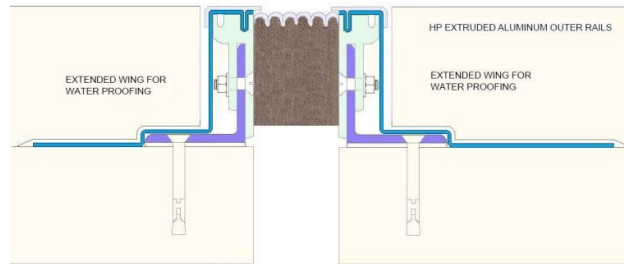


CSP-Series

INSTALLATION INSTRUCTIONS

Pre-Installation Procedure

1. Be sure each crew member has read and understands these written procedures. Copies for each crew member is recommended on site.
2. Layout and staging of the aluminum angles will be essential to ensure proper installation.



Surface Conditions

1. Joint surfaces to receive system should be sound, smooth, straight, parallel and level from side to side. **Substrate** is to be 50 degrees or higher for installation.
2. The substrate must be level prior to the installation of the aluminum angles. It is of vital importance that the angles be set flat and level to the deck surface elevation. Shims can be used to achieve this.

Inspection

1. Inspection: It is important for the installing party to make sure all parts and required accessories are accounted for. Report discrepancies to EMS immediately.

Anchorage

1. For anchoring the aluminum angle to the substrate, 3/8-16 x 2 Hex Head Cap Screw (SS) and a 3/8" (SS) sleeve anchor will be provided. Spaced 6" from either end and 12" on center.
2. For anchoring the aluminum rail head to the already anchored aluminum angle, 1/4" x 1-1/4" Flat Head SS Bolt with 1/4" Lock Nut will be provided. Spaced 6" from either end and 12" on center.
3. For anchoring the SS covers, 5/16" – 24 x 3/4 FH Cap Soc Head Screw will be provided. Spaced 6" from either end and 12" on center. FOR TRAFFIC GRADE APPLICATIONS, SPACING IS 3" FROM EITHER END AND 6" ON CENTER.

Size Up

1. Perform all cutting and fitting required for installation of expansion joint covers. Install joint cover assemblies in true alignment and proper relationship to expansion joints and adjoining finished surfaces measured from established lines and levels.
2. Allow adequate free movement for thermal expansion and contraction of metal to avoid buckling. Securely attach in place with all required accessories. Locate anchors at recommended intervals.
3. Maintain continuity of expansion joint cover assemblies with end joints held to a minimum.

Installation

1. Prepare a string line parallel with the joint opening set at the required joint width. Use this as a guide during the install to make sure the width is consistent all the way through.



String line used for uniformity

2. Cut one of the aluminum angles into two 5' foot sections. Use one of the 5' sections as your starting piece (for either side) as you will need to stagger the aluminum angles and the aluminum rail heads (the seams should never line up). Make sure each piece has at least 2 holes for proper anchorage.

Preset the distance between the aluminum angles and rail head extrusions prior to anchoring the rails into place. 1/8" spacers should be used when setting the aluminum angles to the substrate.

3. Lay out the aluminum angles into place (spacing angles 1/8" apart) and start to mark holes for drilling into the substrate. Once the angles are laid out and joint width is confirmed throughout, drill holes and anchor the angles to the substrate.

4.



Relief cut made in aluminum angle.

NOTE: If angles need to be adjusted for height; lay out angles, place rail heads on top, and shim beneath angles where needed to achieve desired height before anchoring to the substrate. Relief cuts can be made to ensure angles sit flat.

5. Once aluminum angles are set, make sure they are level to one another. Next start to place the aluminum rail heads on top of the installed angles (making sure they are staggered). Be sure the rail heads sit all the way down on the angles (burrs can prevent this from happening).



6. Once the rail heads are put in desired placement, match drill the sides of the angles using the already drilled side holes in the rail heads. This allows there to be slight flexibility when it comes to placing the rail heads where needed. Once this is complete verify that rail heads and angles sit flush and level and begin to anchor the rail head to the angles.



