

## **ER3® & FLEX-AIRE™ MODULAR RS® INSTALLATION & FLOOR PREP 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 Tandus products, please contact Tandus' Installation Services at 800-241-4902, ext. 2129, 2023, or 2670. 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**

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

### **Site Requirements**

Tandus 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. **Tandus 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 Tandus 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 Tandus 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). Industry standards require 3 MVER or In-Situ RH test be performed on the initial 1,000 square feet of each project. In addition, a minimum of one test per 1,000 square feet of either MVER or RH, in any combination, is required for the balance of the project.

**Exceptions:** When using ER3 tile, the maximum allowable MVER from the sub-floor is 5.0 pounds and the maximum allowable RH for concrete substrates is 80%. Tandus 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. When In-Situ RH testing is not appropriate or has been eliminated from the test protocol, the standard requirements stated in the previous section on moisture and pH will remain in force. The Maximum Allowable MVER will revert to 3 lbs. **Refer to our Technical Services Bulletin "Moisture and pH Testing of Tandus Products" for specific instructions on test methods, ambient conditions, and other requirements.**

**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. Tandus 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 Tandus products on sub-floor conditions that exceed the specifications and limitations provided in this document will void the applicable limited warranties. Tandus does not represent or make any express or implied warranties that Tandus floor covering 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. Tandus 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 tile installation. All Tandus 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 Tandus 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 Tandus 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 Tandus backing and adhesive systems please contact the Tandus Field Technical Service Department at 800-241-4902 ext 2129, 2023, or 2670.

### **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. Contact Tandus for specific floor preparation guidelines including installation over cutback or information on general purpose adhesive.

### **Floor Patching and Leveling**

All sub-floors should be level. Concrete sub-floors should be troweled 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.

### **Floor Priming (General)**

All porous, gritty, chalky and dusty surfaces should be primed using Tandus' C-36E Floor Primer. All patched areas must be fully primed. Primer can be applied using a paint roller. Allow the primer to dry completely. Primer turns light blue and will not transfer to the touch when dry. **Surfaces that are nonporous; such as but not limited to, VCT, terrazzo, sheet vinyl, etc., do not require primer. These surfaces must be cleaned as noted above.**

When old adhesives, other than cutback or emulsion adhesives, have been removed, use Tandus C-46E Premium Floor Primer. This is not a substitute for removal of old adhesive and proper floor debris cleaning, but a safeguard for problems caused by small amounts of old residual adhesive.

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 removal of the cutback adhesive, prime the sub-floor using Tandus' Premium Floor Primer which is only intended to cover small amounts of old cutback adhesives that may interfere with adhesion of the new floor covering. After the floor has dried completely, install the RS modular tiles following the Tandus installation procedures.

### **Installation**

Determine the lay direction of the carpet based on building design and installation efficiencies.

- 1) Locate the first centerline in the installation area by marking the center point of two opposing, parallel walls. Snap a white (not blue or red) chalk line between the two center marks. Snap a second, perpendicular chalk line at the mid-point of this line (use a 3-4-5-triangle method to make sure the second line is perpendicular to the first. This procedure is very important.
- 2) Check the distance from each centerline to its parallel wall and determine how many tiles will be required. Shift the line as needed (in a parallel direction) to balance the width of the border tiles (tiles against the wall). Border tiles where possible should not be less than half-tile widths.
- 3) Directional arrows are printed on the back of all tiles. Determine the "arrow direction" for the installation and make sure all tiles are installed in the same direction (unless a quarter-turn or other installation pattern is required).
- 4) Tandus RS tiles are installed by removing the protective plastic membrane from the back of the tile, positioning the tile on the floor as needed and pressing the tile firmly onto the floor.
- 5) Start from the intersection point in the center of the floor and install the first line of tiles along the first centerline. Install the second line of tiles along the perpendicular centerline. Keep all the tiles exactly on the chalk lines. Fit the tiles snugly next to each other by sliding them into place. DO NOT FORCE THE TILES. DO NOT TRAP FACE YARN BETWEEN OR UNDER TILE EDGES. Press the tiles into place. When the tiles are properly positioned roll with a 75 to 100 lb roller to assure a positive contact between the tile backing and the sub-floor. Tiles can be removed from the sub-floor at any time for realignment.
- 6) 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.
- 7) Install border tiles by placing a tile face down exactly on top of the last full line of field tile, keep the arrows pointed in the same direction. This is the *cut tile*. Take another full tile and butt it against the wall allowing it to fall on top of the cut tile. This is the *reference tile*. Score a line on the back of the *cut tile* using the edge of the *reference tile* as a guide. Cut the *cut tile* along the reference line. Do not cut through to the field tile. Install the *cut tile* with the cut edge along the wall. 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 Tandus' Installation Services at 800/241-4902, ext. 2129, 2023, or 2670.