

Installation Procedure

Last Updated: March 2024



Emcrete II by Emseal

Non-Hazardous High-Impact Elastomeric Concrete Material

The following installation procedure is very important and must be fully understood prior to beginning any work. To ensure proper installation and performance of expansion joint system the following actions must be completed by the installing contractor. **Failure to do so will affect product warranty.**

- 1) Carefully read and understand installation procedure. Contact WBA's Technical Service Department at (800) 677-4922 for product assistance.
- 2) Inspect all shipments and materials for missing or damaged components and hardware. Contact Customer Service at (800) 677-4922 with WBA's order number and invoice for prompt assistance.
- 3) Inspect substrate or adjacent construction for acceptance before beginning work. Report unacceptable construction to the project manager for scheduled repair work.
- 4) Review WBA shop drawings for project specific detailed information if Engineering services were purchased at time of order.

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Health & Safety

During the installation of any Watson Bowman Acme product, appropriate personal protective items should be worn at all times, including but not limited to the following:

- Proper work clothing
- Safety glasses
- Safety boots
- Gloves
- Hard hat



Local rules and regulations regarding safe work environments and health should be followed.

Uses

These instructions are intended for the installation of Emcrete II when used alone as a patching material or to rebuild or fill joint edges to receive expansion joint systems, for example. The minimum application thickness for effective use is 1/2-inch (12mm).

Temperature and Moisture Limitations

The substrate temperature for installation of the Emcrete II must measure 45°F minimum during pouring of the nosing material as well as for at least 4-hours after pouring of the nosing is completed. Deck temperatures greater than 85°F significantly reduce working time.

Avoid any moisture or condensation during mixing installation and curing process.

Installation Overview

(NOTE: Install in accordance with detailed instructions that follow this summary.)

- Remove all unsound concrete in or around the area to be repaired.
- The substrates must be perfectly clean and dry prior to installation.
- Install side forms where needed to contain the Emcrete II.
(IMPORTANT: the Emcrete II material is self-leveling. Forms must be tight to the substrate or sealed to prevent leakage of the material through the forms).
- Apply Sikadur® 32 HiMod primer to concrete areas that will receive the Emcrete II
- If concerned about possible spillage or drips, mask-off any adjacent deck or other surfaces with duct tape and construction paper.
- Mix nosing ingredients according to the detailed instructions herein.
- Pour nosing material into the blockouts.
- Tap with flat edge of trowel to achieve consistent finish.



Watson Bowman Acme
95 Pineview Drive
Amherst, NY 14228
Phone: 716-691-7566
Fax: 716-691-9239
watsonbowmanacme.com



SIKA CORPORATION
201 Polito Avenue
Lyndhurst, NJ 07071 USA
Phone: +1-800-933-7452
Fax: +1-2019336225
www.usa.sika.com

Emcrete II Nosing Material Storage

The open-pot working time of Emcrete II after mixing is roughly 5-minutes per unit. Working time will be shorter when hot and longer when cold.

At high temperatures, above 85°F, store the nosing material liquids and aggregate at room temperature 70°F or in the shade.

IMPORTANT: DO NOT leave material in direct sun--even for a short while. Keep all materials shielded from the sun until immediately before use.

At low temperatures below 60°F store the nosing material liquids & aggregate at room temperature above 70°F in a heated space. Do not allow materials to freeze prior to installation.

Product Components

Each "Unit" of Emcrete II Part A and Part B is shipped in separate boxes. Part C container buckets are also grouped in pairs.

- One (1) can of Part A. Each can containing 0.96 US gallons of Part A.
- One (1) can of Part B. Each can containing 0.53 US gallons of Part B.
- One (1) bucket of Part C aggregate. In the bottom of the shipping pail is 57.8 lbs of aggregate.
- Sikadur® -32 Hi-Mod epoxy primer.

Materials and Tools Required

Equipment Required of Contractor

In addition to the following, it is expected that the contractor will have the tools and equipment necessary to properly prepare the work

- Heavy duty mixing drill(s) (3/4" chuck)
- Two - empty 5-gallon pails. One for the Sikadur® 32 HiMod Primer and one to mix Emcrete II
- Steel ball mixer or egg beater mixer
- Power -- heavy duty extension cords or generator
- Flat-head screwdriver--to open containers
- Utility knives
- Paint stir sticks--to scrape Part-B into Part-A
- Chemical-resistant gloves and protective clothing
- 2-inch wide by 6-inch long margin trowels
- Lint-free, cotton rags
- Solvent (acetone* or effective alternative)
- Duct tape (at least 6 times as much as the joint footage)
- Rolls of red construction paper (at least twice as much as joint footage, to mask off deck adjacent to joint-gap and to create a masked mixing area)
- Rollers or brushes for Sikadur® 32 HiMod primer



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- Clean, 1-gallon, paint buckets (to hold trowels in solvent, primer, etc.)
- Chipping hammers and bits
- Hammers, chisels, & other concrete hand tools

*Solvents mentioned or referred to are toxic and flammable. Observe solvent manufacturer's precautions and refer to Safety Data Sheets, as well as local and federal requirements, for handling and use.

