

NEW RICHMOND MODULAR INSTALLATION & FLOOR PREPARATION INSTRUCTIONS

General Notes

These installation instructions are general and are not intended to be applicable for all sub-floor conditions. If you have any questions concerning the proper installation (or use) of any Richmond Commercial products, please contact the Shnier Richmond Commercial Division at 1 800-970-2000, ext. 2290/2255. All products should be inspected for dye lot, style, color, size, quality and shipping damage prior to installation and should not be installed if any irregularities are observed.

It is solely the responsibility of the installation contractor to insure that the sub-floor is properly prepared prior to installation.

Installer Certification

Richmond Commercial requires that all installers be certified prior to performing the installation of modular products on actual jobsites. Contact your local Richmond Commercial Representative for more information on installer certification.

Site Requirements

Richmond Commercial Modular products are intended for indoor installations on dry, properly prepared sub-floors. The product is not intended for installation on walls, stairs, ramps, outdoors, or on wet surfaces.

Richmond Commercial is not responsible for product failure of any kind if these floor preparation and installation instructions are not adhered to. Only installation materials approved by Richmond Commercial should be used. Be certain to read and adhere to the shelf life and freeze-thaw stability information that is printed on the label of the installation materials.

Moisture & pH

Excessive moisture and/or high pH on any sub-floor, especially concrete, can cause product failure. For all Richmond Commercial Modular products, the maximum allowable moisture vapor emission rate (MVER) from the sub-floor is 3.0 pounds, as tested according to ASTM F-1869-04 (Std. Test method for measuring Moisture Emission Rate of Concrete). The required pH range is 7.0 to 9.0 as tested according to ASTM F-710-05. The In-Situ/RH (relative humidity) requirement on concrete is not to exceed 75% as tested according to ASTM F-2170-02 (Std. Test method for measuring Relative Humidity in Concrete).

IMPORTANT - Richmond Commercial requires that at least 1 MVER and 2 RH tests be performed on the initial 1000 sq ft of each project. In addition, a minimum of one test, alternating between MVER and RH, per 1000 sq ft is required for the balance of the project.

Note that moisture vapor emission testing, relative humidity, and pH testing indicate the moisture level and pH of the concrete sub-floor at the time of installation. These tests do not provide static results and both moisture and pH can increase over time. Richmond Commercial is not responsible for product failure as a result of changes to sub floor conditions, including increases in moisture or pH levels, post installation. Experience has shown that more accurate and representative MVER, RH and pH testing results can be achieved when the HVAC system is functioning 24/7 for two weeks prior to installation and the indoor air quality has acclimated to occupancy conditions. In cases where the flooring substrate is light weight concrete, or is a Gypsum based leveling compound used as a topcoat over existing concrete, MVER results are not an accurate means of evaluating the conditions of the flooring substrate; therefore, RH will be the only recognized moisture test method.

pH Testing

Preparing the surface of a concrete slab for pH testing requires the following attention to detail. Make sure the concrete surface is adequately cleaned of any adhesives, primers, curing compounds, surface contaminants, etc. Exercise care not to over clean the surface of the concrete removing the thin layer of carbonation. This can result in higher, non-responsive pH readings. Slightly wet the concrete sub-floor surface with a small amount of distilled water and allow the water to stand for one minute. Apply pH test paper to the wet concrete surface and allow the pH test paper to remain in contact with the wet area for one minute. The pH test paper will change color depending on the pH of the wetted surface and a color scale is provided with the pH test papers for comparison. Note pH test

paper commonly supplied in MVER test kits only measures up to a pH of 12 accurately.

Installation of Richmond Commercial Modular products on sub-floor conditions that exceed the specifications and limitations provided in this document will void the applicable limited warranties. Richmond Commercial does not represent or make any express or implied warranties that Richmond Commercial products will or will not affect, prevent or cure any other moisture or alkalinity-related issues that may arise because of the moisture and alkalinity levels found in the concrete. Richmond Commercial expressly disclaims such express or implied representations or warranties.

Temperature & Humidity

The temperature of the interior environment, including the sub floor should be no lower than 65°F and no higher than 90°F at least 72 hours prior to, during and after the modular installation. All Richmond Commercial Modular products and installation materials should be stored between 65°F and 90°F for at least 48 hours prior to installation. Relative humidity should be no more than 65%.

Floor Inspection

The sub-floor must be structurally sound and dry prior to installation. Any curing chemicals, sealers, finishers or other chemical treatments used on sub floors must be chemically and physically compatible with the Richmond Commercial backing and adhesive systems, or they must be removed or skim coated with a Portland cement based product. Chemically abated floors or the use of chemical adhesive removers prior to the application of Richmond Performa backing and adhesive systems can result in product or installation failures and are not recommended nor warranted.

