

# Installation Instructions

## Joint Systems: CR Series

**Note:** Seals are delivered in either wooden reels or large steel reels depending on order size and contractor storage ability. Store reels under a tarpaulin (tarp) to keep the seals clean and free from damage. Keep tack coat/primer and elastomeric header in a conditioned place, do not allow the header aggregate exposure to moisture. Prior to installation, wipe seal down entirely with denatured alcohol to ensure proper adhesion to primer and epoxy.

### A. Preparation of the Work Area

1. Please read through entire instructions before installation.
2. To ensure proper primer bond, clean the blockout of all contaminants and impurities, such as water repellents, laitance, surface dirt/rust, and old sealants, by sandblasting or wire brushing before applying primer.
3. Make blockout depth a minimum of 3/4" (20mm) and a minimum width of 3". See Tech Data and Details for additional blockout dimension notes. Level blockout flat with epoxy grout or equal to provide a level bearing area for the seal wings.
4. Block out must be completely dry before applying primer.

### B. Common Failure Points

- Concrete Blockout - Voids, improper dimensions, chipped and radiused edges must be addressed prior to install.
- Epoxy Primer - Primer should be applied above and below the wings to prep all surfaces for elastomeric adhesion.
- Elastomeric Header - **\*Critical\*** Store aggregate (silica sand) in dry conditions to avoid absorption of moisture. Mix per instructions. Do not install once material begins to clump (non-pourable).

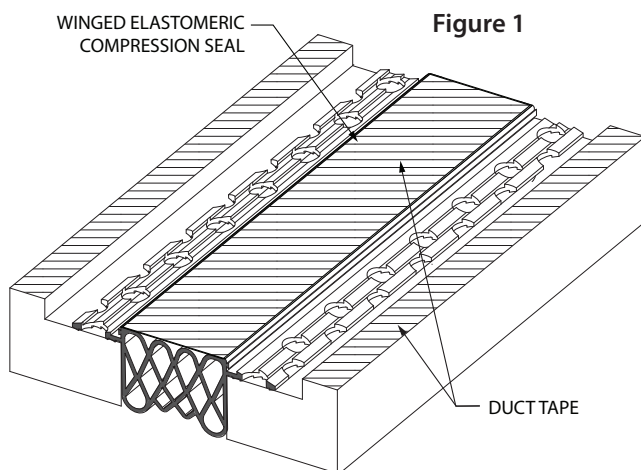
### C. Recommended Equipment

- Two handled high torque, low speed mixer with mixing blade
- Bullnose or margin trowel
- Protective gloves
- Denatured alcohol or Xylene
- Non-serrated blade
- Mortar mix paddle
- Duct tape
- Craft paper
- Clean rags
- Splicing Iron
- 2" Roller
- 3/16" Board

NOTE: See supplemental splice kit packet for pictorial reference of equipment.

### D. Estimated Manpower Guidelines.

1. Efficient CR expansion joint system installation requires a minimum of three individuals:
  - a. One preparing and mixing the blend of aggregate and resins for the elastomeric header (after the completion of primer).
  - b. One bringing the aggregate and resins to the mixer, delivering the final mix to the blockout area and placing the mix in the blockout.
  - c. One packing and troweling the final mix after placement in the blockout.



### E. Installation of Seal

#### Figure 1

1. Before installation, mask off area surrounding blockout and seal using duct tape and craft paper to ensure an easy, fast clean-up.
2. Thoroughly wipe down seal wings (top & bottom) with denatured alcohol to remove dust and emission residue.
3. Center the seal over the open joint and install with the anchoring flaps seated squarely on the blockout base. Ensure the seal is in compression and properly seated.

