



BUILDING TRUST



## INSTALL DATA SHEET

# Thermaflex®

*Do not install this material until all members of your crew have read and understand these instructions. If you do not understand any part of these instructions CALL SIKA EMSEAL at 1-800-526-8365*

### Installation Overview

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

- Remove all unsound concrete in or around the blockouts. The horizontal blockout base must be level and all major spall must be repaired. Proper preparation geometry and suitable patching materials compatible with the nosing must be used.
- The blockout must be perfectly clean and dry prior to installation.
- Apply Emprime primer to the top of the blockout surface.
- Thoroughly solvent-clean [Thermaflex®](#) sealing gland and position into joint-gap.
- Mask-off deck with duct tape.
- Mask-off top surface of sealing gland with duct tape.
- Mix [Emcrete](#) nosing ingredients according to the supplied instructions.
- Pour Emcrete nosing material into the blockouts.
- Stab & Jab Emcrete under flanges.
- Lightly trowel smooth where needed.
- Remove masking and tape.

### Sika Emseal Supplied Product Materials

- [Thermaflex](#) sealing gland (field cut)
- [Emcrete](#) Nosing material (Parts A, B and C [aggregate])
- [Emprime](#) Primer

### Materials and Tools required for installation

- 4-inch diamond-cup angle grinder. (Note: The 4-inch diamond-cup, hand-held angle grinder is essential and the most effective tool for blockout preparation. This fits easily into the blockouts as well as into confined areas.)
- (6) - 50mm (2-inch wide by 5-inch long) margin trowels
- (2) - 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 rags
- Acetone or other solvent
- (1) - serrated bread knife with 250 mm (10-inch) blade
- Duct tape (at least 6 times as much as the joint footage)
- Rolls of red/brown construction paper (at least twice as much as joint footage, to mask off deck adjacent to joint-gap)

*Tip: Tar/felt paper is not good because it marks the deck when walked on or when solvents are spilled onto it. Plastic sheet is okay but can be slippery to walk on.*

- (4) - 4-inch paint brushes
- (4) - clean, 1-gallon, paint buckets (to hold trowels in solvent, mix small quantities of material, etc.)
- Compression tool (ice-breaker/garden edge trimmer) with edge wrapped in duct-tape
- (2) - spray bottles (to spray solvent for gland cutting, and final nosing finish)

### Mixing Equipment

- Heavy duty mixing drill(s) (3/4" chuck)
- 30" long, " diameter "mud mixers" with 7/16" shank
- Electric drill (for mixing small quantities of material used on vertical surfaces)
- 2-inch diameter paddle mixer blade (for mixing materials used on small vertical surfaces)
- Power -- heavy duty extension cords or generator
- Mixing sticks used in mixing Emcrete nosing
- Clean 5-gallon pail to mix Emcrete nosing material (once emptied the aggregate bucket becomes next mixing pail)

### Standard Contractor Equipment

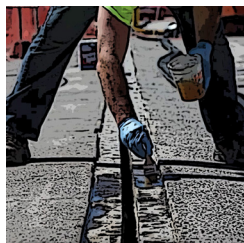
*Typically required for preparation of concrete for installation of expansion joints:*

- Compressor & sand blasting equipment (if codes allow)
- High-powered electric blower
- Industrial shop-vac with 2-inch diameter hose
- Diamond-bladed saws and grinders
- Chipping hammer
- Hammers, chisels, & other concrete hand tools
- Proper signs, cones, tape, etc. to secure work area

## Detailed Installation Instructions

The following illustrates a summary of the steps necessary for installation of Thermaflex. [Consult Sika Emseal](#) for further clarification.

### A. Inserting Thermaflex Gland

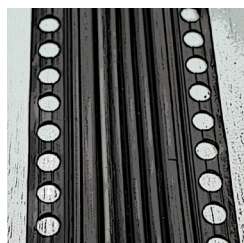


#### 1. Prep blockouts & align gland in gap

All deck surface faces should first be fully cleaned, primed and prepared.