If you have questions concerning the compatibility of specific chemicals with Richmond Commercial PVC backing and adhesive systems please contact the Richmond Commercial Sales Department at 800-970-2000 ext 2290/2255, or write to Shnier Commercial 50 Kenview Boulevard, Brampton, Ontario L6T 5S8

Floor Debris Cleaning

Clean the sub-floor of all excess concrete spots, solid debris or paint spots using suitable scraping methods. Completely remove all wax, dirt, grease, paints or old adhesives (especially cutback or emulsion). DO NOT use solvents or any other chemical adhesive removers to clean the sub-floor. DO NOT use oil based or silicone based sweeping compound.

Floor Patching and Leveling

All sub-floors should be level. Concrete sub-floors should be trowelled smooth and should conform to the standard specifications as recommended by the Portland Cement Association. The floor should be flat to within 1/8" in 10 feet. Cracks, holes and depressions can be filled using Portland Cement/Latex fortified patching material. Do not install over loose tile (VAT, VCT or others loose existing flooring substrates).

Floor Cleaning

Sweep and vacuum the floor after patching and debris removal. Do not use oil, wax, or silicone based sweeping compound. Make sure all perimeter areas are clean. Smooth, nonporous floors should be damp mopped prior to product installation. Priming is not recommended for Richmond Modular virgin PVC backing. In cases where floors are more porous it may be necessary to increase the amount of ***MAPEI'S ULTRABOND ECO 350*** adhesive to compensate for absorption.

Where existing, non-asbestos containing cutback adhesive is present, remove the old cutback to the substrate. A licensed asbestos contractor in accordance with state and federal requirements should perform removal of asbestos containing cutback adhesive. After the floor has dried completely, install the Richmond Performa modular following the Richmond Commercial installation procedures.

Installing over old adhesives:

Pressure Sensitive: The modular tile adhesive can be applied directly over existing pressure sensitive adhesive as long as the existing PSA is PVC compatible. Other pressure sensitive adhesives must be scraped and sealed with one coat of an encapsulate primer before applying the modular tile adhesive

Old Multi Purpose: Thoroughly scrape any trowel ridges to create a level surface, and then seal with one coat of an encapsulate primer before applying the modular tile adhesive.

Dye lot Variance in Carpet Tile

It is important to note that even more forgiving yarn/fiber systems like solution dyed fiber for example, are going to exhibit a level of variance from dye lot to dye lot. The manufacturing tolerance standard is 10% or less. As a result, Richmond modular tiles are designed for the quarter turn installation method. Should other types of installation be desired, Richmond recommends dry laying a mock up area for aesthetic approval prior to proceeding with permanent installation.

Installation

Before starting, determine the lay direction of the modular flooring based on building design and installation efficiencies. Richmond Carpet tiles are designed either for ***quarter turn*** (every other tile is turned perpendicular to the next), or ***modified ashlar*** (tiles are quarter turned but laid in staggered brick formation) installations. Other installation methods include Ashlar, Brick and Monolithic. Regardless of the installation method chosen it is recommend that a mock up area be dry laid for aesthetic approval by the end user prior to permanent install.

1. Typically, a room is divided into 4 equal parts (or quarters). Make the centerline by marking the center point of two opposing, parallel walls (usually this is the longest line). Snap a white chalk line between the two center marks. Snap a second cross line at the mid-point of the centerline, perpendicular line. To ensure that the lines are square with each other, use a 3-4-5-triangle method:
 - From the point of the centerline/cross line intersection, measure out and mark *exactly* 3 (feet, yards, etc.) on the centerline.
 - Then starting at the center point of the cross line/centerline intersection, measure out and mark *exactly* 4 (feet, yards, etc.) on the cross line.
 - Carefully measure the distance from the two points. If it is not exactly 5 (feet, yards, etc.), adjust the cross line angle until the measurement is exact. This procedure is very important.
2. Check the distance from each line to its parallel wall and determine how many 24" tiles will be required. Shift the line as needed (in a parallel direction) to balance the width of the perimeter tiles (tiles against the wall). Whenever possible, perimeter tiles should be half-tile or greater.
3. To prevent from walking on the glue, it is best to apply adhesive to the floor area in one of the quarters formed by the crossed line. Apply ***MAPEI'S ULTRABOND ECO 350*** adhesive per label instructions. Adhesive is ready for installing when it no longer transfers to the finger when touched. Adhesive MUST BE DRY prior to installing Richmond Commercial modular. DO NOT apply ***MAPEI'S ULTRABOND ECO 350*** adhesive over flat cable. ***MAPEI'S ULTRABOND ECO 350*** is the only approved adhesive system for use with Richmond PVC Modular backing.
4. Use the directional arrows printed on the back of all tiles to make sure all tiles are installed uniformly.
5. Start laying tiles from the intersection point in the center of the floor and install the first line of tiles along the long centerline. Install the second line of tiles along the cross line. Keep all the tiles exactly on the chalk lines. Fit the tiles next to each other by sliding them into place.
6. **DO NOT FORCE THE TILES TOGETHER. COMPRESSION OF THE TILES MUST BE AVOIDED TO ASSURE THAT THE TILE EDGES DO NOT LIFT OFF THE FLOOR PREVENTING CONTACT WITH THE *MAPEI'S***

