Homogeneous Vinyl Tile

INSTALLATION INSTRUCTIONS

Creative Terrain HVT

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FLOOR PREPARATION AND EXISTING ADHESIVES

Sub-Floor Preparation

Sub-floors must be structurally sound, dry, clean and free of dirt, dust, wax, grease, paint, polishes, oil, curing compounds, sealers and all other materials that would interfere with good tile adhesion. The floor surface must be smooth and flat with a maximum variation of 1/8" in 10 feet. All cracks, depressions and other imperfections must be repaired with a high quality, cementitious or epoxy leveling compound and or underlayment. Any uncorrected sub-floor irregularities may telegraph through the HVT flooring and be visible on the surface of the finished installation. Additional information regarding the sub-floor installation and requirements can be found in ASTM F710.

NOTE: Gypsum-based underlayment products should not be used.

Adhesive Bond Test

In addition to, and not in lieu of, any relevant moisture tests, perform the Adhesive Bond Test in several locations throughout the area to receive the flooring. Glue down a 3' x 3' area of floor tile with the adhesive, roll with a 150 LB sectional roller, then allow to set for 24 hours. A sufficient amount of force should be required to remove the flooring.

Bond tests should be done across the recommended open time spectrum so that the optimal working time can be determined. Working times vary depending on substrate, environment and many other factors.

IMPORTANT: Without dated documents showing pH, RH, and bond test results, no warranty claim will be accepted for consideration.

Concrete

Moisture testing: It is essential that moisture tests be performed on all concrete sub-floors regardless of the grade level or whether or not the concrete is freshly poured or is classified as an older slab. Moisture testing MUST be performed by:

ASTM F2170: Relative Humidity in Concrete Using Probes Moisture levels, when measured by these methods, are not to exceed requirements below. If the test results exceed the limitations, the installation should not proceed until the problem has been corrected.

Adhesive Moisture Requirements

Mohawk M99 up to 99% in-situ RH (per ASTM F2170), pH of 12.

New concrete slabs on or below grade should be treated with a permanent moisture barrier such as six mil polyethylene film. Any concrete in contact with earth or with less than 18" of cross-ventilated air space under it is considered to be on grade.

New concrete must be properly cured. A drying time of one month per inch of concrete is generally required after a slab is poured and protected from the weather. Lightweight aggregate concrete floors, and floors with steel or plastic pan construction, and floors poured over a permanent moisture barrier usually require an extended drying time. If lightweight aggregate concrete weighs less than 90 pounds per cubic foot, a topping of regular concrete at least one inch thick is required. To expedite drying time, adequate heat and ventilation should be provided.

Alkalinity (pH) Test

To determine the pH of the concrete surface, use wide range pH paper, its associated pH chart, and distilled or deionized water. Place several drops of water on a clean surface of concrete, forming a puddle of approximately 1" diameter. Allow the

puddle to set for 1 minute, then dip the pH paper into the water. Remove immediately and compare to chart to determine pH reading.

Exceptionally Smooth Concrete

If concrete surface is exceptionally smooth, with little porosity, it should be acid etched with a 15% diluted solution of muriatic acid before installing flooring. Neutralize the concrete after etching by rinsing with clear water to which a few ounces of ammonia have been added. Previously covered concrete: Completely remove all remaining floor down to bare concrete. Be sure to eliminate all residual adhesive, or completely cover the sub-floor with a high-quality cementitious underlayment, warranted for such applications.

Terrazzo Floors

Inspect the terrazzo for any sealer or film on the surface. This must be removed before proceeding with the installation.

Ceramic Tile

All ceramic tiles must be bonded securely to the substrate. Any loose tile must be removed. Clean existing ceramic tile using muriatic acid/water and neutralize with ammonia, as directed for smooth concrete. After floor has dried, apply a thin rich coat of Portland cementitious underlayment with a liquid latex binder to achieve a smooth surface prior to installation of resilient flooring.

Radiant Heated Floors

HVT tile may be installed on radiant-heated floors, provided that the surface temperature does not exceed 90°F and the nominal operating temperature runs at 72°F.

Existing Resilient Flooring

Whenever possible, remove all old floor covering and sand off all the old adhesives. Any texture or embossing in the original installation may telegraph through the HVT tile and become visible on the surface of the new installation.

Do not install tile over any resilient floor covering on or below grade – only above grade.