7. Once the angles and rail heads are fastened, begin to install the foam seal material. Follow standard foam seal horizontal installation guidelines for this section. (attached at end of this document)
8. Once the foam seal material is installed, ensure the waterproofing material is locked in place in the reglet in the rail head and screw the SS top covers into the top of the rail heads. This will protect the components below and hold the waterproofing material in place.

Additional Information...

Aluminum Rail Heads

1. The aluminum rail heads are made to meet ASTM B 221, 6063-T5 alloy. The rail heads are extruded to assure uniformity.
2. The top surface of each edge rail incorporates two locations for fastening of the waterproof membrane (if required). One location is the side reglet, which acts as a receiver for a sealing insert and side flashing sheets if required. The other location is the second channel extruded into the rails, which will accept the insertion of a sheet of PVC or other water-shedding material. After the waterproofing material is put into place, the S.S. cover angles and S.S. screws securely hold the sheeting in place. The deck waterproofing should be laid to eliminate any abrupt angles.

CSP-Series Sealing Element

1. The pre-compressed foam seal ranges in size from 1" - 6". The profile shall be pre-formed and manufactured from polyurethane impregnated foam with a waterproof polymer sealing compound that meets ASTM C 518 and ASTM 3574. The foam seal shall be set in epoxy supplied with the seal. The sections of seal are 5' long with sections of the aluminum rail at 10' long.

Side Flashing Sheet

1. The side flashing sheets are optional. If required, the sheets are provided in rolls of 12" wide, 60mil thick thermal-rubber sheeting. This material will allow heat-welding at all joints for continuous waterproofing at all transitions, corners, upturns, etc. The flashing sheet may be inserted into the top channel or into the side extruded reglet located on the vertical leg of the aluminum edge rail.
2. If required, flashing sheets should be "sandwiched" between two layers of the deck waterproofing system. The flashing materials must be made of similar material to ensure adhesion with deck waterproofing materials. Flashing sheets should have a short-term temperature resistance (350°F - 400°F) suitable for integration with the hot applied deck waterproofing membrane systems.

Stainless Steel Cover Angles

1. The formed stainless-steel cover angles are Type 304 with mill finish. They are secured to the extrusion with stainless steel machine screws, 12” on center or 6” on center for traffic grade applications, which are seated into the countersunk seats in the stainless-steel angles. At locations where cover plates are required over top of the CSP-Series, a specially fabricated stainless-steel cover plate can be made to extend across the sealing gland and rest on the top of the opposite side substrate. Sizing of the plate is dependent on loading and width of the joint opening. The cover plate will be made from stainless steel plating.
-

Factory Fabrication of Transitions and Temperature Adjustments

1. Directional changes are best performed in the field to adjust for site conditions. The aluminum parts and S.S. covers can be cut to size using a cut off wheel or circular saw with metal cutting blade. The foam seal material can be cut to size using a sharp knife and mineral spirits for lubrication. Supplied components and written splicing methods should be followed for seal splicing. If factory fabricated transitions are required, contact EMS for additional requirements and staging.
-

Site Cleanup

1. Dispose of all waste materials from the site. Seal should be cleaned of all foreign matter, as recommended by the seal manufacturer.
-

Attachments – Foam Seal Installation

CST & CST(DS)-Series

INSTALLATION INSTRUCTIONS

Material Application

For use in **horizontal joints**. Double sided silicone coating available upon request.

Recommended Tools

- Tape Measure
- Sharp Knife
- Miter Saw
- Duct Tape
- Clean Cloth
- Isopropyl Alcohol
- Caulking Tool
- Jiffy Mixer
- Margin Trowel
- Mineral Spirits
- 2 Empty, Clean Containers

Material Sizing

1. Joints must be sized every 5-7 feet (1.524-2.137 meters) to ensure gap opening is uniform and depth is sufficient for the supplied material.