(see Installation overview - pg.1)

- Solvent wipe and prime blockouts with Emseal supplied Emprime and brush. Apply enough primer to visibly “wet” the entire blockout including the vertical edge but avoid ponding.
- Allow primer to dry for 1/2 hour before pouring nosing. Reprime after 3 hours if nosing hasn’t been installed.
- Cut Thermaflex sealing gland to the proper length and position into the open gap.



#### 2. Seat gland into gap

Rock and press down sealing gland to be snug and fully inserted. Use a ice breaker or lawn-edge trimmer (cover edge with duct tape) to push and better position gland for insertion into the gap.



#### 3. Apply pressure

Using hands, feet or tool push down to force gland into expansion gap.

### B. Mask/Tape Gland & Deck Surface



#### 1. Tape blockout edge & substrate protection

Mask off the top of the deck surface at the blockout edge with duct tape and construction paper to protect the substrate.



#### 2. Tape top of gland

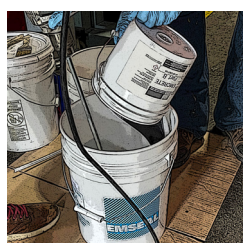
Apply duct tape to cover top center surface of the sealing gland leaving only the side flanges exposed.

### C. Mix Emcrete Nosing



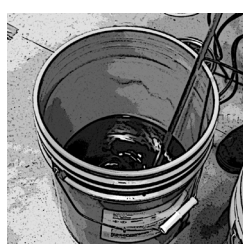
#### 1. Pour Emcrete Part A

Pour entire contents of Emcrete Part A into an empty, clean 5-gallon mixing pail



#### 2. Pour Emcrete Part B

Pour the entire contents of Part B into the same 5-gallon mixing pail containing Part A, while mixing contents together with electric drill mixer.



#### 3. Mix together Part A & B

Using a mixing stick, scrape out residual contents of Part A & B to get all of its contents into the mixing pail. Mix and blend contents together with electric drill and paddle mixer. (approx. 5 seconds)



#### 4. Add Part C (Aggregate)

While mixing – Pour the entire aggregate contents of the Part C pail into the same 5-gallon mixing pail containing the blended Parts A & B. **Note:** In vertical applications (only) non-sag is substituted for Part C. (See step F: Optional)



#### 5. Mix together Parts A, B & C

Mix Emcrete parts A, B and C until a uniform black consistency is achieved. (approx. 30-45 seconds)

**Do not over mix.**

## D. Pouring & Spreading Emcrete Nosing



### 1. Pour the Emcrete

Quickly pour the mixed Emcrete (A, B & C). Pouring will be done in (2) lifts:

First pour will fill the blackout about 1/3 full. Second pour will fill blackout until flush with deck surface.



### 2. Force Emcrete under flanges - Stab & Jab

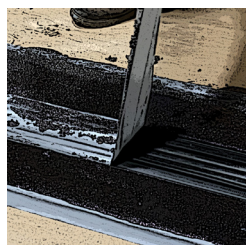
After first pour, using two trowels, lift flange and “stab & jab” the Emcrete nosing to completely fill blackout under flange. Ensure there are NO voids under the flanges.



### 3. Pour 2nd lift of Emcrete

Emcrete should spread and self-level while pouring into the blackout. Gently and quickly work with a trowel to create a uniform even surface that penetrates the flange openings. Only trowel as necessary – Do Not Over-Trowel.

## E. Installed Thermaflex



### 1. Remove center gland tape

Emcrete becomes a solid quickly. After hardening, remove the tape from the center of the gland. Be careful to avoid dragging Emcrete onto the gland surface.



### 2. Remove blackout edge tape

Remove the protective tape and covering from the outside surface areas.



### 3. Thermaflex traffic ready

Thermaflex will accept pedestrian and vehicular traffic after the elastomeric nosing concrete material is fully firm and tack-free (typically two hours, depending on ambient temperature).

## F. OPTIONAL Installing Upturns/Vertical

### 1. Designate Vertical Installation

Specify that the orientation will be Vertical when placing order. Emseal will supply a non-sag additive for Emcrete.

