

POWERBOND® ETHOS™ NON-RS 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 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. Specific instructions for pattern matching are located at the bottom of the second page. **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 Powerbond products on actual jobsites. Contact your local Tandus Representative for more information on installer certification.

Site Requirements

Tandus Powerbond products are intended for indoor installations on dry, properly prepared sub-floors. The product is not intended for installation on walls, 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. Mapei Ultrabond ECO@350 is the recommended adhesive for ethos™. The Mapei Ultrabond ECO@350 adhesive should be applied in accordance with the trowel notch recommendation on the adhesive container. See the shipping container for details.**

Storage

ethos™ roll goods **MUST** be stored in a controlled climate at a temperature between 70°-90°F, and a relative humidity below 65%. ethos™ rolls should be stored by standing the roll on its end, making sure the plastic wrap is secured tightly around the roll or lying side by side. **DO NOT STACK.**

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. **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 and pH levels, post installation. Experience has shown that more accurate and representative MVER, RH and pH testing results can be achieved when the HVAC systems 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 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 not exceed 65% as it will retard primer and adhesive set times. **If the above temperature/moisture/pH requirements are not met, bubbles and ridges will increase.** Back rolling ethos™ prior to installation, and steaming after the ethos™ is installed, will relax and flatten any remaining bubbles and ridges.

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 an 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 other loose existing flooring substrates).

Floor Cleaning

Sweep and vacuum the floor after patching and debris removal. Do not use an 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 Tandu's 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 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 Tandu's 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 cut back adhesive. After removal of the cutback adhesive, prime the sub floor using Tandu's 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 following the Tandu's installation procedures.

Installation

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

- 1) Place (snap) a white chalk line in the center of the room in the lay direction. **Do Not** use blue or red chalk.
- 2) Roll out the **ethos**TM face-up with the arrows printed on the back pointing in the same direction. Lay out carpet so seams run toward main light sources when possible.
- 3) Lay the first breadth of carpet with the edge on the chalk line. Allow the ends and edges of carpet (as needed) to run up the wall a minimum of 2" for later trimming. Roll out the second breadth of carpet with the common edge overlapping the first breadth of carpet a minimum of 2" for straight cut or for serpentine cut.
- 4) The above described procedure can be followed to dry-lay the carpet in a room or work area. Allow a 2" (straight or serpentine cut) overlap at the butt ends of all rolls and anywhere a seam is required.
- 5) On the first seam only, working with two breadths of carpet, fold back one-third of each breadth of carpet (lengthwise) exposing the chalk line. Start folding back from one end of the carpet to prevent shifting. This procedure is referred to a "1/3 - 1/3 start." This procedure sets up all remaining seams in either direction for the "1/3 - 2/3" installation system.
- 6) Spread Mapei Ultrabond ECO@350 adhesive on the sub-floor between the folded back sections of **ethos**TM. Use a 1/16 x 1/16 x 1/16 square notched trowel to apply the adhesive. Allow adhesive sufficient open time to set-up (see installation instructions on container).
- 7) Starting from the center of the first breadth of carpet, feed the carpet into the adhesive in a continuous, rolling manner. The edge of the carpet should be the last section of material to feed into the adhesive. Do not allow adhesive to come in contact with the face of the carpet.
- 8) Roll the first breadth of carpet using a 75-pound roller starting from the center of the breadth and rolling straight to the seam.
- 9) Feed the second breadth of carpet onto the floor. Make sure the overlap onto the first breadth is maintained.
- 10) Roll the second breadth of carpet using a 75-pound roller starting from the center of the breadth and rolling straight to the seam.
- 11) Adjust Tandu's double cut knife blade to cut through both pieces of **ethos**TM and lightly touch the floor. A sharp blade is required to successfully complete this procedure.
- 12) Determine the pile lay direction of the carpet and cut in the "smooth" direction. Using firm pressure on the knife-body, cut through both breadths of carpet in one fluid, continuous motion. Double cut down the middle of the overlap for a straight cut 2" overlap. For a serpentine cut (2" overlap), cut the carpet in a wave pattern with an 18" - 24" repeat in the wave. Do not allow the knife to track off the top piece of carpet. Use a carpet-trimming knife to double cut up to walls and structural members.
- 13) Remove top and bottom strips.
- 14) Hold back one edge of **ethos**TM and apply a thin bead (approximately 1/8") of C-XL or e-88 seam sealer to the backing edge only, when it comes in contact with the sub-floor. Seam sealer is only required on one side of the carpet. .
- 15) Make up the seam starting at the center of the seamed line. Use a sliding motion to push the second breadth of carpet into the seam and seam sealer. Avoid pushing the carpet down into the Seam Sealer, as this may push the seam sealer away from the seam and result in a poor seam. Do not get any seam sealer in the face of the yarn.
- 16) As needed, use a clean, white, dry absorbent cloth and water to clean up any excess seam sealer. Seam sealer must be cleaned up immediately.
- 17) Roll the completed seam lightly using a carpet tractor.
- 18) C-XL and e-88 water based seam sealers are approved for use in all California Air Quality Management Districts.

The above methods are necessary to complete all required lengthwise, butt, or end seams.

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 Tandu's Installation Services at 800-241-4902, ext. 2129, 2023, or 2670.

Proper Procedures for Installation of Patterned Carpeting

Pattern carpets, like any pattern textile product, cannot be manufactured so that patterns will match perfectly when installed in multiple breadths. Tandu's manufacturing processes are carefully controlled and will provide for an acceptable pattern match if proper installation techniques and procedures are used. Proper pattern matching is the responsibility of the installer, and should be considered when preparing proposals and quotations. Minor pattern adjustments during installation are possible and should be expected. **Key points on pattern carpet installations are:** (1) Never mix dye lots. (2) Always install pattern carpet in roll number sequence. (3) Rooms with multiple breadths of carpet always require that the best possible match be achieved. (4) Unrolling the carpet and allowing it to condition in the areas to be installed 24 hours prior to installation will facilitate installation and pattern adjustments.

Proper matching procedures are as follows: (1) The proper installation "direction" of the carpet should be designated prior to installation based on building design and material utilization efficiencies. (2) Unroll the first breadth of carpet to the proper length, allowing 2 to 3 inches overlap at each end for fitting into the walls. (3) Unroll the second breadth of the carpet overlapping factory edges with the first breadth by a minimum of 2" (use a straight or serpentine cut) (4) Visually match the second breadth to the first, both horizontally and diagonally, by shifting lengthwise as required. (4) Always work the pattern from the center of the cut breadth of carpet towards the ends of each cut piece. (6) For longer cuts the pattern will vary more from center to end. Patterns may have to be adjusted to fit by using a butt seam. While a "perfect" pattern match cannot be guaranteed, exercising care and utilizing proper techniques can obtain acceptable results.