayment should be installed.
Strip or Plank Wood Flooring

Due to expansion and contraction of individual boards during seasonal changes, Mohawk recommends 1/4” or thicker APA rated underlayment panels be installed over subfloors if product will be glued down.

Resilient Floor Covering

- Existing resilient floor must be single layered, non-cushion backed, fully adhered, and smooth.
- Existing flooring 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 existing flooring provides a suitable substrate rests solely with installer or 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.

Poured Floors (Epoxy, Polymeric, Seamless)

- Poured floors must be totally cured and well bonded to the concrete.
- Floors must be free of any residual solvents and petroleum residue.
- 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.
- Texture must be smooth.
- Floors must show no signs of moisture or alkalinity.

Old Adhesive Residue

If the adhesive residue is asphalt based (cut-back) 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.
2. A portland based self–leveling underlayment may be applied over it. Check with the underlayment manufacturer for suitability, application instructions, and warranties.

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.

Job Site Conditions

- It is recommended that resilient floor covering installation should not begin until all other trades are completed.
- Areas to receive flooring should be clean, fully enclosed, with the permanent HVAC set and maintained at a uniform temperature range of 65°F to 85°F before, during and after installation.
- Areas to receive flooring should be adequately lighted during all phases of the installation process.
- Working and open times vary based on job conditions, substrate, temperature, and humidity.
**Temperature - Ambient**

- 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 65°F with a maximum installation temperature of 85°F and humidity below 65% for 48 hours prior to, during, and after pre-installation testing. **DO NOT INSTALL FLOORING IF MOISTURE TEST RESULTS EXCEED RECOMMENDED LIMITS.**

**Temperature – Radiant Heat**

- Radiant heated substrates must never exceed 85°F surface temperature.

- Several days prior to installing resilient products over newly constructed radiant heated systems, make sure the radiant system has been on and operating at maximum temperature to reduce residual moisture within the concrete.

- Three days prior to installation, lower the temperature to 65ºF, and 24 hours after installation, gradually increase the temperature in increments of 5°F.

- After continuous operation of the radiant system, ensure the surface of the floor does not exceed 85°F.

**Material and Handling**

- All material should be from the same run/lot number, which is found on each carton label. If material from more than one run is to be used, the job should be laid out so that different run numbers are not installed side by side.

- Flooring material and adhesive must be acclimated to the installation area for a minimum of 48 hours prior to installation.

- Store cartons of tile or plank products flat and squarely on top of one another. Preferably, locate material near the center of the installation area, away from vents, direct sunlight, etc.

**Mohawk Adhesives**

Use of Mohawk adhesives is required for warranty to apply.

**Mohawk M700**

Acrylic adhesive with extremely aggressive tack, formulated to provide high shear and peel strength for installing Mohawk commercial resilient tile and resilient plank. M700 forms a secure plasticizer and moisture resistant bond. This high solids adhesive is also nonstaining and contains MicroSept antimicrobial system for enhanced resistance to mold and mildew. May be installed on concrete above, on and below grade, on APA approved plywood, and on underlayment grade hardboard.

Testing Requirements: Slabs up to 85% RH and 10 pH or less.

**Mohawk M95.0**

Premium high strength adhesive for installing resilient sheet, tiles, and dimensionally stable resilient plank over porous and nonporous substrates. Mohawk M95.0 is a solvent free, water based acrylic adhesive suggested for use in occupied buildings, since it is low in odor, and contains zero calculated VOCs.

Testing Requirements: Slabs up to 95% RH and 10 pH or less.
Mohawk M99

Mohawk M99 is a high-strength, high-tack adhesive for installing multiple types of dimensionally stable floor coverings such as vinyl tiles and plank, rubber tile and sheet, rubber stair treads, and vinyl sheet flooring over porous substrates. Mohawk M99 offers extended open time, fast dry time and ease of application. This unique adhesive provides 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: Slabs up to 99% RH and 12 pH or less.

Adhesive Application

Use of Mohawk adhesives is required for warranty to apply.

- For full spread application, use Mohawk M700, M95.0 or M99 adhesives with a 1/32” x 1/16” x 1/32” U-notch trowel. Follow the directions on the adhesive label.
- After placing the material into the adhesive, roll in both directions with a minimum 75 to 100 lb 3-section roller.

Tools and Materials Needed

- Mohawk M700, M95.0, or M99 adhesives
- 1/32” x 1/16” x 1/32” U-notch trowel for M700, M95.0, and M99; spread rate 175 to 225 SF per gallon
  
  Note: This adhesive spread rate is appropriate over most smooth substrates to achieve adequate transfer.
- 100 lb 3-section roller – Roll both directions
- Chalk line
- Carpenter square
- Utility knife
- Tape measure
- In-situ RH moisture meter
- pH testing kit

Installing Resilient Tile & Plank

General Instructions

- M700 Adhesive: Ensure that moisture tests have been conducted and that the results do not exceed 85% RH.
- M95.0 Adhesive: Ensure that moisture tests have been conducted and that the results do not exceed 95% RH.
- M99 Adhesive: Ensure that moisture tests have been conducted and that the results do not exceed 99% RH.
- pH of concrete subfloor should not be greater than 10 for M700 or M95.0.
- The permanent HVAC system must be operational and set to a minimum of 68°F for a minimum of 72 hours prior to, during, and after installation. After the installation, the maximum temperature should not exceed 85°F.
- Flooring material and adhesive must be acclimated to the installation area for a minimum of 48 hours prior to installation.
• Material should always be visually inspected prior to installation. Any material with visible defects should not be installed. Flooring installed with visible defects will not be considered a legitimate warranty claim.

• Make sure all material comes from the same run/lot number. Install tiles running in same direction when arrows are present on back of tile. Ensure that all recommendations for subfloor and jobsite conditions are met prior to beginning the installation.

• Directional designs are optional. Once the installation is started, site conditions are accepted.

Installation
When planning the layout, make sure tile and plank joints do not fall directly over joints in the underlayment and/or seams in existing flooring. Do not install over isolation joints.

Clean Up
Immediately clean any adhesive smears on the face of the flooring while they are still wet, using a clean cloth and water. Mineral spirits are recommended to remove tacky or dried adhesive.

Immediately after Installation
Restrict to light traffic for the first 24 hours. Install the base moldings. Use silicone caulk to seal all areas that may be exposed to surface spills, such as tubs, toilets, and showers.

Traffic
• Restrict foot traffic for 24 hours after installation.

• Restrict heavy traffic, rolling loads, or furniture placement for 72 hours after installation with M95.0 or M700. Additional time may be necessary for installation over a nonporous substrate.

• 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 conducting wet cleaning procedures or initial maintenance.

Mohawk continuously makes technological advancements that improve product performance or installation techniques and methods. All instructions and recommendations are based on the most recent information available and should be followed for an ideal installation. Contact Mohawk Group Technical Services at 800-833-6954 with questions about product installation or visit our website at mohawkgroup.com to ensure you have the most up to date version of our installation instructions.