

Eva-Seal/Flex-Seal

Eva-Seal is a pre-formed closed cell cross-linked ethylene vinyl acetate copolymer foam. Typical applications include use as a poured in place concrete forming material and secondary seal. When installed within the CEVA® Joint System, Eva-Seal forms a water tight seal.

FEATURES	BENEFITS
9 psi compression deflection	Easy to handle and compress during installation
Contains Carbon black	Added U.V. resistance
Field directional changes & heat welds	Ideal for staged construction, segmental repairs and field customization
Ease of installation	Decreased installation time resulting in labor savings
Closed cell Design	Creates water tight seal

USES

Applications

- Noise barrier walls
- Control joints in floors
- Watertight seal between pre-cast barriers
- Case in place filler
- Pressure relief joint
- Secondary expansion joint seal
- Forming material

Locations

- Flood control channels
- Bridges and highways
- Commercial buildings

Substrate

- Concrete
- Elastomeric concrete
- Structured Steel
- Wood
- Most other construction materials

MOVEMENT CAPABILITY

Eva-Seal is capable of working in 50% compression and 25% tension for limited periods of time when installed within the CEVA® Joint System. Eva-Seal can also handle up to 50% horizontal or vertical shear movements.

SIZING GUIDELINES

Eva-Seal is typically sized 25% larger than the joint opening. The amount of compression will vary due to seasonality, temperature, designed movement, and application. Please contact your sales representative for assistance.

TECHNICAL DATA		
Properties	Test Method	Typical Properties
Compression Set	ASTM D3575 Suffix B	25% Compression 3% Recovery 2 hr Recovery 3% Set
Elongation	ASTM D3575 Suffix T	300%
Density	ASTM D3575 Suffix W	2.8 lbs/ft ³
Water Absorption	ASTM 3575 Suffix L	.02 lbs/ft ² avg.
Tensile	ASTM D3575 Suffix T	65 psi
Tear Resistance	ASTM D624	13 lbs/in
Compression Deflection	ASTM D3575	25% - 9 psi avg. 50% - 21 psi avg.
Meets ASTM 1056 Type 2, Class B, Grade 2 & AASHTO T-42-84 Modified		

ENGINEERED SURFACE PROTECTION

CEVA® Joint materials come manufactured with Engineered Surface Protection (E.S.P.) grooves along the sides of the foam which increase the surface area of the contact surface to the substrate resulting in enhanced bonding performance. These E.S.P. grooves are 1/4" - 1/2" apart (6mm - 13mm) and approximately 1/8" deep x 1/8" (3mm x 3 mm) wide running the entire length of the joint.

PERFORMANCE INSTALLATION ENHANCEMENT

For joint openings exceeding 3 inches in width and depth, Performance Installation Enhancement or P.I.E. is recommended. P.I.E. is the beveling of the bottom edge of the joint, creating a trapezoidal shape which is easier to install into the joint opening.

JOINT MATERIAL LIMITATIONS

Directional Changes: All directional changes in Joint Material must be done using the heat welding method. This is done by placing the Joint Material ends against a Teflon coated heating iron at 350°F (176°C) for 10 – 20 seconds. The ends are then pushed tightly together resulting in a fusion bond. Heat welds are not required for all turns. For vertical turns, the maximum angle the joint material can sustain without heat welding is 115°. For horizontal turns, the maximum angle the joint material can sustain without heat welding is 135°. Heat welds will add to the aesthetics of an installation and are strongly recommended for all 90° turns.

Joint Variations: If a joint opening is not uniform, please contact your local sales representative for sizing assistance.

Skews: Eva-Seal does not have skew limitations.

Operational Temperature Range: The physical and chemical properties of the Joint Material do not alter significantly within the recommended temperature range of -94°F to 160°F (-70°C to 71°C).

Maximum Joint Opening: When the expansion joint is being used to support pedestrian or vehicular traffic, the use of a cover plate should be considered on joint openings larger than 4".

