



EMCRETE

# INSTALL DATA

**IMPORTANT:** Do not handle or install this material until all members of your crew have read (or have been read to) all relevant MSDS sheets as well as these instructions. If any of your crew do not understand any of this information call EMSEAL.

### TEMPERATURE LIMITATIONS:

The substrate temperature for installation of the EMCRETE must measure 7°C (45°F) minimum during pouring of the nosing material as well as for at least 4-hours after pouring of the nosing is completed.

### USES:

These instructions are intended for the installation of EMCRETE when used alone as a patching material or to rebuild joint edges to receive EMSEAL's DSM or BEJS systems, for example. The **minimum application thickness** for effective use is 3/8-inches (8mm).

For installation of EMCRETE as a component of expansion joint system from EMSEAL such as THERMAFLEX, SJS, SJS-FP, etc., additional steps are required. Consult the specific installation sheets for each product.

These instructions apply to installation on horizontal surfaces only. For application on vertical or heavily sloped surfaces, a thickening agent "non-sag additive" and instructions for its use, are available from EMSEAL.

### 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. Use proper preparation geometry to ensure a level "shelf" on which to apply the EMCRETE elastomeric concrete.
- The substrates must be perfectly clean and dry prior to installation.
- Install side forms where needed to contain the EMCRETE. (**IMPORTANT:** the EMCRETE material is self-levelling. Forms must be tight to the substrate or sealed to prevent leakage of the material through the forms).
- Apply primer to concrete areas that will receive the EMCRETE allowing 30 minutes for the primer to dry.
- 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.
- Trowel lightly while still curing to achieve consistent finish or allow the EMCRETE to self-level and cure as is.

### IMPORTANT: EMCRETE Nosing Material Storage

The open-pot working time of EMCRETE after mixing is about 10-minutes per unit. Working time will be **shorter when hot** and **longer when cold**.

At high temperatures, above 29°C (85°F), store the nosing material liquids and aggregate at room temperature (21°C (70°F)) or **in the shade**. **IMPORTANT:** DO NOT leave this material in direct sun--even for a short while. Keep all materials shielded from the sun until immediately before use.

At low temperatures (below 16°C (60°F)) store the nosing material liquids and aggregate at room temperature (above 21°C (70°F)) in a heated space.

### Contents of an EMCRETE "Unit":

Each "Unit" of EMCRETE contains:

- ▣ One - 5-gallon pail containing **9-1/2 pounds of Part-A**. The pail is black. The liquid inside the pail is clear. There is about 4-inches of the clear liquid in the bottom of the pail. This pail is also the mixing bucket into which you will pour and mix the Part-B and sand & fiberglass aggregate.
- ▣ One - 1-gallon pail containing **4-3/4-pounds of Part-B**. The pail is white. The liquid inside the pail is black. This part must be pre-mixed before adding it to Part-A.
- ▣ One - 3-gallon pail containing **18-pounds of sand** and **4-pounds of chopped strand fiberglass** aggregate.
- ▣ One - 1-pint container of EMPRIME primer. (Note: if you order a large number of units of EMCRETE, the primer may be shipped in pints, quarts or both).



**Yield:** The yield of each mixed "unit" of EMCRETE is 633 cubic inches (10,375 cubic cm).

## MATERIALS & TOOLS REQUIRED FOR INSTALLATION OF EMCRETE

### 1: 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 area and comply with all recommendations of the MSDS sheets and/or company or jurisdictional worker health and safety plans:

- Heavy duty mixing drill(s) (3/4" chuck)
- 30" long, 3" diameter "mud mixers" with 7/16" shank
- Power -- heavy duty extension cords or generator
- Flat-head screwdriver--to open buckets
- Utility knives--to open buckets
- Channel-lock pliers--to pull lids off buckets
- Paint stir sticks, or drill and 2-inch Jiffy mixer--to pre-mix Part B
- Spatula--to scrape Part-B residue into Part-A
- Chemical-resistant gloves and protective clothing
- Six - 50mm (2-inch wide by 6-inch long) margin trowels
- Two - hand-held wire brushes (do not use powered wire brushes as they polish the concrete)
- Heavy-duty extension cords
- Generator--where convenient, heavy-duty, local electricity is not available
- Lint-free, white, cotton rags
- Solvent (acetone\* or effective alternatives)
- 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)
- Four - 4-inch paint brushes (to paint on primer)
- Spray bottle (to spray solvent for final nosing finish)
- Clean, 1-gallon, paint buckets (to hold trowels in solvent, primer, etc.)
- High-powered electric air blower
- Industrial shop-vac with 2-inch diameter hose
- Diamond-bladed saws, grinders, cup grinders, etc.
- Chipping hammers and bits
- Hammers, chisels, & other concrete hand tools
- Proper signs, cones, tape, etc. to secure work area



**NOTE:** If using EMSEAL-provided "non-sag-additive" for application of EMCRETE on vertical surfaces you will need:

- Electric drill (for mixing small quantities of material used on vertical surfaces)
- Three - 2-inch diameter jiffy mixer blades (for mixing EMCRETE components and non-sag additive used to thicken the material so it will hang on vertical surfaces).

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

### PRE-INSTALLATION PREPARATION

#### 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 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 patch. 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 is expected to bond must be thoroughly clean and dry and free of old sealant, grease, dirt, moisture or any other contaminants.

