Expanko Resilient Flooring
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CorkCore | LVT

PRE-INSTALLATION GUIDELINES

TECHNICAL SUPPORT 800.345.6202

These guidelines apply to the installation of all Expanko Resilient Flooring products. For instructions on the installation of specific Expanko products, please refer to the installation instructions for each product.

BEFORE INSTALLING THE FLOOR

1. MATERIAL AND SITE CONDITIONS

1.1. Material Handling and Storage

1.1.1. Store cartons of tile flat and directly on top of one another. Do not stand on edge.
1.1.2. Store roll material on end; do not lay flat.
1.1.3. Protect all products (including adhesive and maintenance products) from extremes of temperature (65°- 75° F is ideal with 45% to 55% relative humidity).
1.1.4. Acclimate all products to jobsite conditions by delivering to site 72 hours before installation.

1.2. Building Conditions

1.2.1. Floor covering shall be the last finish material installed. Do not begin installing floors until all other construction trades have finished their work.
1.2.2. During painting, spackling and other construction activities, protect flooring substrates from contamination or staining.
1.2.3. The entire area shall be well lit, so the installer can properly prepare the substrate and install the floor.
1.2.4. Close spaces to traffic 12 hours before installation and for at least 24 hours after installation.
1.2.5. The permanent HVAC (heating, ventilation and air conditioning) system shall be in operation for at least one week prior to the floor installation. Do not use portable heaters.
1.2.6. For a 48-hour period before installation, during installation, and for a 48-hour period after installation, the temperature of the flooring material, the adhesive, the space to receive flooring and the subfloor shall be between 65° and 75° F, and between 45% to 55% relative humidity. Thereafter, the minimum temperature shall be 55° F.

2. SUBFLOOR AND SUBSTRATE PREPARATION AND TESTING

2.1. Expanko floors shall be installed over substrates that are permanently 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, mold, mildew, and other foreign materials that might prevent adhesive bond.*

2.2. Do not install Expanko floors directly over existing resilient flooring. Existing floors shall be removed or covered with an approved underlayment such as plywood underlayment where the subfloor is wood (see section 2.3.4) or a patching/underlayment compound such as Ardex where the subfloor is concrete (see section 2.6.2). Follow patching/underlayment manufacturer instructions for this type of installation.

2.3. For installations over wood subfloors, substrate shall be smooth, level and structurally sound. The following guidelines apply:

- 2.3.1. Per ASTM F 1482, A combination of a wood subfloor and panel underlayment shall be of double layer construction. Total thickness shall be a minimum of 1.*
- 2.3.2. There shall be least 18 inches of well-ventilated air space beneath all wood subfloors. Crawl spaces shall be insulated and protected by a vapor barrier.
- 2.3.3. Do not install over sleeper system floors or plywood floors that have been installed over a concrete subfloor.
- 2.3.4. Wood Underlayments: Use only approved underlayment panel such as Arctic birch (also known as Baltic birch) in ¼" thickness (5 ply) or 3/8" thickness (7 ply). Halex and Tecply are two brand names for these types of products. A/C grade plywood with one side finished is also acceptable.
- 2.3.5. Unacceptable Wood Substrates:
  - 2.3.5.1. Do not install over Luan underlayment. Luan is not suitable as an underlayment because of the possibility of problems such as delamination, indentation, loss of bond, and adhesion failures.
  - 2.3.5.2. Do not install over CCA Plywood, plywood with knots, underlayment made of pine or other soft woods, particle board, Masonite™ or other hardboard underlayment, hardwood flooring, textured or cushioned flooring, oil treated or otherwise coated wood material or other uneven or unstable substrates.
  - 2.3.5.3. Unacceptable surfaces shall be covered using a 1/4-inch or thicker panel underlayment per section 2.3.4. For underlayments not listed, please contact Expanko for guidance.
- 2.3.6. When installing underlayment panels, follow manufacturer's instructions for joint spacing, nailing or stapling pattern and seam treatment for underlayment panels.
- 2.3.7. Do not install underlayment panels with screws.

2.4. Concrete slab construction.

- 2.4.1. Every concrete floor slab on- or below-grade to receive resilient flooring should have a moisture retarder (often called a vapor barrier) installed directly below the slab.*
- 2.4.2. The use of cover curing as an alternative to curing compounds is highly recommended. If curing compounds are used, they shall be completely removed prior to moisture testing, which shall be done prior to the installation of resilient floor coverings.
- 2.4.3. Above grade slabs, Floors containing lightweight aggregate or excess water and those that are allowed to dry from only one side, such as concrete on metal deck construction, may need a much longer drying time. *

2.4.4. If the surface of the concrete is overly porous, soft, or dusty, it may be necessary to mechanically remove the top layer of concrete in such cases and/or these surfaces may need to be primed and covered with a cement based underlayment compound such as Ardex K 15.