NOTE: Allow sufficient depth for the material to be recessed 1/8"–1/4" in the joint.

Material Preparation

1. Store material at a minimum of 68°F (20°C) for a minimum of 24 hours prior to installation, regardless of temperature at location of installation.

TIP: Material will expand faster when hot and slower when cold. In cold temperatures, store material in a heated area 24 hours prior to installation. In hot temperatures, store material out of direct sunlight and not in an enclosed storage container where temperatures may exceed 100°F.

2. Store materials in a dry, enclosed area. Make sure materials are off the ground and out of direct sunlight.
3. Use a miter saw to make any cuts to the seal before removing the clear shrink packing. All starting and ending pieces must be square to the termination point.

WARNING: Install the material directly after removing the shrink packaging to ensure the material does not expand past the joint opening.

4. Use a sharp knife to make any cuts after the clear shrink packaging and wooden boards have been removed.



TIP: Apply mineral spirits to the knife for a smoother cut.

Joint Preparation

1. Verify that the joint is clean, sound, and will provide an appropriate surface for installation of the joint sealant.
 - a. Use compressed air to clean any loose debris from the joint.
 - b. Apply water or alcohol to a clean cloth and wipe the joint walls to the depth of the sealant materials plus 1".
 2. Verify that the joint is uniform and repair any spalls prior to installation.
 3. Apply duct tape to both edges of the substrate face to prevent the epoxy from contacting the deck surface.
 4. Check the material for appropriate length, width, and depth.
 - a. Supplied material should be pre-compressed to a size smaller than the intended joint opening.
 - b. Joint depth must allow for the material to be recessed 1/4" from the substrate surface.
-

Epoxy Preparation

1. Mix Part A and Part B separately.
2. Transfer the entire contents of Part A (resin) and then Part B (hardener) into a clean, empty container. Mix the material thoroughly with a low speed (approx. 300 rpm) drill or jiffy mixer.

WARNING: Part B must always be added Part A, and mixed in a 1:1 ratio.

3. Mix until the black and white is evenly blended leaving no streaks of either color.
4. Transfer the mixture to another clean container to avoid any leftover residue from streaking the final mixture.

TIP: Mix only the required amount of epoxy that will be used within a 30 minute timeframe to prevent the epoxy from curing prematurely.

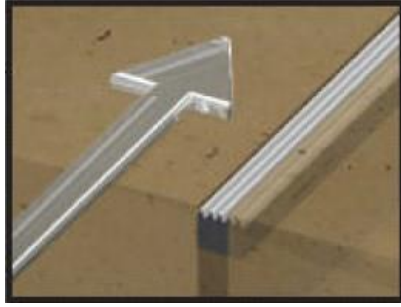
EPOXY TIPS:

1. The epoxy will not cure when the temperature is below 40°F.
2. For every +17°F the epoxy cures twice as fast.
3. For every -17°F the epoxy cures twice as slow.
4. Greater volume = less time to cure.
5. Smaller volume = more time to cure.
6. A technique to increase the pot life of the epoxy is to split up the mixed material into smaller units.



Sealant Installation

1. Begin installation at one end of the joint and work to the opposite end using butt seams.

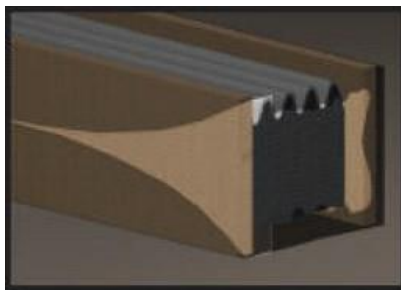


2. When fully prepared to install, apply a 1/16" – 1/8" coating of the epoxy mixture to both joint walls using a 1" margin trowel to a depth of the sealant material plus 1/2".
 - a. The epoxy must still be wet upon installation of the seal. The working time for the epoxy is approximately 30 minutes depending on the temperature.
 - b. If the epoxy hardens on the surface of the substrate before installation, another coat of epoxy can be applied within 8 hours. After 8 hours, the substrate surface must be abraded to eliminate the amine blush that occurs during final cure.