ULTRABOND ECO 350 ADHESIVE. DO NOT TRAP FACE YARN BETWEEN OR UNDER TILE EDGES. Roll the tiles firmly onto the floor WITH A 75 TO 100 LB ROLLER when properly positioned. Tiles can be removed from the floor at any time for realignment.

7. Continue to install the tiles in a stair-step or pyramid pattern starting from the intersection point. Check to make sure the tiles are properly aligned at the edges during installation.
8. Options for cutting and placing perimeter tiles:
 - Richmond Commercial Modular tiles are easy to cut and can be placed whole and freehand trimmed snug to fit the wall or door, etc.
 - *Alternatively:* Perimeter can be trimmed to fit by placing a tile (the fill tile) exactly on top of the last full line of field tile. Ensure that the fill tile is oriented properly by checking the arrow on back. Next, place another full tile (the reference tile) against the wall allowing it to fall on top of the fill tile. Use the edge of the reference tile as a guide to cut the fill tile, being careful not to cut through to the field tile. Install the cut tile with the cut edge along the wall. **Avoid compression of wall and door cuts.** Doorways and other permanent objects can be fitted using this method, by making a pattern or by measuring techniques. Provide transition strips on all exposed tile edges.

Other

For installation over substrates not mentioned here, information on exposed edges, air pockets, repairs, more-detailed installation instructions, and/or other installation information, please contact Richmond Commercial Sales at 1 800 970-2000 ext. 2290/2255.

Richmond Commercial Cleaning Requirements:

- a) Pile lift, using a mechanical pile lifter, and vacuum to dislodge and extract as much dry soil possible prior to cleaning utilizing an approved equipment. (see 'f' below).
- b) All visible spots shall be pre-treated in a manner suited for best spot removal results.
- c) Wet pile lift following the application of an approved cleaning solution pre-spray, with an approved twin-counter rotating brush machine, except on cut pile or woven styles (see 'f' below).
- d) Allow a minimum dwell time of 8-12 minutes prior to any wet extraction process, except for cut pile or woven styles (see 'f' below).
- e) The accepted cleaning methods must include hot water extraction, performed a minimum of once annually or after every 4 treatments of an approved encapsulation maintenance system. Note; Water extraction is used

to "Rinse" the pre-spray and dirt from the carpet. NO cleaning solution shall be added to the extraction water. (exception- see 'f ' below).

f) NOTE: Richmond Commercial recommends the utilization of:

- i. The HOST Dry Extraction Carpet Cleaning System for use on Richmond Commercial products for daily/interim maintenance, spotting and restoration/corrective cleaning
 - ii. The HOST extractorVAC® equipment will meet the pile lifting/vacuuming requirement stated in "a" for dry soil removal with all cleaning methods.
 - iii. The HOST System is recommended for maintaining and restoration cleaning of all Richmond Commercial cut pile or Crossley at Home Commercial woven styles utilizing their White/Tan or Gold bristle brushes along with the HOST extractorSPONGES®
 - iv. Windsor Industries iCapsol/ Red Carpet® System for the maintenance of Richmond Commercial products.
- g) Complete drying must occur within 12 hours. Air movers and/or dehumidifiers must be used to facilitate this requirement.
- h) All recovered solutions and contaminants must be disposed of in a manner consistent with federal, provincial and local guidelines.
- i) All solutions must be pre-determined to be safe for use in the facility being cleaned, face fiber, backing material, floorcovering adhesive, soil and stain resistant treatments, building occupants and cleaning technicians.
- j) Cleaning solutions must be rated as having a neutral or negative resoiling potential; must not dry oily or sticky; must not contain optical brighteners; must not contain chlorine based bleaching agents; must have a pH between 4 and 9; must be able to be rinsed thoroughly with Approved Equipment or crystallize and must be environmentally friendly, containing no known hazardous components, as well as be able to be removed with CRI Approved Vacuum Equipment.