



# Glue Down Commercial Resilient Tile

## INSTALLATION

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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, curing, sealing, hardening, or parting compounds, alkaline salts, excessive carbonation or laitance, mold, mildew, and 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

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.

- Never use liquid adhesive remover or solvent cleaners for removing old adhesive residue or other substances on the substrate; their use will cause failure.
- On or below-grade slabs must have an effective vapor retarder directly under the slab.
- Wet curing 7 days is the preferred method for curing new concrete.
- Curing compounds (DO NOT USE). 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 feet.
- 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.

**Relative Humidity (RH)** – Tests must be performed per the latest edition of ASTM F 2170 - IRH (Internal Relative Humidity Test). Three tests should be conducted for areas up to 1000 SF. One additional test, 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 with clear water is the best way to lower alkalinity. “DAMP MOP”

**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 only Portland-based patching and leveling compounds. Do not install Mohawk resilient flooring over gypsum based patching and/or leveling compounds.

## 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 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 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.

**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 1000 SF. One additional test, for each additional 1000 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 sub-floor 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 construction, are 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 APA rated 1/4" thick underlayment should be installed.

## **Strip – 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**

- Must be single layered, non-cushion backed, fully adhered, and smooth.
- 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 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.

## **Poured Floors (Epoxy, Polymeric, Seamless)**

- Must be totally cured and well bonded to the concrete.
- 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.
- 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:
  - It may be mechanically removed using methods such as bead blasting or scarifying, or
  - 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 shall 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 65° F to 85° F and maintained following the 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 the 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 65° F 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 Storage 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 in the “center” of the installation area (i.e. 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 non-staining and contains MicroSept antimicrobial system for enhanced resistance to mold and mildew. May be installed on concrete that is above, on and below grade, APA approved plywood, and 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 non-porous substrates. Mohawk M95.0 is a solvent free, water-based acrylic adhesive suggested for use in occupied buildings, as it is low in odor, and contains "zero" (calculated) VOC's.

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

### Mohawk MS160

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. Mohawk 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.

## Adhesive Application

Use of Mohawk adhesives is required for warranty to apply.

- For full spread application, use Mohawk M700 or M95.0 Adhesives with a 1/32" x 1/16" x 1/32" U-Notch trowel. Follow the directions on the adhesive label.
- For spray adhesive application, use Mohawk MS160 Spray Adhesive. Follow the directions on the adhesive label.
- After placing the material into the adhesive, roll in both directions with a minimum 75-100 lb. 3-section roller.

## Tools And Materials Needed

- Mohawk M700 or M95.0 Resilient Flooring Adhesive or Mohawk MS160 Spray Adhesive.
- Trowel Sizes: 1/32" x 1/16" x 1/32" U-Notch for M700 and M95.0 (spread rate: 175 - 225 sq. ft./gallon). Trowel not required with MS160 (spread rate: 150 sq. ft./can).

**Note:** This adhesive spread rate is appropriate over most smooth substrates to achieve adequate transfer.

- 75-100 lb. 3-section Roller
- 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.
- MS160 Spray Adhesive - Ensure that moisture tests have been conducted and that results do not exceed 95% RH.
- pH of concrete sub-floor should not be greater than 10 for M700 or M95.0. MS160 requires pH not greater than 11.
- The permanent HVAC system is 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 claim.
- Make sure all material is from the same run/lot number. Install tiles running in same direction when arrows are on back of tile. Ensure that all recommendations for sub-floor 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 are not 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, with a clean cloth and water. Mineral spirits is the recommended cleaner to remove tacky or dried adhesive.

### **Immediately After Installation**

Restrict to light traffic for the first 24 hours. Install the base moldings. Seal all areas that may be exposed to surface spills (i.e. tubs, toilets, and showers) with silicone caulking.

### **Traffic**

- Restrict foot traffic for 24 hours after installation, unless using MS160 Adhesive, which can be walked on within one hour after installation.
- Restrict heavy traffic, rolling loads, or furniture placement for 72 hours after installation with M95.0 or M700; restrict this type of traffic for 24 hours with MS160. Additional time may be necessary if the installation is over a non-porous 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](http://mohawkgroup.com) to ensure you have the most up to date version of our installation instructions.