WARNING: Pay attention to the direction of insertion marked on the packaging.

3. Cut the shrink packaging along the edge of the masonite strapping.

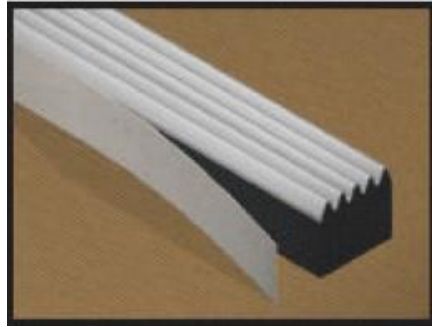


WARNING: Be prepared to install the material immediately once the packaging is removed to prevent the material from expanding past the joint width.

4. Verify that the material is cut square at both ends for proper seams. All pieces must be square to the termination point.

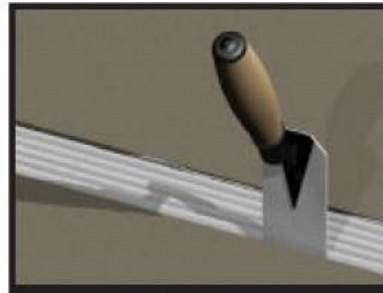
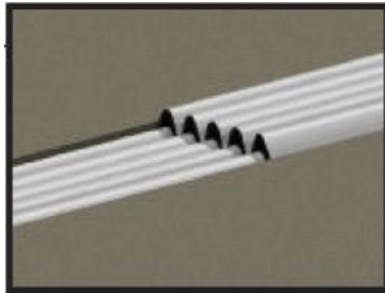
Sealant Installation

5. Remove the white release liner on both sides of the seal.



WARNING: Make sure not to pull, twist, or stretch the material in the process of installation to avoid tearing the white release liner.

6. Initially, position seal 1/8" above the deck surface. Once the material is partially expanded in the joint, it can then be installed to 1/4" below the surface of the joint using a putty knife or margin trowel.
 - a. Wedges can be used to aid installation. Remove the wedges once the material begins to expand and before the epoxy cures.



Seams

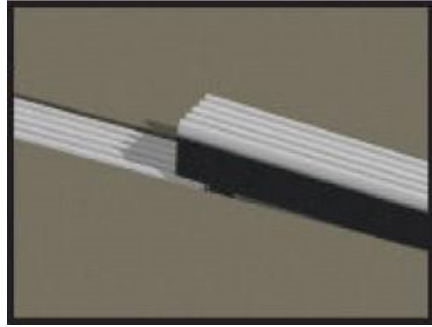
1. Verify that the new piece of material is cut square and not at an angle to the previous installed piece.
2. Apply flexible sealant to the butt end of the new piece of material.

WARNING: Do not apply flexible seal to the faces of the seal that are in contact with epoxy.

TIP: If crew size permits and two lengths of material can be prepared, the ends to be seamed can be held above the deck surface and the mitered pieces can be pushed down into the joint together.

Seams

3. Overlap extra material (approx. 1/2" -1") at seams and splices to ensure that the seam is in compression after installation.



4. Butt seam all 'T' and '+' intersections.

NOTE: After installation, if there are any mitered joints with a hole or void, use the supplied flexible seal to fill and seal the joint.

Finish

1. Tool the Dow 888 over all seams and transitions using a small caulking tool.
2. Evenly spread the Dow 888 on exposed seams to allow for a clean, aesthetic finish.
3. **Use supplied Dow 888 caulking to apply side beads along both sides of the joint.**
4. Remove any excess flexible seal or epoxy left on the surface of the material or substrate.

WARNING: Do not allow the flexible seal or epoxy to cure before removal.

5. Remove the blue painters tape from the substrate surface.