### 2. Overview

Where expansion joints intersect curbs or columns, and 90° factory-welded upturns are provided, attach flanges to vertical blackout or surface-mount using Emcrete elastomeric concrete liquid parts A & B mixed with Emseal-supplied non-sag additive. When mixing nosing, use a mixture of smaller, more manageable units. Mark a measured container at 14 oz of Part A. Mark another container at 30 oz of Part B. In a large mixing pail, pour in the 14 oz of Part A. Then add in the 30 oz of Part B. Quickly use a stirring stick or spatula scrape as much of the Part B fluid from its container. Mix Part A & B, then add in the pink non-sag additive “fluff”. Mix and pump until an even black mass is achieved. Apply to vertical surface.

### 3. Place and Prime

Follow directions as seen on Step A & B:  
Prep/Prime Surface and Inserting gland [Step A]  
Masking surfaces [Step B]



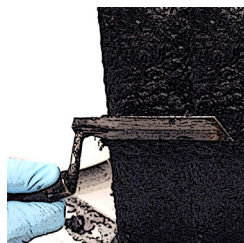
### 4. Mixing Emcrete

Mix parts A and B as described in Section D: 1-4.  
Omit the Part C Aggregate – This will be replaced with non-sag.



### 5. Add non-sag

Once liquids are blended (about 15 seconds) begin adding pink non-sag additive “fluff”. Pump mixer up and down while mixing to break up clumps. Mix for 30 seconds until it is an even black mass.



### 6. Apply to vertical

Use the bottom of a 2-inch margin trowel working onto the vertical surface so that it hangs firmly in the vertical blockouts or against the wall, column, etc.

## G. Welding Thermoplastic Center Gland

Welding is a specialized skill that MUST NOT be attempted without the in-field training of an Sika Emseal Technician. The following instructions summarize the welding process to act as a reference after the training provided by Emseal Technician.

- Attach two 400-watt soldering irons to tines on the copper weld-plate if required.
- Plug in the irons to allow the plate to heat up.
- The 250-watt iron will be used to smooth the weld later—plug this in to heat up as well.
- Cut the sealing gland to length using the supplied miter/weld jig and the serrated-knife made wet with solvent.
- Thoroughly clean with solvent the faces of the components to be joined as well as 4-inches of the gland next to the cut.
- Place the components into the weld-jig with the faces to be welded next to the edge of the slot that holds the weld-plate.

**NOTE** - The weld-plate is hot-enough to weld when a piece of scrap gland held against the blade softens and “rolls” slowly when pressed firmly against the plate.

- Insert the weld-plate into the slot in the weld jig.
- Firmly push the two components against the weld plate.
- Be sure to apply even and equal pressure on the underside as well as on the top of the gland.
- Watch the rubber at the plate and look for the rubber to “roll” evenly around the entire perimeter of the gland.
- Back off the pressure against the weld-plate and pull the weld plate quickly from the jig.
- Immediately push the two components together tightly and hold them together for 30-60 seconds.
- While pushing and while the rubber is still hot, use a tool to separate any places in the vees of the gland that should not stick together.

- Let the weld cool for about 2 minutes and remove it from the weld jig.
- Check that the entire perimeter has welded properly.
- Use the 250-watt smoothing iron to blend the weld into the gland.
- Cut 3/4-inch wide strips of thermoplastic sheet to be used to wrap the weld.
- Clean the strip thoroughly with a lint-free rag made wet with solvent.
- Hold the strip against the sealing gland over the weld and inject heat from the hot-air gun onto both the underside of the sheet and the gland.
- Apply heat for a 5-second count, then remove the heat source and push the heated sheet against the gland.
- Continue this process until the sheet is firmly welded across its entire contact area.
- Once the sheet is welded on, its edges can be blended into the gland to give a neat appearance using the 250-watt smoothing iron.

**NOTE** - When butt-welding or smoothing, if the rubber smokes heavily and goes glossy immediately upon contact with the iron, these are signs that the iron is too hot and material is burning. Unplug the irons for a while to allow them to cool off slightly. Before attempting another butt-weld, the weld-plate must be cleaned by wire-brushing the hot thermoplastic residue from the hot blade. Do not attempt to solvent-clean the blade.

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**Install Data Sheet**  
Sika Emseal Thermaflex®  
October 2023 Version SE-1.1



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