

## Exterior & Poolside Substrate Preparation

Please refer to the CBC Flooring website [www.cbcflooring.com](http://www.cbcflooring.com) for the most current guidance about product application charts, material handling, subfloor preparation and testing, product installation and maintenance recommendations. Failure to follow these instructions may result in installation related problems.

- ❖ Do not install unless you have the correct product, color and quantity of materials. Check for visible damage before installation. Immediately notify CBC Flooring of any discrepancies BEFORE installation. Installation of materials implies acceptance. No credit for labor will be provided for installing the incorrect materials or materials with visible issues.
- ❖ Handle materials with care to prevent damage. DO NOT DOUBLE STACK PALLETS.
- ❖ Store all flooring products and accessories in a dry interior area maintained between 50°F-85°F (10°C-29°C). Avoid temperature extremes.
- ❖ Store resilient sheet flooring rolls standing up, with capped end down. This prevents distortion and compression.
- ❖ Interior Poolside: Acclimate flooring, adhesive and substrate in the area to be installed to a stable condition between 65°F-85°F (18°C-29°C) and 20%-65% RH for a minimum of 48 hours before, during and after installation. Afterwards, maintain a minimum temperature of 50°F (10°C) for the life of the floor.
- ❖ All Exterior: Acclimate flooring, adhesive and substrate in the area to be installed to a stable condition between 65°F-85°F (18°C-29°C) and 20%-65% RH for a minimum of 48 hours before, during and after installation. Wait for a time period of proper dry weather conditions before attempting installation. Avoid installations in direct sunlight. The use of tents or other shade / protection devices are suggested.
- ❖ Refer to MT and Pathways Exterior & Poolside Installation Guide for additional product handling and subfloor preparation guidance.

### Key Considerations for a Successful Installation

Poolside and exterior applications are some of the most demanding environments to install floor coverings. To help insure a successful, long lasting installation, the following key items must be properly performed.

- ❖ Completely clean concrete surface of ALL contamination including old adhesive or paint residue before proceeding.
- ❖ Establish and maintain proper slope
  - ◆ To perimeter of installation and to Drains
  - ◆ Slope of Ground away from Perimeter of Installation
- ❖ Only use Exterior rated patching materials
- ❖ Only use recommended adhesives, weld thread and edge sealant
  - ◆ With **CBC 951** Epoxy 2-Part adhesive
    - Plan the Installation Sequence to Stay Off the Floor during installation.
    - Requires a substrate surface temperature between 50°Fahrenheit (F) and 90°F (10°Celsius (C) to 32°C) and Relative Humidity (RH) below 65%.
    - Wait 24 hours for light foot traffic and 72 hours for heavy or rolling traffic.
  - ◆ With **EnviroSTIX**
    - Prime the substrate using BaseKing EnviroPrime Acrylic Primer just before installation.
    - Installation temperatures are determined by ability to apply patch and primer and having sufficient flexibility of sheet flooring to be able to install.
    - Protect the edge sealant from traffic for 24 hours.

**Note:** Failure to follow these key points greatly increases the risk of floor failure.

## Preparation Before Starting Installation

### ❖ General Preparation

- ◆ New concrete must be allowed a proper curing period before installation. For a 4 inch slab, allow a minimum of 4 weeks cure time during warm weather. During cold weather or in cold climates (below 50°F or 10°C), allow a minimum of 8 weeks cure time for a 4 inch slab. For thicker slabs add 2 weeks cure time for each additional 1 inch of slab thickness during warm weather and 4 weeks during cold weather placement. Comply with federal, state or local building codes that set more stringent standards than outlined in this guide.
- ◆ Allow other finishing trades, especially the overhead trades, to complete their work before beginning the installation. During spackling, painting or pipe cutting, cover the substrate to prevent contamination. Spackling, paint, paint thinner or machine oil can cause bond failure or product discoloration.
- ◆ Close working spaces to ALL traffic 12 hours before installation and a minimum of 24 hours after installation or longer as specified by the adhesive. This will minimize the chance of damaging the new floor.
- ◆ Provide good lighting for proper subfloor preparation and installation.
- ◆ Completely remove all curing compounds before beginning subfloor preparations. After patching, lightly sand the surface if needed. Vacuum the surface and the perimeter to pick up all dust and debris from prep work. Apply EnviroPrime primer before installing with **EnviroSTIX**.
- ◆ Once the underlayment is thoroughly dry, smooth and clean, and the materials are properly acclimated, proceed with the flooring installation.