Pre-Installation Notes

Ensure Decks Are Level Across Joint Gap

The work area should be inspected and measured to determine if there are places where the deck is not at the same height on both sides of the joint gap. The difference in deck heights should be no greater than 1/4" (6mm).

In most cases, Emcrete II can be used to correct deck height differentials. The additional material needed to make these corrections must be ordered from EMSEAL.

Remove All Unsound Adjacent Concrete

Using a hammer, tap concrete immediately adjacent to the area to be repaired or patched. Areas that sound hollow, or crumble, crack, or loosen must be removed leaving only sound concrete. Removal methods must ensure that a flat, solid "shelf" of concrete is created on which to pour the Emcrete II. For best results, patches must be squared off, deepened where necessary and prepared using methods and geometries that are established industry practices in concrete repair.

Clean Concrete of All Contaminants

NOTE: This step is crucial for the nosing material to adhere to the concrete and must not be compromised.

All concrete to which the Emcrete II is expected to bond must be thoroughly clean and dry and free of old sealant, grease, dirt, moisture or any other contaminants.

Using sandblaster, clean and expose the coarse aggregate on the concrete surfaces to receive the Emcrete II.

Remove all dust by blowing with oil-free, moisture-free air. (A high-powered electric air blower works well for this.)

Inspect the blockout and use a hand-held wire brush to loosen any clumps of cement particles which still may be lodged in blockout sawcuts or depressions. DO NOT use powered rotary wire wheels as these will polish and shine the surface.

Reapply a clean, dry air blast from a high-powered electric air blower or vacuum up all fine dust and cement particles using an industrial shop-vac.



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Installation

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Tape Off & Protect Deck

Care should be taken not to drip black nosing material on adjacent decks, sidewalks or other surfaces, the following is recommended:

Roll out red construction paper along both sides of the repair area holding the paper back from the edge approximately 1-inch (25mm). Tape off the edge of the repair area and construction paper with a continuous strip of duct tape.

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Prepare Pouring & Mixing Station

Pick a location central to the work and tape down construction paper in a 10-foot x 10-foot area.

(TIP: On jobs with a lot of repair or work areas, you may want to set up your mixing station on the back of a pickup or flat-bed trailer so that it can be moved easily between work locations.)

Use construction paper to create a path from the mixing station to the protected work area next to the joint(s).

WHY? Minor drips of the black nosing material as well as tracking of nosing material on workers' boots can result in unnecessary and time-consuming clean up of the deck if protection is not provided.

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Install Forms

Install forms to create joint opening in order to accept future joint seal. Set form height carefully to achieve proper finish levels and/or to compensate for deck height differences.

IMPORTANT: the Emcrete II material is self-leveling. Forms must be tight to the substrate or sealed to prevent leakage of the material through the forms.

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Blow Out Repair Area Again

Blow out the repair area again to remove any dust or debris that might have blown in.

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Prime with Sikadur®-32 HiMod

Apply the primer to the applicable surfaces.

Directions for mixing Sikadur® 32 HiMod can be found on the specific Product Data Sheet. This reads as:

MIXING

Pre-mix each component. Proportion equal parts by volume of Component 'A' and Component 'B' into clean pail. Mix thoroughly for 3 min. with Sika paddle on low-speed (400-600 rpm) drill until blend color is uniform. Mix only quantity that can be applied within its pot life.

APPLICATION METHOD / TOOLS

To bond fresh concrete to hardened concrete - Apply by brush or roller. Place fresh Emcrete II while Sikadur® 32, Hi-Mod, is still tacky (wait 15-20 minutes before the installation of Emcrete II). If coating becomes glossy and loses tackiness, remove any surface contaminants



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then recoat with additional Sikadur® 32 Hi-Mod, and proceed. Only one reapplication can be done before surface preparation must be repeated.

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Open Boxes and Aggregate

- Open one pail of Emcrete II Part C by pulling off the lid.
- Open each box of Part A and Part B. Remove one (1) can of each.
- Open each can (ONE can of each.)

