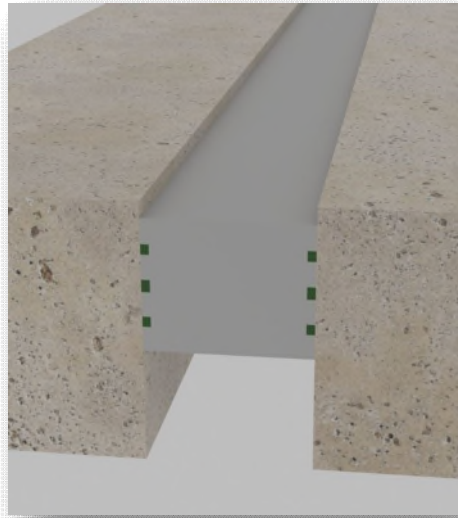


# Installation Procedure

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## pEVA Foam

Closed Cell, Monolithic Cross Section, Ethylene Vinyl Acetate Polyethylene Joint Seal

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 or email us at [wabo-cs@watsonbowmanacme.com](mailto:wabo-cs@watsonbowmanacme.com)
- 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

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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.

## Pre-Installation Notes

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The work shall consist of furnishing and installing a pEVA Foam joint seal in accordance with the details shown on the plans and the requirements of the specifications. Placement of the pEVA Foam joint seal shall consist of proper surface preparations, material and application of materials. The pEVA Foam joint seal shall be shipped in the longest practical continuous length in manufacturer's standard shipping carton. Epoxy adhesives will be shipped in manufacturer's labeled containers. Seals shall be cut to length on jobsite where required. Miter cut or bend seal (depending on size) in the field to conform to directional changes unless otherwise recommended by manufacturer.

### Joint Preparation

- Store material at a minimum of 50° F (10° C) for a minimum of 24 hours prior to installation, regardless of temperature at location of installation. Store materials in a dry, enclosed area. Make sure materials are off the ground and out of direct sunlight.
- Forming materials should be carefully removed to avoid edge spalling of the concrete. Edge spalling conditions should be repaired and allowed to properly cure prior to installation of the pEVA Foam joint seal. Repairs shall be made as directed by the Engineer.
- The substrate sidewalls must be sound and free of all contaminants such as grease, oil, form release agents, etc. prior to installation of the pEVA Foam joint seal.
- The preferred method of surface preparation to produce laitance-free, roughened sidewalls is abrasive blasting. Where this is not permitted, disc grinding should be employed. Ensure a coarse disc is used to produce an abraded surface. The gap openings should be blown out with clean air to remove dust. Vacuum with HEPA rated equipment to remove dust if required by OSHA or another authority.
- Installation must be performed in joint gap openings with sound, clean and dry substrates. Any loose portion of substrate at the gap must be removed and the substrate properly repaired as directed by the engineer.

### **Preparation of Concrete - New or Aged Concrete**

- The concrete substrate must be clean (free of dirt, coatings, rust, grease, oil and other contaminants), sound and durable. New concrete must be cured (minimum of 14 days) and all laitance removed. Suitable preparation methods include sandblasting, chipping and scarification.
  - Durable Concrete - Sound and durable concrete should have a cap pull-off strength that meets or exceeds ACI 503R, Appendix A.
  - Unsound Concrete – Loose, contaminated, weak, spalled, deteriorated and/or delaminated concrete must be removed to sound concrete and repaired. Prior to placement, any spalling, voids or structural cracking at the joint interface must be repaired. Follow International Concrete Repair Institute (ICRI) and American Concrete Institute (ACI) concrete repair and maintenance guidelines.

### **Preparation of Steel – New or Existing**

- Steel surfaces must be abrasive blasted immediately prior to installing the pEVA Seal. This is a requirement in new or existing construction. All oxidation must be removed and “white steel” revealed (SP-10 or “nearly white”). Where abrasive blasting is not permitted, steel surfaces will be aggressively disc-ground to roughen and abrade the surface to achieve the “white steel” condition.
- Stainless steel surfaces require aggressive grinding and/or blasting to remove the smooth, glassy surface to achieve SP-10 or “nearly white” for acceptable installations.
- On galvanized steel surfaces, galvanizing material should have good adhesion to steel. Steel must be solvent wiped with Denatured Alcohol using clean white cotton rags just prior to installation.