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## Joint Systems: CR Series

Figure 2

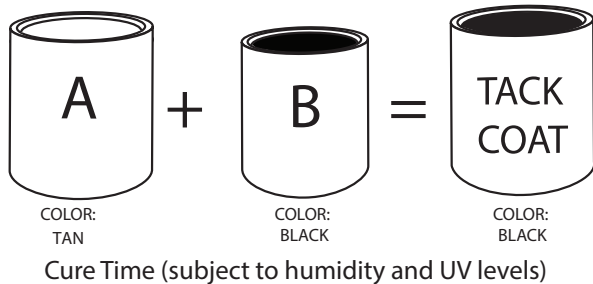


Figure 2

4. Prepare tack coat primer. Mix Part A, the tan epoxy adhesive & Part B, the black epoxy adhesive together until a homogenous mix. Mixing the adhesive is best accomplished with a drill at a low speed with a mortar style mixing blade or paddle. Mix for approximately 90 seconds, until a uniform black color is achieved.

**NOTE:** A 1.5 gallon unit of tack coat primer = 54 LF (16.5 LM) of seal applied at a thickness of .063" (1.6mm)

**WARNING:** For hot weather installs, keep epoxy coat in an ice chest (cooler) and mix epoxy in smaller batches to increase workable time. For cold weather, ensure components do not freeze and temperature is a minimum of 47°F (7°C).

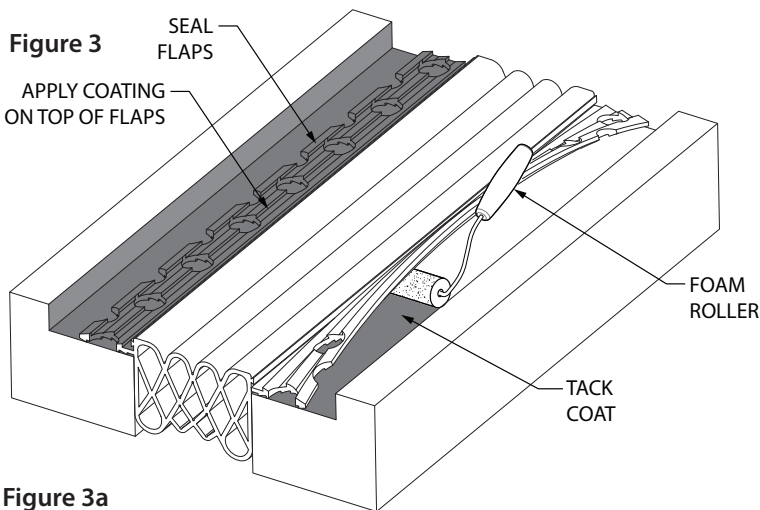


Figure 3

5. Raise seal flaps and spread tack coat primer evenly over blockout bottom, sides, and bottom of wings. Ensure seal flaps are firmly pressed into the tack coat primer. Embed seal flaps while tack coat primer is still tacky.

6. Ensure seal and wings are installed flat. (Fig. 3a)

7. Apply an additional layer of tack coat primer to the top of the seal flaps and complete blockout (Fig. 3a), avoid puddling if possible. **DO NOT** allow tack coat primer to set for more than 1-2 hours prior to applying elastomeric header. Ensure wings are firmly adhered with no voids or waves.