### ❖ Material Handling and Storage

- ◆ Immediately remove shrink wrap and check for proper quantity and color and any visible damage.
- ◆ Note damage on bill of lading when signing for delivery. Visible damage not reported on bill of lading to trucking company is your responsibility.
- ◆ Report discrepancies immediately (before installation) to CBC Sales Service at (800) 446-5476.
- ◆ Handle materials with care to prevent damage. **DO NOT DOUBLE STACK PALLETS.**
- ◆ Store all flooring products and accessories in a dry interior area maintained between 50°F-90°F (10°C-32°C). Avoid temperature fluctuations and extremes.
- ◆ Promptly store rolls of flooring standing up, capped end down. This is to prevent distortion, creases and compression.

### ❖ Acclimation

- ◆ Interior Poolside Installations - Acclimate all materials to jobsite conditions. Deliver all materials to the jobsite 48 hours prior to installation. Maintain a stable condition between 65°F-85°F (18°C-29°C) and 20%-65% RH for a minimum of 48 hours before, during and 48 hours after installation. Afterwards, maintain a minimum temperature of 50°F (10°C) for the life of the floor.
- ◆ All Exterior Installations - Acclimate all materials to jobsite conditions. Careful planning is required to ensure that the application temperatures are met for each item needed to install the flooring. The minimum and maximum slab and air temperatures and ambient air RH levels must be maintained from the time the floor preparation begins until 48 hours after the installation is completed. Wait 48 hours after it has rained and the surface is dry before proceeding with the installation. The installation area must remain dry for the duration of the installation.
  - **CBC 951 Epoxy** is a two part reactive epoxy adhesive that requires a **substrate temperature between 50°F and 90°F (10°C to 32°C)** and ambient RH below 65%.
  - **EnviroSTIX** is a pre-applied double sided poly-acrylic tape that has a service temperature range **between -22°F and 248°F (-30°C to 120°C)** and no RH requirements. The limiting factor will be the EnviroPrime Primer, Henkel Terostat MS 939 Sealant or the subfloor preparation materials.
  - **Henkel Terostat MS 939 Sealant** is a one-component moisture cured Silane Modified Polymer that requires an **application temperature between 41°F and 104°F (5°C to 40°C)** and. RH and temperature directly affects setting time. The higher the RH and/or surface temperature, the faster the sealant will set. The lower the RH and/or temperature, the slower the sealant will set.
  - Most subfloor preparation materials require application temperatures between 50°F-90°F (10°C-32°C) and Relative Humidity between 20%-65%.

**CAUTION:** For exterior installations, it may be necessary to postpone the installation until suitable environmental conditions (temperature & RH) will be maintained for the subfloor preparation, installation and cure time for all of the products being used.

## ❖ Jobsite Requirements

- ◆ Concrete Slab Construction: New and existing concrete slabs must meet the applicable requirements of the current ACI 302.1 'Guide for Concrete Floor and Slab Construction', ACI 302.2 'Guide for Concrete Slabs that Receive Moisture Sensitive Flooring Materials' and ASTM F 710 'Standard Practice for Preparing Concrete Floors to Receive Resilient Flooring'. The appendix of ASTM F 710 contains guidelines regarding concrete slab construction, and specific information regarding lightweight concrete, water-cement ratio, curing procedures, alkalinity, moisture retarders, flatness and levelness, and additional reference documents.

**CAUTION:** Determining suitability of subfloor preparation materials and providing warranty coverage is the responsibility of each product's manufacturer.

- ◆ To ensure a successful installation, concrete substrates must be structurally sound to receive resilient flooring material and must meet these minimum requirements:
  - A minimum compressive strength of 3,000 psi
  - A concrete mix water/cement RATIO of 0.5 or less
  - A minimum density of 115 lbs. per cubic foot
  - A maximum slump of 4 inches
  - Concrete on grade must have low perm vapor retarder directly beneath slab.
- ◆ Concrete substrates to receive resilient flooring shall be fully cured, permanently dry, clean of any contamination, 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, excessive carbonation or laticence, mold, mildew, and other foreign materials that might prevent adhesive bond (ASTM F 710). Completely remove all paint, wax, adhesive residue, grease, molds, fungus, oil and/or any other surface contaminants or bond breakers by shot blasting or other mechanical method to a ICRI Construction Surface Profile CSP 1-2. Repair all concrete irregularities using outdoor cement patch products such as Ardex CP or Mapecem Quickpatch.

**Note:** Most patch manufacturers do not recommend interior patching materials for installations exposed to continually wet conditions or exterior areas. The patch manufacturer should identify suitable products for the application.