If you are going over resilient floor covering, use the following procedures: the floor covering must be sound and adhered tightly to the floor. Remove any loose or broken areas and replace them either with sound material or with a Portland cementitious underlayment with a liquid latex binder, which should also be used to level any floor irregularities and to fill in any open seams. Thoroughly sand the surface with coarse sandpaper, using an edge sander next to the walls and in spots that a regular sander may have skipped. Completely remove all the old sealers and waxes to ensure a proper bond.

WARNING! If you intend to sand, remove or dispose of an existing resilient floor covering, backing, lining felt or adhesive, you should be aware that these products may contain asbestos fibers. Sanding, removal and disposal of asbestos containing material can place fine particles of asbestos in the air. It has been determined that the inhalation of free airborne asbestos fibers may be injurious to your health. Fines may be assessed against persons violating these regulations.

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.com

NOTE: HVT resilient floor coverings and adhesives do not contain asbestos.

Wood Floors

Tile may be installed over existing sound, suspended plywood floors of double construction. Do not install directly over wood strip or plank sub-floors. Prepare such floors as follows:

- Subfloor must be solid, well nailed at joints and free from spring. Missing or unsound boards must be replaced. Install ¼" underlayment grade or exterior grade plywood or ¼" underlayment grade hardboard. If floorboards are badly warped, use thicker plywood.
- Fill all holes, cracks and seams with wood putty or equivalent filler. Sand all patched areas and uneven joints. Any irregularities allowed to remain may telegraph through the tile and be visible on the surface of the new installation.

Metal Decks

Metal decking must be flat, dry, clean and free from dust, paint, asphalt, old adhesives, grease, oil, rust and other extraneous material. Level all surface irregularities with a Portland cement/liquid latex mixture underlayment. Lightly sand or (scuff) the surface for better adhesion.

Work Benches

Tile can be applied to either wood or metal workbench surfaces. The bench surface must be flat, dry, clean and free from paint, oil, grease and other extraneous material. Metal surfaces should be lightly sanded for better adhesion.

Other Types Of Installation

For recommended procedures on other types of installations not covered in these instructions, contact Mohawk Group Technical Services before installation commences.

CONVENTIONAL INSTALLATIONS

General

The area to receive flooring should be fully enclosed, weather tight, with the permanent HVAC system set and maintained at a minimum temperature of 65° F for 48 hours prior to, during and at least 48 hours after installation.

Avoid exposure of tile to excessive heat, such as direct sunlight, until adhesive has completely set. Immediate foot traffic is allowed when adhesive is installed dry to the touch. Immediate cleaning is allowed with seamless flooring. For all other applications, allow 24 hours for light damp mopping and 72 hours for wet cleaning.

Install HVT flooring in accordance with the following procedures using only Mohawk M99 adhesive. Mohawk's M99 adhesive is the only warranted adhesive for use with Mohawk Group HVT. M99 adhesive can be used to install HVT tiles on porous and non-porous substrates.

Adhesive usage varies depending on whether the substrate floor is porous or non-porous. It is essential that the sub-floor is tested to verify whether the concrete is porous or nonporous prior to the installation of the floor. To test, place several droplets of water in numerous locations within the installation area. If water is absorbed in less than 45 to 60 seconds, concrete is to be considered porous. If water remains beaded or is not absorbed into the concrete within this time frame, the substrate is to be considered non-porous and may have had a surface coating applied such as curing compound and or a sealer.

Clean Up

Use a clean wet cloth to clean up adhesive while still wet. Dried adhesive may require the use of mineral spirits.

Equipment

It is essential that the specified trowel and roller be used. Worn trowels should be discarded. NEVER re-notch a trowel. If the trowel notches are too large, too much adhesive will be used. This will result in excessive adhesive seepage at the seams and also will cause the tile to float and shift. Clean up after the installation is then very difficult. In addition, the seams will be ledged making them very noticeable and dirt catchers as well.

If you delay rolling the tile because of excessive seepage, the adhesive will not be adequately transferred to the back of the tile causing an adhesion failure. If the notches are worn on the trowel, the adhesive will be spread too thin resulting in adhesion failure.

Laying Tile

When laying individual tile, do not slide tile into place. The correct procedure is to place a corner of the tile in place next to the adjoining tile, carefully guide it into proper position and set it in place.

Work Off The Tile Whenever Possible.

When necessary to work on the tile, avoid shifting by using a kneeling board and by cutting tile to butt tightly at all wall junctions.

Roll and cross roll the tile with 150 pound sectional roller immediately after the tile is laid. Roll a second time one hour later. Inspect the floor for raised edges one hour after the second rolling, if necessary, roll a third time. Use a hand roller in areas that cannot be reached with a large roller.