### **For Best Results**

- Protect the work area with appropriate plastic sheeting. Utilize plastic sheeting on the underside of the joint opening to protect from objects, dripping liquids, or other materials from falling through the opening to lower levels.
- Do not allow any of the epoxy components to freeze prior to installation. Store all epoxy components out of direct sunlight in a clean, dry location between 50° to 95°F (10°C to 35°C).
- Epoxy Adhesive Shelf life is 12 months.
- Proper application is the responsibility of the user. Field visits by Watson Bowman Acme personnel are for the purposes of making technical recommendations only.

# 1. Seal Placement

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**A**

Prior to installation, the profile shall be uncoiled from shipment packaging and allowed to reach a relaxed condition. The pEVA Foam joint seal shall be cut to the correct length for installation. Care should be taken to extend the profile to its full length, without exerting any tension or stretching of the seal.

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**B**

Measure the joint opening width. Seal material should be sized 25% larger than the joint opening at mid-range, but never less than 15% oversized or greater than 35% oversized. Accommodations for adjacent construction temperature shall be considered when sizing the seal. If joint opening is not uniform, the limits of the joint opening for the specified seal size are as follows:

Maximum Limit for Increase in joint opening is 8%.

Maximum Limit for Decrease in joint opening is 13%.

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# 2. Splice Procedure

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**A**

Measure the joint length and configurations needed. Using a non-serrated saw blade or knife in a miter box cut the pEVA Foam joint seal into lengths required, making sure each cut is square and flat. Using a portable hand held MAPP gas or propane torch, heat flat piece of metal or margin trowel, making sure the metal is larger than the seal wanting to splice. Heat the metal with the torch until it is BLUE, just before it gets RED hot. Hold each end of the seal flat against the heated metal for a couple seconds, remove the seal ends from the heating metal or trowel. Align each end of the seal faces and compress together for approximately one minute. Allow complete configuration to cool for approximately 5 minutes before installing into the joint opening.

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**B**

**Directional changes:** Heat welds are not required for all turns.

For vertical turns, the maximum angle the joint material can sustain without heat welding is 115°F.

For horizontal turns, the maximum angle the joint material can sustain without heat welding is 135°F. Heat welds will add to the aesthetics of an installation and are required for 90° turns.

### 3. Mixing of Adhesive

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**3A**

Stir each component separately. Mix 1 part A with 1 part B equally by volume (1:1 mix ratio) in a clean mixing container. Mix the epoxy using a slow speed drill with a mixing paddle attachment. Carefully scrape the sides and bottom of the pail during mixing with a paint stirring stick. Blend for 3 minutes. Mix only the amount of material that can be used within the pot life (pot life @ 77°F/ 25°C = 45 minutes). Please note large batches of epoxy will cure faster than small batches. Mixed epoxy will cure much faster in hot weather than in cold weather.

### 4. Seal Installation

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**4A**

Apply a uniform coating - approximately 1/8" (3 mm) thick to both substrate surfaces receiving the pEVA seal and to the sides of the seal. Use a trowel to spread the epoxy adhesive onto the substrate & seal. (Unused quantity can be resealed and used at a later date.)

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**4B**

With gloved hands, compress the pEVA seal and install with the help of a blunt probe pushing down into the joint opening. The seal should be installed approximately 1/4" (6mm) below the surface and should not protrude above the joint edge. Continue installation of the seal in the same direction as the adhesive was initially applied. DO NOT push at an angle or pull the material, as this will stretch the material. Continue applying on both substrate surfaces, working it in the direction ahead of the joint material not more than 20 feet (6 m) ahead. Stop adhesive short approximately 12" (305mm) if doing Phase Work. This will allow the seal to be pulled out later to be spliced or welded and the installation continued. DO NOT allow any adhesive near any area to be cut and welded until the weld is completed, or the weld will not hold.

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**4C**

Using only denatured alcohol or isopropyl alcohol clean all excess epoxy from the edges of the joint and from the top of the seal as soon as it is pushed into the desired depth. DO NOT allow the adhesive to cure before removing it. Use care not to use excess pressure while cleaning the seal as the seal could inadvertently be pushed lower or out of the joint opening. Use a clean trowel or a putty knife tilted at an angle opposite the direction of application.

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**4D**

Allow the adhesive to set approximately 20 minutes @75° F (24°C) before traffic is allowed onto the joint, slightly longer times are required during cooler weather.

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**4E**

When installation is finished completely wipe up any excess epoxy, and immediately pull up tape, etc. Failure to do so could cause system to not perform as designed.