Using diamond grinding-cups or wheels, clean and expose the coarse aggregate on the concrete surfaces to receive the EMCRETE.

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

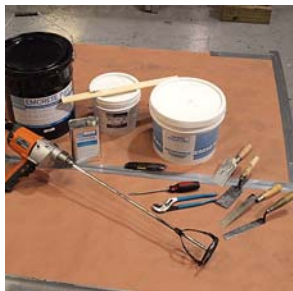
Inspect the blockout and use a hand-held wire brush to loosen any clumps of cement particles which still may be lodged in blockout sawcuts or depressions. DO NOT use powered rotary wire wheels as these will polish and shine the surface.

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.

### STEP 1: Tape Off & Protect Deck

If there is any concern about dripping 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. Tape off the edge of the repair area and construction paper with a continuous strip of duct tape.



### STEP 2: 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, flat-bed, or 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.)

### STEP 3: Solvent Wipe

All surfaces to which the EMCRETE must adhere must be wiped with a rag dipped in oil-free solvent (acetone or effective alternative) to pick up any remaining dust particles. Use lint-free, white, cotton, cloth rags and change to fresh, clean rags often.



### STEP 4: Prime

-Use channel-lock pliers to open quart-can of primer.



-Pour some of the primer into a clean paint-pail.

-Using paint brushes, apply EMPRIME primer to all surfaces to which the EMCRETE must adhere.  
-Make sure the vertical surfaces of patch area are coated as well. Apply enough EMPRIME to visibly "wet" the entire surface but avoid ponding.

Allow the primer to dry for 1/2 hour before pouring nosing but re-prime after 3 hours if the nosing has not been installed.

**NOTE:** If priming large areas, clean paint brushes in solvent and clean out debris that collects in primer pails between fillings.

### STEP 5: Install Forms

Install forms at the open edge of areas to be patched as needed to define the newly formed joint edge. Set form height carefully to achieve proper finish levels and/or to compensate for deck height differences. (IMPORTANT: the EMCRETE material is self-levelling. Forms must be tight to the substrate or sealed to prevent leakage of the material through the forms).

### STEP 6: Blow Out Repair Area Again

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



### STEP 7: Open Liquids, Sand and Fiber

-Open Part A (black can) by prying up the lid tabs with a flat-head screwdriver.



-Remove the lid and rest it over the top of the pail.



-Open the Sand and Fiber pail by pulling with channel-lock pliers on the pull tab. Remove the lid and rest it on top of the pail to prevent blowing.



-Open Part B (smaller white pail) by cutting through lid seams with a utility knife ...



...and then pulling off the lid with channel-lock pliers.



**STEP 8: Pre-Mix Part-B**

- Using a stir-stick, or drill and 2-inch jiffy mixer, mix contents of Part B 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.

**STEP 9: Mixing**

**IMPORTANT:** Once mixed, the nosing material has a **5-10 minute pot life**. Working time will be longer in cool weather and shorter in hot weather.

-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.



**STEP 10: Mix Part-B into Part-A**

-With the mixer-paddle in the pail ready to mix, pour the blended contents of Part B into the Black can (A)

- Using a spatula, scrape out the Part-B pail to substantially transfer all of its contents into the Part-A pail.



-Using the drill mixer, blend the liquids using medium speed until a uniform black mixture is achieved (10 to 15 seconds). Use an up and down lifting motion and be sure to mix next to the walls around the edges of the entire pail.



**STEP 11: Add & Mix Sand/Fiber**

- With the drill-mixer always mixing, immediately start emptying the sand and fiber into the black mixing can and mix the sand and fiber with blended contents of A & B.

**TIP:** Pour the sand and fiber in a continuous but steady rate so as not to choke the mixing process.

- After all the sand and fiberglass has been poured into the pail, mix the entire blend for **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 90 seconds.



**STEP 12: Pour**

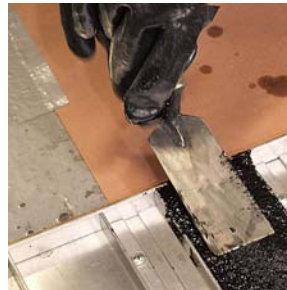
Pour mixed EMCRETE liquid into areas to be filled.

- Mixed EMCRETE 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.

**IMPORTANT:** To maximize working time, pour the EMCRETE 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.



**STEP 13: Trowelling & Finishing**

Once poured, EMCRETE requires little if any finishing.

-Air bubbles introduced by the mixing process will gradually surface.

-To achieve a consistent appearance, at the point that the material is no longer movable,

drag the tip of a margin trowel across the surface to break the bubbles and leave a matte finish.

**CAUTION:** The more you trowel EMCRETE the more the fiberglass will be dragged to the surface. It is not necessary to keep working the EMCRETE.



**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.

**STEP 14: Remove Duct Tape & Paper Protection**

-Before the EMCRETE has fully hardened, remove the duct tape from construction paper.

**NOTE:** Keep all traffic from crossing the repair area until the EMCRETE has fully cured. Depending on the temperature this could be as little as 3-hours (hot weather) or as long as 24-hours (cold weather).

**STEP 15: Clean-up**

At the end of each day or work session the mixing equipment and tools should be cleaned by scraping excess material away and then soaking and cleaning with acetone (or effective alternative solvent).