2.4.5. Joints such as expansion joints, isolation joints, or other moving joints in concrete shall not be filled with patching compound or covered with resilient flooring.* Use an expansion joint covering system.

2.4.6. Concrete floors shall be smooth to prevent irregularities, roughness, or other defects from telegraphing through the new resilient flooring. The surface of concrete floors shall be flat to within the equivalent of 3/16" in 10 feet.*

2.5. Concrete Testing

2.5.1. New concrete slabs shall be properly cured and dried before installation of resilient flooring. Drying time before slabs are ready for moisture testing will vary depending on atmospheric conditions and mix design.*

2.5.2. All concrete slabs shall be tested for moisture regardless of age or grade level.* Testing shall be documented and circulated to all interested parties.

2.5.3. Conduct test according to ASTM test methods F 1869 Test Method for Measuring Moisture Vapor Emission Rate (MVER) of Concrete Subfloor Using Anhydrous Calcium Chloride, and F 2170 Test Method for Determining Relative Humidity in Concrete Floor Slabs Using In Situ Probes. Contact ASTM International to obtain copies of the test methods before proceeding.

2.5.4. MVER using ASTM F 1869 (Calcium chloride test) shall not exceed 3 lbs/24 hours/1000 square feet.

2.5.5. Relative Humidity using ASTM F 2170 (RH Probe test) shall not exceed 75%.

2.5.6. Follow ASTM test protocol without fail. Concrete testing shall be done after the building is enclosed and the HVAC system is operational for at least one week. Testing shall only be done when the test site is at the same temperature and humidity expected during normal use. If this is not possible then the temperature should be 65°-75° F and 45%-55% relative humidity

2.5.7. For all moisture tests, use three test locations for areas up to 1000 square feet and one additional test for each additional 1000 square feet.

2.5.8. ASTM F 1869 specifically states the following regarding preparation for the calcium chloride test:

2.5.8.1. Test shall be conducted on a 20" x 20" section of clean, bare concrete. (The best way to achieve this is a light grinding of the concrete surface. Scraping or wire brushing is not sufficient.)

2.5.8.2. After cleaning surface of concrete, wait 24 hours before testing.

2.5.9. Concrete floors shall be tested for pH prior to the installation of resilient flooring.* Flooring shall not be installed if pH levels are below 7 or above 10.

2.5.10. It is important that proper concrete testing be done before scheduling the floor covering installation. This testing is often done by the floor covering installer. However, it may be in the best interest of the building owner to have this testing done independently, per the Floor Covering Industry White Paper on Concrete Moisture Testing, which states, "…it is unreasonable to expect a general contractor, concrete contractor or a flooring installer to have sufficient expertise to anticipate and ask the proper questions for evaluation of potential concrete/flooring problems. Another complicating factor is that each has a vested interest on the testing and/or performance outcome of the installation. Flooring contractors should be made aware of test results, as all flooring manufacturers have placed upward tolerable limits of moisture vapor emission for the installation of their products, most have also recognized that adhesives will cure within a moderate range of pH. However,

flooring contractors' expertise should, by requirement, be limited to flooring materials and their installation. Changes in construction materials and practices should not lead to a mandatory in depth expertise of all the disciplines mentioned above. It is therefore our recommendation that concrete moisture vapor emission testing be performed by qualified independent agencies."+

2.6. Preparation of concrete floors and selection of patching or underlayment compounds:

2.6.1. Concrete floors to receive resilient flooring shall be free of sealers, coatings, finishes, dirt, curing compounds and other substances which may affect the rate of moisture dissipation from the concrete or the adhesion of resilient flooring to the concrete. Non-chemical methods for removal, such as abrasive cleaning or bead blasting may be used on existing slabs and shall take place 48 hours before testing.*

2.6.2. Surface cracks, grooves, depressions, control joints or other non-moving joints, and other irregularities shall be filled or smoothed with latex patching or underlayment compound [which] shall be moisture-, mildew-, and alkali-resistant, and shall provide a minimum of 3000 PSI compressive strength.* Expanko recommends the use of Ardex brand products or equivalent for this purpose.

