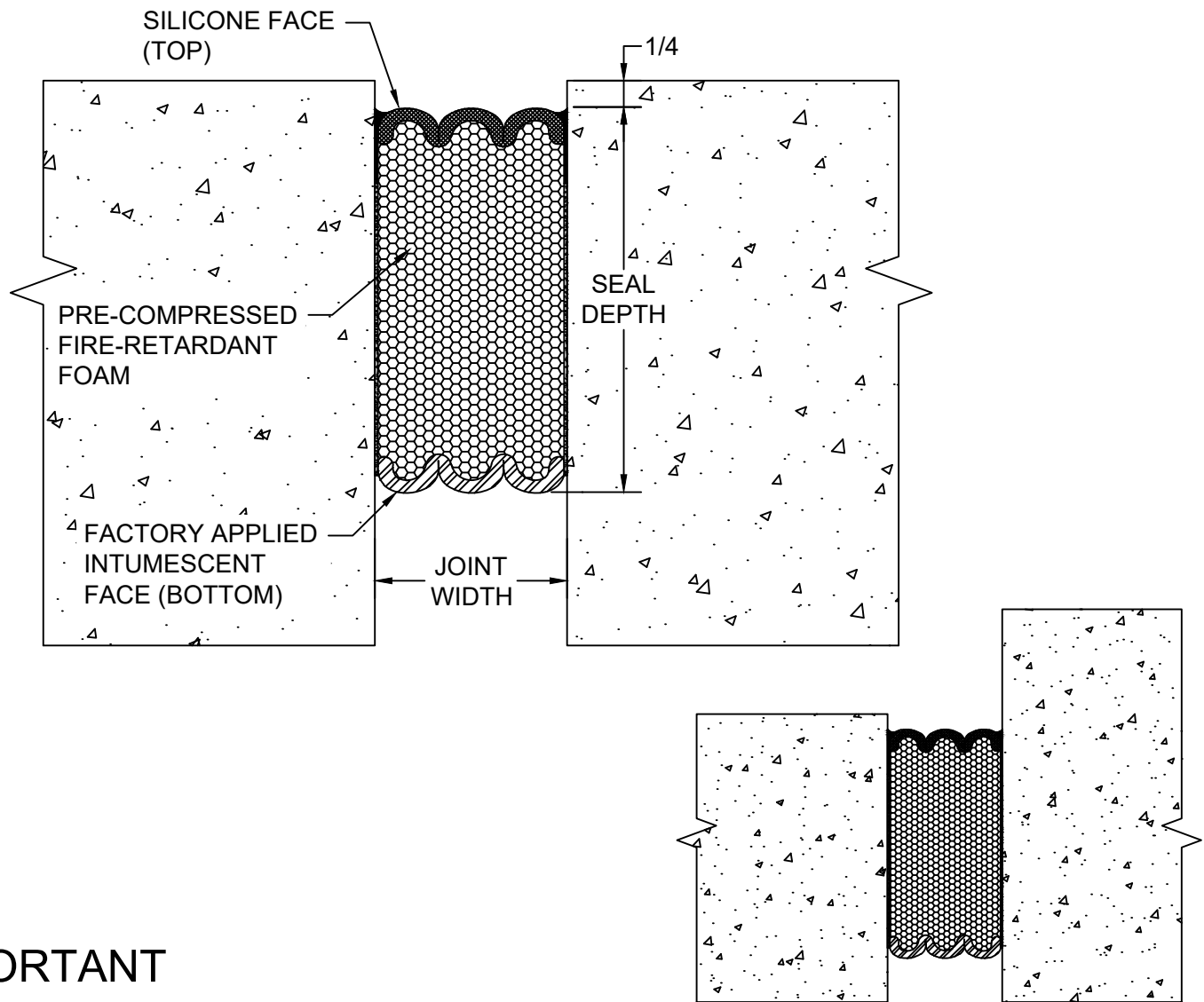


## 3HFR

## INSTALLATION INSTRUCTIONS



## IMPORTANT INFORMATION

Prior to the commencement of Installation, all materials **MUST** be inspected for Damage. Any damage must be reported to CONSTRUCTION SPECIALTIES, INC., as soon as possible, so that replacement materials may be furnished without delay.

All work must be completed as per Architect's Approved "Shop Drawings", and in accordance with these Installation Instructions. When installation is complete, all materials must be protected from damage until the Architect's FINAL INSPECTION.

All materials should be arranged in the order that they are to be installed. All hardware required for each portion of the work should be placed with the appropriate materials.

Please review all Approved Shop Drawings and this Document to familiarize yourself with all the details and components of this assembly.