IMPORTANT! ANY ADHESIVE AT SEAMS OR ON FINISHED SURFACES OF TILE MUST BE REMOVED WHILE THE ADHESIVE IS STILL WET.

USING ADHESIVES

Read the instructions for proper sub-floor preparation before opening the adhesive. If the installation will be flash coved, see special instructions under FLASH COVING.

All adhesive, floor tile and sub-floor (i.e. concrete slabs) should be conditioned at the expected operational temperature and ambient humidity level. Maintain these levels at least 48 hours before, during and after the tile is installed using Mohawk M99 adhesive.

Adhesive working and open times vary based on job conditions, substrate, temperature and humidity. Ensure that the installation is well lit to allow effective examination of the tile and the overall installation.

Mohawk M99 Adhesive

Mohawk M99 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. M99 is designed with extended open time which allows product to be installed up to 4 hours after drying. Product should be allowed to dry to touch to prevent slippage. Non-porous substrates require adhesive to be dry to touch with little or 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.

For technical data visit http://www.mohawkgroup.com/sitefiles/resources/Adhesive_TDS_M99.pdf

SEAMLESS INSTALLATIONS

Additional details available in Mohawk Group's Homogeneous Vinyl Tile Seam Welding Instruction Guide.

1. Remove tile from carton and store flat in stacks (not to exceed 6" in height) at temperatures and durations called for by the adhesive used. This allows tile to adjust to room temperature. Tile will then lay flat and conform to the contour of the sub-floor when installed.
2. Lay out field. For FLASH COVING, the last sections should end at least 6" from the wall to allow space for use of router and hot air welding tool around the room perimeter. Follow the instructions under FLASH COVING to cut and dry-fit appropriate material.
3. Apply the adhesive, per the instructions, and install the field, making sure to properly roll and cross roll with the sectional roller. Allow the adhesive to cure overnight.
4. Using a scrap piece of tile, set the router so that the blade cuts a groove to a depth of approximately one half of the thickness (~.060 in.) of the tile. Route all field seams in one direction only, being careful to keep the groove centered on the seam as closely as possible. Use a chamfering plane to router cove pieces where the router cannot be operated.
5. While seamless installations are usually flash coved, top set cove base or other treatment may be used at the floor-wall junction. In these instances, use a chamfering plane to finish the groove close to the wall where the router cannot be operated.
6. Preheat the hot air welding tool. Using the 4mm welding nozzle, weld the bead into the groove.
7. Trial weld a few scrap pieces before starting on the floor so that adjustments in the heat setting may be made.

   NOTE: Beginners may find it easier to work with a lower heat. However, with experience, welding will be faster with a higher heat.

   A lower heat is recommended for correcting mistakes or welding in awkward places. A good weld is achieved when a small amount of melted bead overflows along the edges of the groove.
8. After the weld has cooled, shave off the excess bead with a spatula. If the bead is shaved before it has cooled, it will shrink below the surface of the flooring. Keep the spatula sharp by periodic honing with a fine sharpening stone.
9. After welding and trimming all seams in one direction, repeat the routing, welding, and trimming procedures on all seams running in the other direction.

FLASH COVE INSTALLATIONS

Coving of tile up the wall eliminates accumulations of dirt and bacteria at the floor-wall junction. CONVENTIONAL or SEAMLESS INSTALLATIONS may be flash-coved. Additional instructions for Flash Coving are available at www.mohawkgroup.com, but the following highlights the procedure:

1. Install a suitable cove cap strip (either metal or plastic) around the entire room. Exercise care so that the top of the cove cap strip height is consistent. Use either flat-headed nails or contact bond adhesive to cove capping.
2. Place a cove strip at floor-wall junction to support tile at the bend.

3. Lay out the field so the tile ends a minimum of 6" from the wall.
4. Install the field in accordance with the procedures listed under either CONVENTIONAL or SEAMLESS INSTALLATIONS, and allow the adhesive to cure for at least 24 hours. This is critical for properly forming coving and achieving a finished appearance.
5. Dry cut cove tile pieces to fit. Remove pieces and apply adhesive to the exposed floor and wall. Install the pieces and roll thoroughly with a hand roller. If the tiles are installed into the adhesive dry to the touch, you can heat weld after 12 hours. If the tiles are installed into the adhesive semi-wet, wait 24 hours before heat welding.