2.6.3. It is imperative to follow patching or underlayment compound manufacturer's instructions for proper mixing, especially the correct ratio of powder to liquid and the proper drying time. Do not force dry with fans. After compound is dry, sand and/or scrape all uneven spots or any trowel ridges smooth. Sweep or vacuum the surface to pick up all of the dust from sanding or scraping.

2.6.4. Do not install resilient flooring products, patching compounds, or leveling compound directly over adhesive residue. Follow patching or underlayment compound manufacturer's recommendations for proper procedures on dealing with these residues. If chemical adhesive removers are used, any damage (including, but not limited to: adhesive failure, indentation, bubbling, staining, delamination, etc.) is the responsibility of the company using the adhesive remover, and is not covered by the Expanko warranty.

2.7. Expanko products may be installed over radiant heated floors as follows:

2.7.1. For cork floor tile, Expanko recommends the installation of our Heirloom and Prestige Series over radiant heat. These products are extremely dimensionally stable.

2.7.2. If the floor temperature does not exceed 85° F after the flooring is installed, Expanko floors may be installed over a dry radiant heated floor that is between 65°and a maximum of 80° F for 96 hours (4 days) before installation, during installation and 96 hours after installation.

2.7.3. Expanko floors are compatible with hot water radiant heating systems that are covered with an approved underlayment. Do not install directly over electric "mat" radiant heating systems unless they are covered with an approved underlayment.

2.7.4. If "Gypcrete" or other gypsum concrete underlayment is used as a part of the radiant heating system, it must have minimum compressive strength of 3000 PSI for commercial use and 2500 psi for residential use. In addition, all gypsum underlayment shall be primed or sealed with the recommended materials. Follow the underlayment manufacturer's instructions for covering the underlayment with adhered floor coverings.

2.7.5. Even with the presence of a radiant heating system, all substrates shall be tested for moisture using the methods recommended by the underlayment manufacturer.

2.7.6. During its life, the floor should not be subjected to drastic fluctuations in temperature.

2.8. Other Substrates

2.8.1. For installations over cement terrazzo, remove all sealers and or wax from the existing floor. Bead blast surface and apply patching or underlayment compound per underlayment manufacturer's instructions.

2.8.2. Epoxy terrazzo, metal, rubber, cork, and asphalt tiles are not acceptable substrates and shall be removed or covered with an approved underlayment. Consult with underlayment manufacturer for instructions on how to prepare these surfaces.

2.9. Removal of Existing Resilient Floor Coverings

2.9.1. If you decide to remove an existing floor, please be aware that many existing floors and/or adhesives may contain asbestos fibers that cannot be easily identified except by laboratory testing. Improper removal, sanding, dry sweeping, bead blasting, of asbestos containing materials (including, but not limited to, vinyl asbestos tile, asphalt tile, felt backed sheet goods, asphalt "cutback" adhesives and other flooring materials) can create asbestos dust, a known health hazard. Recommended Work Practices for Removal of Resilient Floor Coverings by the Resilient Floor Covering Institute (RFCI) are a defined set of instructions addressed to the task of removing all resilient floor covering structures. [Contact RFCI at www.RFCI.com or (301) 340-8580]

2.9.2. Various federal, state and local government agencies have regulations governing the removal of in-place asbestos-containing material. If you contemplate the removal of a resilient floor covering structure that contains, or is presumed to contain asbestos, you must review and comply with all applicable regulations.

2.10. Acclimation

2.10.1. Acclimate adhesives and flooring at the installation site, in the area they are to be installed, for at least 72 hours (3 days) prior to installation. Temperature during acclimation period must be maintained between 65˚ F and 75˚F relative humidity is between 45% and 55%. KEEP CORK TILES IN THEIR BOXES during acclimation. Reverse roll composition cork prior to acclimating.

* Adapted, with permission, from ASTM F 710-05, Standard Practice for Preparing Concrete Floors to Receive Resilient Flooring, copyright ASTM International, 100 Barr Harbor Drive, West Conshohocken, PA 19428. Complete copies of these standards may be purchased from ASTM, Phone (610) 832-9500, e-mail service@astm.org, website www.astm.org

+ Floor Covering Industry White Paper Position Statement on Moisture Emission Testing available from WFCA 2211 East Howell Avenue Anaheim, CA. 92806 USA (800) 624-6880 Fax: (714) 978-6066 www.wfca.org

For more information visit www.expanko.com or call 800-345-6202.