### IMPORTANT:

**READ THROUGH ALL INSTRUCTIONS PRIOR TO STARTING INSTALLATION**

8/5/19



**Construction Specialties™**

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# GENERAL NOTES:

Before beginning installation, review the architectural drawings and approved Construction Specialties Inc. shop drawings to familiarize yourself with the joint cover models and locations.

Check all of the joint cover components to confirm that the correct joint cover model and size have been received. Also, check for materials that may have been damaged during shipping. Report all incorrect and/or damaged components to CS at 800-233-8493.

Read through all the steps of these instructions prior to beginning work.

## TOOLS:

The following tools may be needed for installation of the 3HFR:

- |                       |                            |                             |                          |                         |                  |
|-----------------------|----------------------------|-----------------------------|--------------------------|-------------------------|------------------|
| - Serrated Edge Knife | - Measuring Tape           | - Miter Saw                 | - Utility Knife          | - Caulking Gun / Knives | - Spray Bottle   |
| - Clean Paint Buckets | - Acetone                  | - Spatula                   | - Duct Tape              | - Hacksaw               | - Lint Free Rags |
| - Heavy Duty Drill    | - Jiffy Mixers 1 1/2" dia. | - Chemical resistant gloves | - 2" wide Margin Trowels |                         |                  |

## Material Storage and Installation:

- 1.) **Cold Days** - Store sealant, off the floor, inside at above 68°F (20°C). Best to store at room temperature.
- 2.) **Very Hot Days** - Keep sealant out of direct sun when temperatures greater than 60°F (15°C) until immediately prior to installation into joint. **Expansion is quicker when warm, slower when cold.**

## Pre-Installation:

### Concrete:

- 1.) Ensure joint faces are parallel installing 3HFR 1/4" back from the substrate face for corner beads. Allow sufficient depth, plus 1/2", to receive the full depth of the size(s) of 3HFR being installed.
- 2.) Repair spalled, irregular or unsound joint surfaces using accepted industry practices for repair of the substrates in question. Remove protruding roughness to ensure joint sides are smooth.
- 3.) Remove all contaminants by sandblasting or grinding to ensure a thoroughly clean and sound substrate for the full sealant depth. NOTE: DO NOT use a wire wheel this will polish the substrate and cause bond failure.
- 4.) Dry all wet surfaces. Note: Do not use flame to dry substrate this will leave carbon on the substrate and cause bond failure.
- 5.) Wipe joint faces with solvent dampened lint free rags to remove all concrete dust and contaminants.
- 5.) Ensure joint sides are dry of solvent or cleaning agent prior to installation.
- 6.) Use miter saw to make any cuts to the 3HFR before removing the clear shrink packing. Use a serrated knife to make any cuts after the clear shrink packing and hardboards have been removed. All starting and ending pieces must be square to the termination point.

## Material Packaging:

- 1.) Material has been manufactured as straight sticks. joint widths for material supplied are marked on the packing. Actual material width measured between hardboard will be slightly less than indicated joint width. DO NOT REMOVE OUTER PLASTIC PACKING UNTIL YOU READ AND UNDERSTAND THE REST OF THESE INSTRUCTION.
- 2.) Proper performance of expansion seals necessitate proper installation from beginning through completion. Improper handling will cause product to expand prematurely.
- 3.) Sticks are held under compression by hardboard and plastic wrapping. When ready to install, slit the plastic wrapping by cutting on the hardboard, discard hardboard and inner release liner. DO NOT CUT ALONG SILICONE COATING FACE.
- 4.) For packaging and production reasons, the silicone facing is coated with a release agent. Prior to installation, this agent must be wiped off using a solvent in order for the fillet beads described to adhere to the silicone facing. Lightly, quickly and thoroughly wipe the cured silicone facing with a lint free rag made damp with acetone or other solvent to remove the release agent.

# STEP 1

## PREPARE & APPLYING EPOXY

- 1.1 Using duct tape, tape off the deck on both sides of the joint.
- 1.2 To mix Epoxy adhesive, using a trowel transfer the entire contents of Part B (hardener) into Part A (base). Always mix Part B into Part A.
- 1.3 Mix Epoxy thoroughly with a drill and mixing paddle. Scrape walls and bottom of the container to ensure uniform and complete mixing with no black or white streaks obtaining a gray color. **DO NOT THIN THE EPOXY.**  
  
**IMPORTANT:** Epoxy adhesive may be used in the 41° F to 95° F temperature range. Wear chemical resistant gloves and/or barrier hand cream when handling liquid sealant or epoxy. Remove promptly from skin with a commercial hand cleaner before eating or smoking. Avoid inhaling vapors.
- 1.4 Apply Epoxy to the substrates before the pot life has expired (10-30 minutes depending on the ambient temperature). The Epoxy will harden more quickly when left in the pot. Apply to the joint faces as soon as possible. **IMPORTANT:** The Epoxy must still be uncured when installing the 3HFR foam into the joint gap. If the Epoxy cures before installing the 3HFR foam then reapply new Epoxy. If installation is interrupted for more than 2 hours after initial cure then grind off and apply new wet Epoxy.