MAINTENANCE

Initial Maintenance Instructions

Initial maintenance is REQUIRED to ensure a good visual appearance. Before proceeding, please note the following:

1. Immediate foot traffic is allowed when adhesive is installed dry to the touch. Immediate cleaning is allowed with seamless flooring. For all other applications, allow 24 hours for light damp mopping and 72 hours for wet cleaning.
2. Mohawk Group only approves the following initial maintenance methods and procedures. Other unapproved methods and procedures may cause poor visual appearance.
3. Never, at any time, buff Mohawk Group HVT Tile in excess of 350 RPM. NOTE: Floors become slippery when wet and care must be taken. Appropriate barriers to wet areas and "warning / caution" placards should be used in all instances.

Initial Deep Scrub

1. To start the required initial deep scrub cleaning process, sweep or dust mop the floor to remove any large debris. NOTE: Never use oil base treated dust mops.
2. Dilute Mohawk Group HVT Initial Deep Scrub Cleaner with cool clean water (1 part Cleaner to 10 parts water or 13 oz./gal.) and apply liberally to the area to be deep scrubbed.
3. Using the Mohawk Group Maroon Initial Deep Scrub Pad, agitate floor thoroughly with a low-speed rotary machine or automatic scrubber while ensuring the floor remains very wet with solution. At least 5 passes are required to properly deep scrub the floor – though more may be necessary depending on machine speed and site conditions. NOTE: To enhance cleaning, place a "floater pad" (i.e a red pad) above the Initial Deep Scrub Pad before beginning the scrubbing process.
4. The Initial Deep Scrub Pad needs to be changed out every 1,000 square feet, or 500 square feet per side.
5. Pick up the solution with a wet vacuum, automatic scrubber, or a mop and bucket. Rinse with clear water only.
6. Allow the floor to dry completely.

Initial Surface Cleaning

1. Place the Mohawk Group Initial Surface Cleaning Pad (natural in color, with black strands) onto a low speed floor machine.
2. Mist Mohawk Group HVT Initial Surface Cleaner over the area to be cleaned using the mist setting on a trigger sprayer. With the low-speed rotary machine, use the initial pass to evenly distribute the cleaner over the intended area to be surface cleaned (about 10' x 10' at a time) – then begin the buffing action.
3. Buff the area using an even back and forth motion. Approximately 5 passes per row should properly clean the surface but

take extra passes to ensure complete surface uniformity. Continue the process until the surface of the entire area has been cleaned and is visually acceptable.

4. The Initial Surface Cleaning Pad needs to be changed out every 1,000 square feet, or 500 square feet per side.
5. If desired, repeating the Initial Surface Cleaning process a second time will ensure the cleaning is even which will optimize appearance.

Ongoing Maintenance Instructions

Ongoing maintenance using the following procedure is optional but recommended. Before utilizing alternate products and procedures, please consider the following:

1. HVT floors cannot be harmed by lack of maintenance, but no floor keeps itself clean. An ongoing maintenance program will be required. Though there are many ongoing maintenance products that can keep your HVT floor looking good, it is impossible for Mohawk Group to test and approve all methods. For ongoing maintenance, please be sure to use a commercial grade neutral pH cleaner.
2. Frequency of maintenance can be daily or on a periodic basis depending on visual requirements, traffic and other site specific environmental conditions.
3. No maintenance program should ever include high speed burnishing. Never, at any time, buff Mohawk group HVT Tile in excess of 350 RPM. NOTE: Floors become slippery when wet and care must be taken. Appropriate barriers to wet areas and "warning / caution" placards should be used in all instances.

Approved Periodic Maintenance Cleaning

1. Sweep or dust mop the floor to remove any large debris.
   NOTE: Never use oil base treated dust mops.
2. Use a commercial grade neutral pH cleaner. Please follow manufacturer's instructions. Damp mop or auto scrub using a generic red pad. Rinse as necessary and then allow to dry completely.

Rejuvenation

To achieve a deep rich luster and make any existing Mohawk Group HVT floor "look like new", simply clean the floor using a commercial grade neutral pH cleaner and then apply a commercial grade Spray Buff solution. Please follow manufacturer's instructions for how to apply.

Specifically:

1. After using a commercial grade neutral pH cleaner and after the floor is completely dry and free of residue and other contaminants, mist a small area with a commercial grade Spray Buff using the trigger on the fine mist setting.
2. Buff the floor with a red or natural hair pad, using a slow even sweeping motion until desired appearance is obtained.

Optional Maintenance Finishes

For customers demanding enhanced aesthetics, with either high-gloss or satin finishes, a commercial grade acrylic floor finish may be used. Please follow manufacturer's instructions for how to apply.