- ◆ For interior poolside installations, the building envelope must be enclosed (walls, roof, windows, doors, etc. installed) with operational HVAC for a minimum of 1 week and preferably 2-3 weeks. This is critical to remove excess moisture from the subfloor and to stabilize the interior environment.
- ◆ For exterior installations wait 48 hours after rain, the surface is dry and the weather forecast calls for dry conditions for duration of installation before proceeding.

## ❖ Slope for Drainage of Surface Water

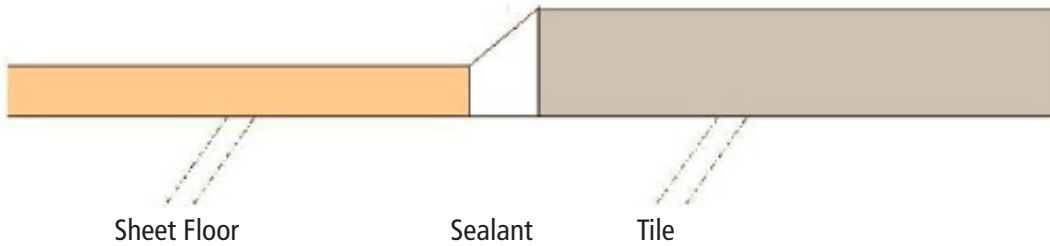
- ◆ The concrete surface shall be completely smooth and gradually and evenly sloped to prevent any water pooling on the surface of the flooring.
- ◆ Slope the subfloor to allow surface water to positively drain toward the perimeter of the installation or to floor drains. Slope should be a minimum of 2/100 to 3/100 of a degree. This equals 1 inch of slope every 3 to 5 feet (25 mm per 1-2 meters).
- ◆ Bring high spots level and fill low spots. Fill and smooth surface cracks, grooves, depressions, stationary control joints or other non-moving joints, and other irregularities or roughness. Use Exterior rated high quality Portland cement based patching and leveling compound with a minimum 3,000 psi cured compressive strength. The underlayment shall be moisture, mold, mildew and alkali resistant. Do not use plaster or Gypsum patch for preparing flooring substrates.
- ◆ The ground around the perimeter of the installation must provide positive drainage away from the slab so that no water on the ground will flow towards the slab or accumulates at the base of the slab.

**WARNING:** Lightweight concrete (less than 115 lbs. per cubic foot) can result in exceptionally porous, soft, or dusty concrete surfaces. ASTM F 710 states: Lightweight concrete, less than 115 lbs. per cubic foot, may have such low strength that it is unsuitable for covering with resilient flooring unless 1 inch of standard weight concrete (generally 140 lbs. per cubic foot) is used as a topping. In addition, 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. Consult with the manufacturer of patching or underlayment compounds or someone with expertise in concrete problems for guidance.

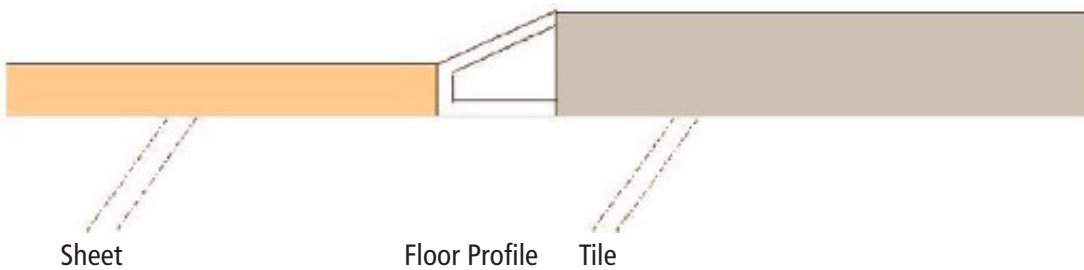
❖ Expansion/Moving Joints

**Note:** Expansion, Isolation or other moving joints in concrete shall not be filled with patching compound or covered with resilient flooring. Use an expansion joint covering system.

- ◆ Transitions - Use recommended sealant HENKEL MS-939, or metal/PVC transition profiles.



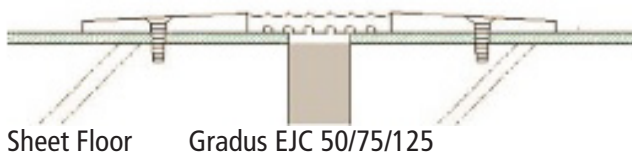
**Note:** Sealant should have a ¼ inch (5 mm) width.