Figure 3a

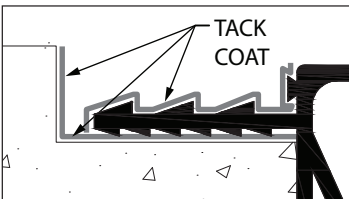


Figure 4

8. Cut a 3/16" thick board to use as a form for header installation.

Figure 3b

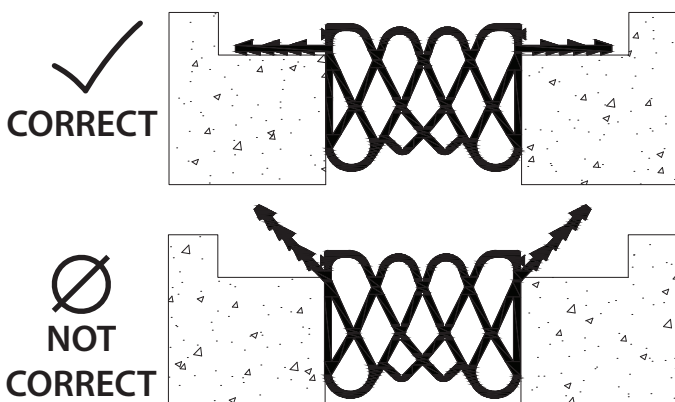
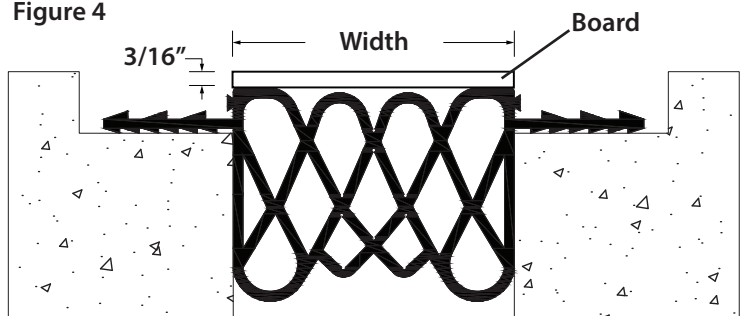