Using a stir-stick, or drill and 2-inch jiffy mixer, mix contents of Part A within its container to reach a uniform consistency.

IMPORTANT: be sure to scrape the bottom completely to lift and blend any material that has settled to the bottom.

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Mix Part-A and Part-B

- Pour the entire contents of the Part A jug into the bottom of a clean, empty 5-gal. pail.
 - Using a stir stick, scrape out the Part A pail to get substantially all of its contents into the 5-gal. pail.
 - Add the entire contents of the Part B into the Part A liquid already in the 5-gal pail.
-

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Mix Liquids, Then Add & Mix Aggregate

Using the drill mixer, immediately blend the liquids using medium speed until a uniform black mixture is achieved (**5 to 7 seconds**).

Note: Use an up and down lifting motion and be sure to mix next to the walls around the edges of the entire pail.

With the drill-mixer always turning, immediately start emptying the aggregate into the 5-gallon mixing pail and mix the aggregate into the blended contents of parts A & B.

TIP: Pour the aggregate at a continuous but steady rate so as not to choke the mixing process (see picture on next page)

After all the aggregate has been poured into the pail, mix the entire blend for **25 - 30 seconds** until it is thoroughly blended.

CAUTION: The longer you mix, the shorter the pot life. **DO NOT** over mix. The total mix time from the time you pour Part-B into Part-A should not exceed 60 seconds.

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Pour Timing

IMPORTANT: Once mixed, the nosing material has a 5 min. pot life. Working time will be longer in cool weather / shorter in hot weather.



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Dedicate one to two workers to mixing and complete each of the mixing steps efficiently and properly without wasting any time.

After one mix is complete and being poured by another worker, prepare the components for the next mix.

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Pour

Pour mixed Emcrete II liquid into areas to be filled.

- Mixed Emcrete II has a heavy, flowable, "oatmeal" consistency. It will self-level.
- Pour the material from the pail in a steady, controlled flow. Move the pail along the repair area and gauge the amount poured to the size of the repair area.
- To prevent waste, at the end of the pour, use a margin trowel to scrape as much mixed Emcrete II from the pail as possible.

IMPORTANT: To maximize working time, pour the Emcrete II from the pail as quickly as possible.

To prevent messes, try not to over pour. **TIP:** If you do over pour, scoop up excess using a trowel and move it to another location.

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Troweling & Finishing

- Once poured, Emcrete II does not require much finishing. Air bubbles from the mixing process will gradually surface.
- To achieve a consistent look, when the material is no longer movable, tap the margin trowel across the surface breaking bubbles leaving a matte finish.

CAUTION: The more you trowel Emcrete II the more the aggregate will be dragged to the surface. It is not necessary to keep working the Emcrete II.

TIP: If the material cured quickly and you did trowel it too rough, spray your margin trowel with acetone and smooth down the rough areas.



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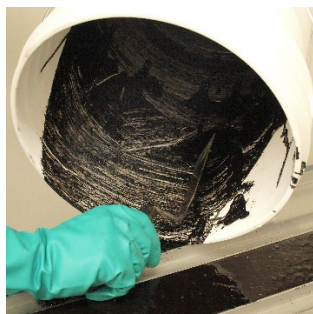
Add Part C aggregate to the mixed units of Part A and Part B.



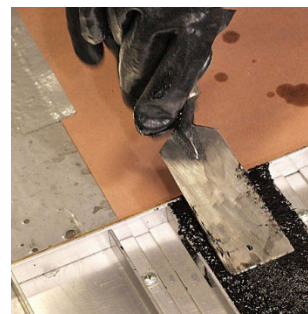
Mix all parts for approximately 25-30 seconds until thoroughly blended. Do not over-mix.



Pour contents out into your forms.



Remove all Emcrete II from working pail.



Initially smooth rough spots. Emcrete II is self-leveling and should not be "worked" too aggressively after it is poured into place.

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Remove Tape & Paper

Before the Emcrete II hardens, remove tape and paper.

NOTE: Keep all traffic from crossing until the Emcrete II has fully cured. Depending on the temperature: as little as 2-hours (warm - hot weather) to 4-8 hours (cold weather).

CLEAN UP: Clean excess and soak tools with acetone.

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Back to Traffic Time

EMCRETE II can accept traffic as early as 2 hours after pouring (in warm weather conditions above 85°F).

Any temperatures below 60°F can take upwards of 4-8 hrs to fully cure and be suitable to accept traffic.



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