**Note:** Clamp down moldings on the sheet vinyl are the preferred type.

- ◆ Expansion or Moving joints - Expansion, Isolation or other moving joints in concrete shall not be filled with patching compound or covered with resilient flooring. Use an expansion joint covering system. Refer to one of the following or other expansion joint cover manufacturers for additional assistance.

Manufacturer	Website Address	Telephone
Balco USA	<a href="http://www.balcousa.com">www.balcousa.com</a>	800-767-0082
C-S Group	<a href="http://www.c-sgroup.com">www.c-sgroup.com</a>	570-546-5941
Gradus	<a href="http://www.gradusworld.com">www.gradusworld.com</a>	
InPro Corp	<a href="http://www.inprocorp.com">www.inprocorp.com</a>	800-437-2698
Nystrom	<a href="http://www.nystrom.com">www.nystrom.com</a>	800-547-2635



Nystrom SM Surface Mount Expansion Joint Cover

❖ Moisture Testing

**NOTE:** Only interior poolside or similar applications require substrate moisture testing, areas which have functioning climate control systems in operation. Exterior or non-climate controlled areas do not require moisture testing.

Test all interior poolside concrete slabs for moisture and alkalinity regardless of age or grade level. Moisture content in the concrete substrate must meet the requirements of the adhesive being specified for the project. Carefully follow the moisture testing requirements from each adhesive manufacturer. If testing results are out of specification, wait and retest until the jobsite conditions are in compliance or use an epoxy based moisture barrier to bring the slab into compliance. Moisture and alkalinity test results only reflect the condition of the concrete floor at the time of testing. Any changes in the concrete's internal RH level, moisture vapor emission rate or alkalinity after the time of installation are not the responsibility of CBC Flooring.

- ◆ Interior Moisture Testing – Perform moisture (RH and or CaCl) testing before installation in accordance with current ASTM methods.
  - ASTM F 1869 – Standard Test Method for Measuring Moisture Vapor Emission Rate (MVER) of Concrete Subfloor Using Anhydrous Calcium Chloride – lbs. per 1,000 SF per 24 hours
  - ASTM F 2170 – Standard Test method for Determining Relative Humidity in Concrete Floor Slabs Using in situ Probes – RH%
  - ASTM F 710 – Standard practice for Preparing Concrete Floors to Receive Resilient Flooring - pH Testing procedure

#### ❖ Removal of Existing Resilient Floor Coverings

If you decide to remove an existing floor, please be aware that many existing floors and/or adhesives may contain asbestos fibers. Asbestos cannot be easily identified except by laboratory testing. Improper removal 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.

**WARNING!** Do not sand, dry sweep, dry scrape, drill, saw, bead blast, or mechanically chip or pulverize existing resilient flooring, backing, lining felt, asphaltic 'cutback' adhesive, or other adhesive. These products may contain asbestos fibers and/or crystalline silica. Avoid creating dust. Inhalation of such dust is a cancer and respiratory tract hazard. Smoking by individuals exposed to asbestos fibers greatly increases the risk of serious bodily harm. Unless positively certain that the 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. Recommended Work Practices for Removal of Resilient Floor Coverings are a defined set of instructions addressed to the task of removing all resilient floor-covering structures.

**NOTE:** 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.

- ◆ Installing Over Adhesive Residue
  - Do not install new exterior resilient flooring directly over residual adhesive or paint.
  - Do not 'skim coat' directly over old adhesive.
  - Where existing solvent based or asphalt (black) adhesive, carpet, VCT or other adhesive or paints of all types are present these must be removed in their entirety through physical means.

#### **Do Not Use Chemical Based Adhesive Removers**

**CAUTION:** The exterior or poolside use of asbestos encapsulants or bridging materials over asphaltic adhesive is not recommended, as those products will affect the bonding properties of the new adhesive.

- Adhesive Removers -- There are commercial adhesive removal products containing solvents that are effective in removing cutback or emulsion adhesives and comply with OSHA requirements. These products may have been used for adhesive removal, however in many instances they leave a solvent residue within the subfloor that can adversely affect the new adhesive or floor covering. Note: CBC Flooring warranties will not cover instances where subfloor conditions damage their product or affect the installation.
- Concrete substrates contaminated by adhesive removal products must be properly cleaned to remove all residue or sealed to encapsulate the contamination.

**WARNING:** Should chemical or bio-based adhesive removers be used, any associated damage including, but not limited to adhesive failure, indentation, bubbling, delaminating, etc. is the responsibility of the company specifying the adhesive remover.

### **Contact Information**

For additional information, please call 919-230-8700

Email: [technical@cbcflooring.com](mailto:technical@cbcflooring.com)

[www.cbcflooring.com](http://www.cbcflooring.com)