Non-Traffic Applications: Maximum Joint Opening of 38"

Applications: Material is not chemically inert and should not be placed in contact with potable water. Material is not designed for use as a primary seal in an application under dynamic movement conditions.

Storage: Joint material shall be stored in an area that maintains temperature between 50°F (10°C) and 90°F (32°C).

TERRA-STRIP: Eva-Seal is often sold with a Terra-Strip when used as a forming material with its cast-in-place concrete. Terra-Strip is a perforated line cut through the foam at a defined distance from the top of the seal. After the concrete is poured and set, the strip is torn off allowing for the installation of a primary liquid or pre-formed expansion joint seal. Place the Terra-Strip at least ½" (25mm) deeper than the depth of the primary seal to allow for variances in tear depth.

INSTALLATION PROCEDURES

Surface Preparation: Brush blast all concrete surfaces in direct contact with joint seal. Concrete surfaces should be free of all contaminants and latent build up. Blow or vacuum dirt or debris from the joint openings and joint surfaces with oil free compressed air. Steel surfaces must be cleaned to SSPC 10 or better. Ensure that all moisture is removed from steel surfaces prior to applying the bonding agent. Use of a propane wand is acceptable.

Seal Installation: The manufacturer's published installation procedures shall be followed at all times. Mask the areas adjacent to the joint opening. One suggestion is to use approximately 12" (300mm) of plastic sheeting and tape along edges to keep the surrounding areas clean. Be sure that the tape does not actually go into the joint opening but back approximately 1/8" (3mm) from the joint edge. Lay out joint material next to its joint opening to check for appropriate length and width. Joint should be sized at a minimum of 25% larger than joint opening at near neutral but never less than 10% oversized. Heat welds and other directional changes should be cut and made. All welds should be allowed to cool before mixing the adhesive.

Begin mixing the epoxy adhesive following the manufacturer's specified mixing procedures. Start at one end or at an intersection or corner. Apply epoxy adhesive to both sides of the substrate surfaces.

Apply enough adhesive to coat the substrate to an approximate thickness of 40 mils (1mm). It is not recommended to apply the bonder more than 20' (6m) ahead in order to avoid curing before the joint material is inserted into the opening.

Next, apply the epoxy adhesive to both sides of the joint material (sides with the E.S.P. grooves). Apply enough to coat and fill the grooves on the joint material, approximately 40 mils (1mm) thick. Install the coated material at the curb, intersection, or corner, where the epoxy was initially applied on the substrate.

The joint material should be recessed 1/8" (3mm) below the joint edge and should not protrude above the joint opening.

Continue in the same direction as the epoxy was initially applied. DO NOT push at an angle or pull the material, as this will stretch the material and is unacceptable. Working the material in a serpentine method is preferred to avoid pulling or stretching.

Clean the excess epoxy from the surface of the material as soon as it is installed at the desired depth. DO NOT allow the epoxy to cure before removing it. Use a clean trowel or a putty knife tilted at an angle opposite the direction of movement. DO NOT allow any epoxy bonder near any area to be cut and welded until the weld is completed otherwise the weld will not hold. Once the joint is installed and cleaned, remove the tape from the joint edges before the epoxy cures.

Allow the bonder to set (approximately 20 minutes, at 77°F (25°C)) before traffic is allowed onto the joint. Slightly longer time is required during cooler weather.

When a continuous joint cannot be finished, the epoxy bonder on the substrate and also on the joint material must terminate at the same point. Install the joint material past the epoxied surfaces at least 6 to 12 inches (150-300mm). This "loose" material can be pulled out later to be heat welded, additional bonder applied and the installation continued.

PACKAGING

Eva-Seal is custom fabricated to order. Please contact your local sales representative for size and availability.

MANUFACTURER'S CERTIFICATIONS

Available upon request.

MANUFACTURING TOLERANCES

Eva-Seal shall be manufactured to the thickness and width described in the contract plans within a depth tolerance of $\pm 5\%$ and a width tolerance of $\pm 2\%$.

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