Figure 4



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## Joint Systems: CR Series

Figure 5

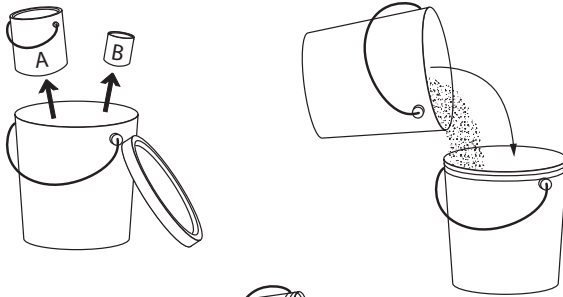


Figure 5a

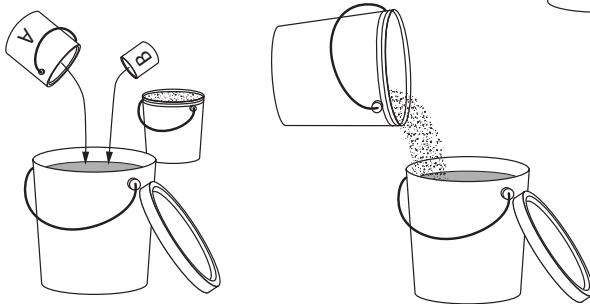


Figure 6

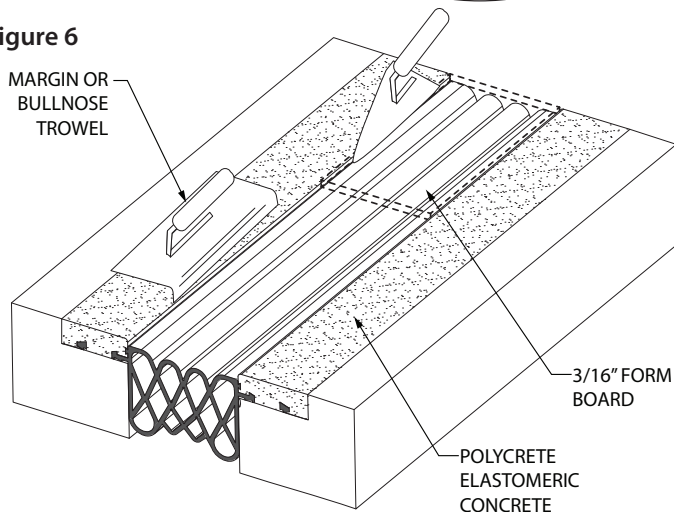


Figure 6b

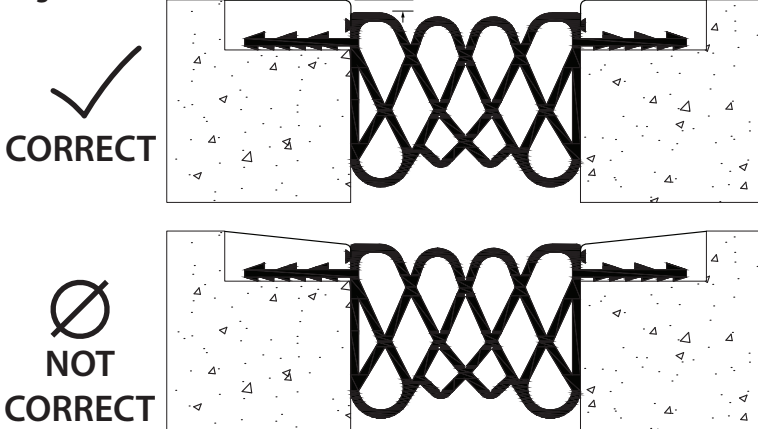


Figure 5

9. The elastomeric blockout material is composed of:

- Part A: 1 gal (4 liter) Resin
- Part B: 1/2 gal (2 liter) Hardener
- Part C: 50 lbs of mixed aggregate

**\*Key:** Do not allow aggregate to absorb moisture. Do not leave bags outside- store in sealed containers. Any moisture of any amount will cause header to grow and "mushroom" out of joint. This is the #1 failure.

10. Blend Parts A and B together in large bucket until its a consistent color. This liquid blending process should take no longer than 90 sec. using a speed power mixer with mixing blades. (Fig. 5a)

**WARNING:** For hot weather installs, keep epoxy coat in an ice chest (cooler) and mix epoxy in smaller batches to increase workable time. For cold weather, ensure components do not freeze and temperature is a minimum of 47°F (7°C).

11. Slowly blend the Part C dry aggregate into the liquid. Keep the mixing blade on the bottom of the pail for a minimum of 30 to 45 seconds to start the mix. Continue adding aggregate and mixing for 2 to 3 minutes or until batch is consistent.(Fig. 5a)

12. Remove and apply header quickly to slow curing process in mixing bucket. If header is thick or porous, do not use.

Figure 6

13. Pour or trowel the mixed elastomeric header into the blockout area and trowel in place with a bullnose or margin trowel. Use the 3/16" precut board to make sure the header is installed level. (Fig 6a)

14. After installation is complete remove duct tape and craft paper from surrounding area. Do not allow any elastomeric header material to cure on the seal face, clean using denatured alcohol or xylene.

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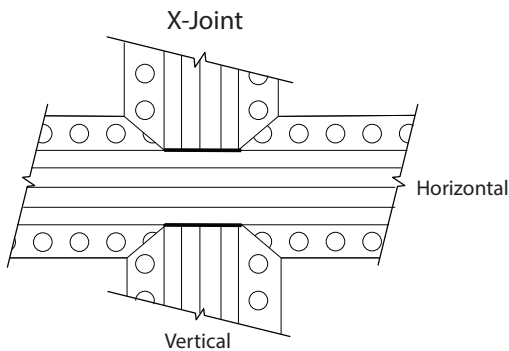
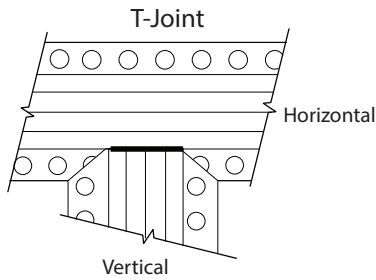
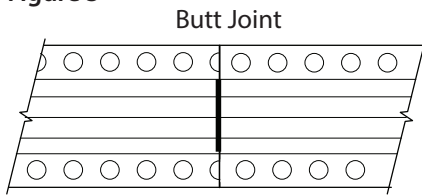
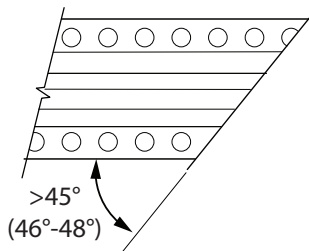
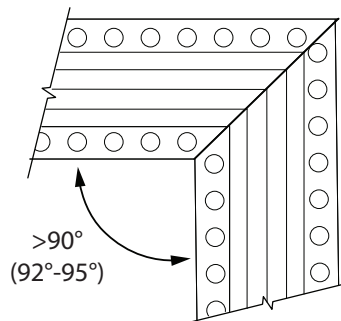