# STEP 2

## PREPARE SEAL

- 2.1 When ready to install the 3HFR, remove the plastic packing by cutting on the hardboard and remove hardboard and inner release liner. **DO NOT CUT ALONG THE SILICONE COATING FACE.**  
**IMPORTANT:** The 3HFR foam is kept under compression by the plastic wrapping and hardboard, work quickly and deliberately after cutting the shrink-wrap to avoid material expanding beyond a usable size.
- 2.2 Wipe factory applied release agent off silicone facing using a clean lint free cloth made damp with water.

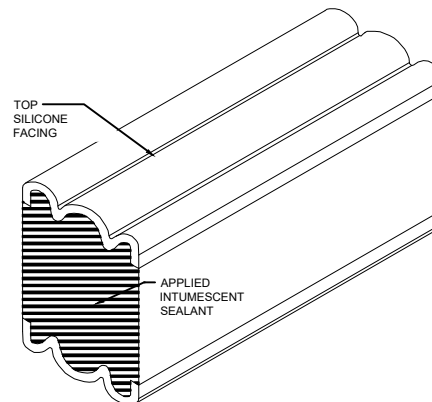
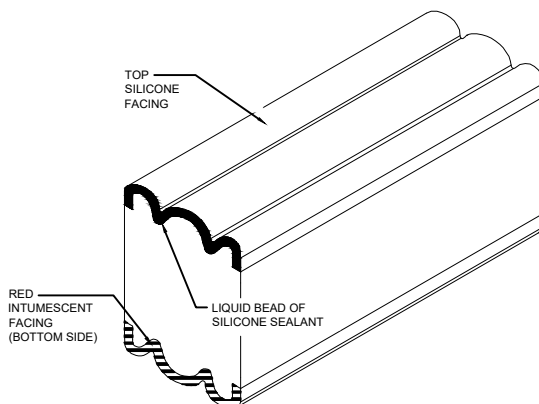
# STEP 3

## INSTALLATION OF SEAL

- 3.1 Identify the traffic (top) and fire (bottom) side of the foam and install in the correct direction. The top will have only a smooth silicone face coating. The bottom will always have a layer of a rough flexible red intumescent coating. **NOTE:** In some cases, if specified, there may also be a layer of smooth silicone covering the red intumescent coating.

**IMPORTANT:** Always install the 3HFR sticks with the red intumescent side facing down into the joint.

- 3.2 Starting from one end Install the HF-FR3 stick into the joint. The 3HFR material will be snug, install into the joint with a steady firm pressure. Ensure that epoxy on joint face has not cured. Install the 3HFR with a 1/4" minimum recess below the deck surface.