Figure 8

(1) 90° L-Joint



(2) 90° L-Joint



## F. Heat Welded Intersections

### Figure 7 : Butt End Intersections

1. Add approximately 1/2" - 1" extra material at seams to ensure that the seam is in compression after installation.
2. Verify that the new piece of material is cut square to existing material and not at an angle.
3. Using a Waterstop Splicing Flat Iron, heat both faces at medium high (425°F / 218°C) for 30-45 seconds maximum to be adhered. Once material of the heated area begins to curl, remove heat welder plate and use pressure to adjoin the faces together along the entire perimeter. Allow product to cool prior to install.
4. At "T" and "Cross" intersections install horizontal material first. Butt the vertical material tightly up to the horizontal material.

### Figure 8 : 90° "L" Intersections

1. Cut first length of seal material at an angle greater than 45° such as 46°-48°. Repeat step for mating piece of seal.
2. Using a heat welding tool, heat both faces to be adhered, once material of the heated area begins to curl remove heat welder plate and use slight pressure to join the faces together.

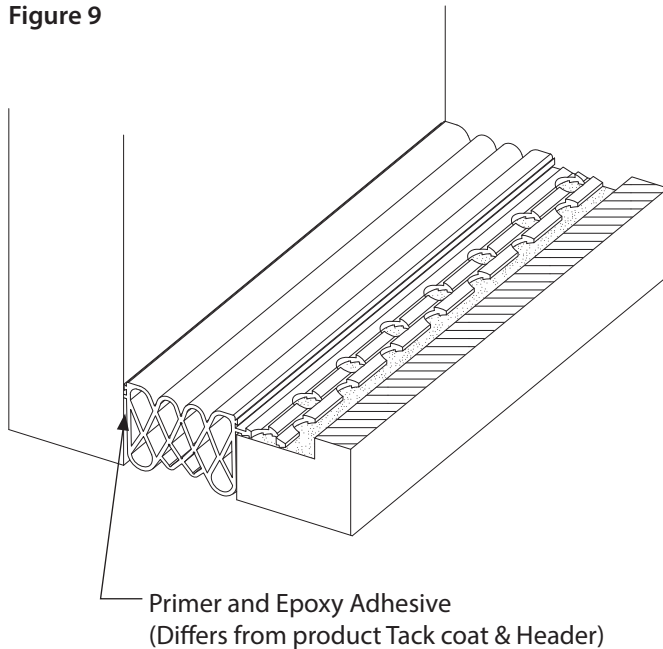
#### \*IMPORTANT\*

If a splice is to be made because the installation can't be completed; leave approx. 2'-0" [60cm] of seal and substrate free of epoxy for later splicing and installation.

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Figure 9



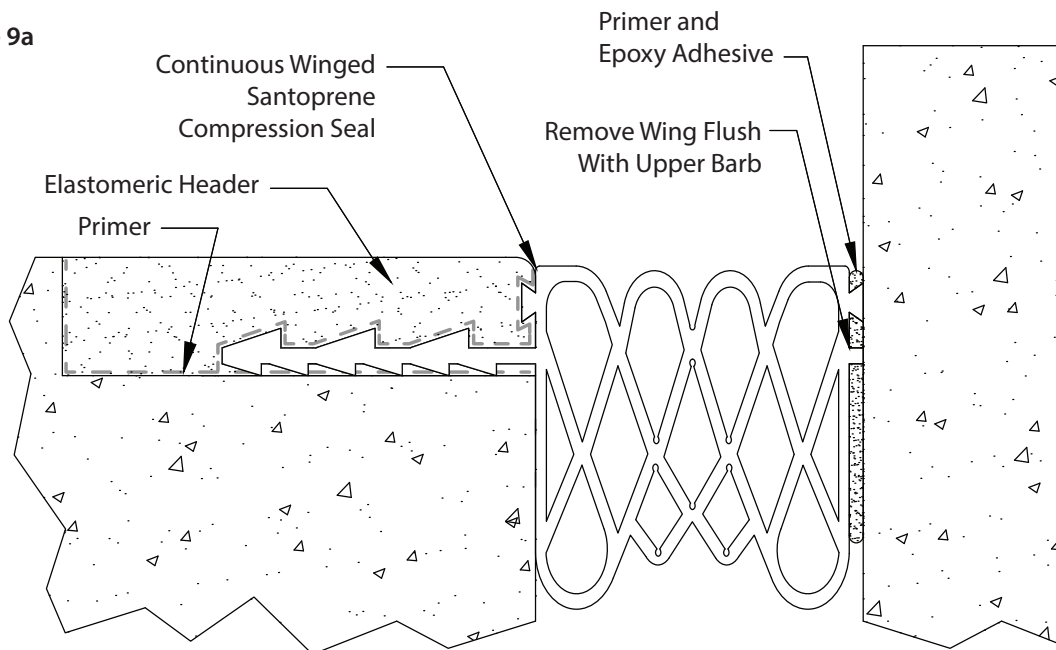
### G. Column, Pillar or Short Wall Sections

Figure 9 : Anchor Flap Trimming Option (Under 6'(2m)) required

**\*Key\*** A different primer and epoxy is used vertically against the wall.

1. Trim the anchoring flap off the side of the seal where it will intersect with the column, pillar or wall.
2. Before insertion of seal into the joint, use a small brush to apply primer adhesive to the side of the seal that will be in contact with the column, pillar or wall. (Fig9a). Allow time for primer to dry to improve adhesion (15-30 mins).
3. To mix epoxy adhesive combine part A and B at a ration of (1:1). Thoroughly mix using low speed drill (400 to 600 RPM) and paddle mixer for 3 minutes, scraping of container until a uniform gray color is achieved.
4. Only mix amount of epoxy that can be used within its gel time. TIP: In hot conditions store in a cooler with ice.
5. Make sure the top of the seal stays parallel with the surface of the blockout throughout installation or until the epoxy adhesive dries.

Figure 9a



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Figure 10

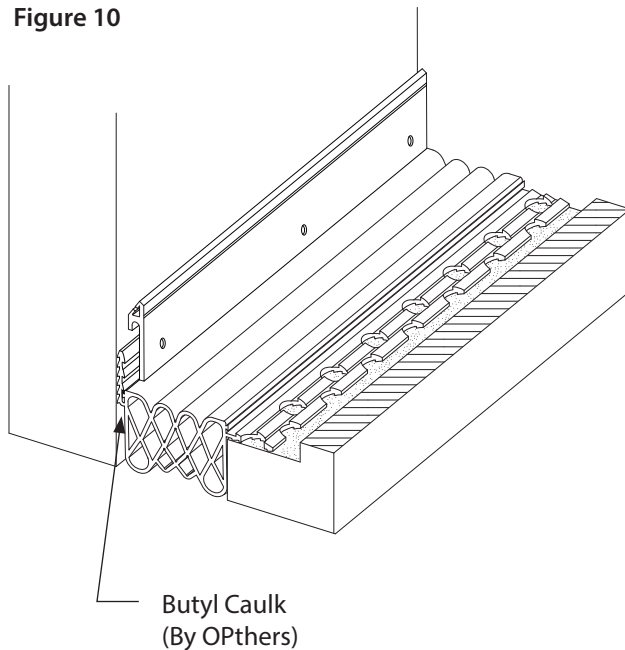


Figure 10 : Wall Frame Option (6'(2m) Length and Over)

1. Start installation as stated in Figure 1.
2. On the side of the seal that will be in contact with the column, pillar or wall, fold the anchoring flap upward to extend vertically along wall.
3. Coat the underside of the anchoring flap and the side of the seal that will be touching the wall with Butyl Caulk (by others). Insert seal and ensure the seal is in compression, properly seated, and the vertical anchoring flap is flat against the wall. (See Figure 10a)
4. Use supplied concrete screws to screw aluminum wall frame along the vertical anchoring flap to hold it in place. (See Figure 10a)
5. Run a bead of sealant (by others) along the channel on the top of the supplied aluminum wall frame after it is screwed in place. Then proceed with primer and elastomeric header on floor side as stated in Figure 2 and beyond.

Figure 10a