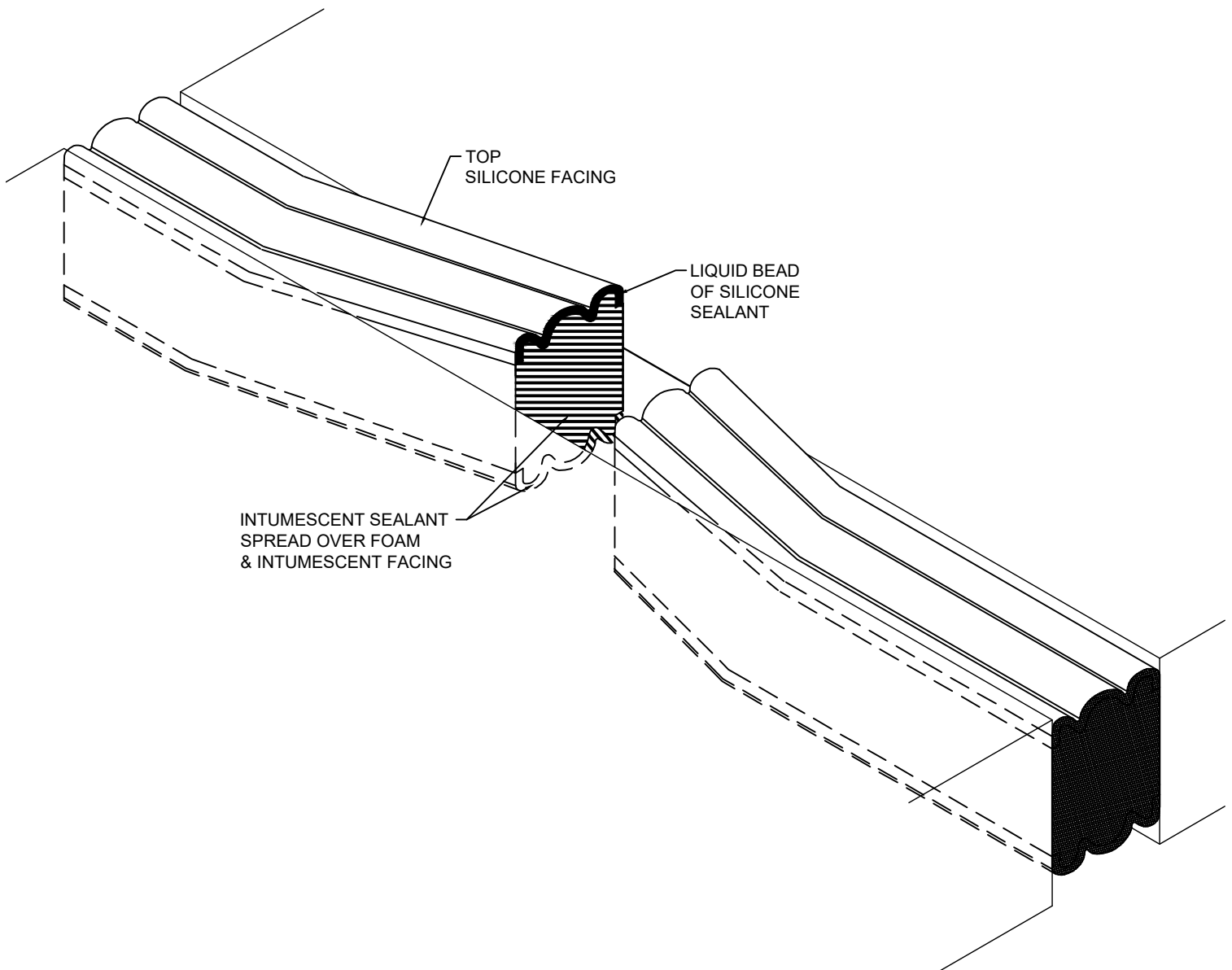
# STEP 3 Con't

## INSTALLATION OF SEAL

- 3.3 Leave the end to be joined to the next 3HFR length to protrude up and out from the joint. On the end of the next stick, using a caulk gun, apply a bead of liquid silicone to the exposed upper and lower end faces of the silicone facing.
- 3.4 Apply intumescent sealant and spread over the exposed face of the intumescent foam and bellow to an even 1/16".

**IMPORTANT NOTE:** All sticks of 3HFR foam **MUST** have a coating of intumescent on the faces of all splices. This ensures that the splice does not compromise the fire barrier.

- 3.5 Installing additional lengths of 3HFR, work in one direction towards the previously installed length sticking proud of joint pushing the joining faces together. Push hard on the 3HFR stick to compress the splice firmly together ensuring there are no voids.
- 3.6 Once the full length of 3HFR is installed, push the protruding joint into the joint and tool off the excess silicone. During low temperature installation, provide as much ambient heat as possible around installed 3HFR foam to accelerate recovery.



# STEP 4

## INSTALLATION OF CORNER BEADS

- 4.1 Wipe any excess epoxy from the face of material using a clean rag.
- 4.2 Before the epoxy cures, force the tip of the silicone caulk tube between the substrate and the 3HFR foam. Inject a 3/4" deep silicone sealant corner beads between the 3HFR foam block, the cured silicone facing and the joint face.
- 4.3 Tool the freshly applied silicone firmly to blend with the substrates and cured silicone facing, and to ensure a proper bond and seamless appearance.
- 4.4 Where 3HFR foam meets at the butt joints, tool the excess silicone that squeezes out from the top and between the silicone facing. Silicone left between the valleys of the silicone facing could constrain movement. Use a caulk knife, remove excess sealant. Blend any sealant that remains into the silicone facing bellows.

NOTE: Silicone sealant corner beads are only applied to the weather side of the 3HFR foam. No sealant corner beads is needed on the other side.

SILICONE COAT ANY EXPOSED FOAM ENDS:

IMPORTANT: Any stick of 3HFR which finishes with an open end, not terminating into another stick or structural termination, must be lightly coated on the exposed foam end using the liquid silicone sealant provided. This is critical to ensure that the fire retardant impregnated foam is sealed.

