



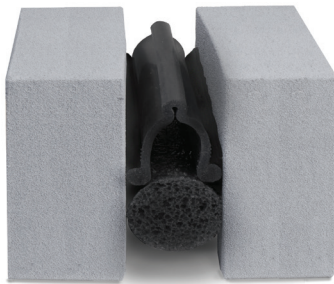
BUILDING TRUST



PRODUCT DATA SHEET

EMV-Seal

Silicone Watertight Joint System for Bridges and Highways



Five sizes of EMSEAL EMV-Seal are available to fit your gap. (pictured in substrate mock-up)

Product Description

EMV-Seal by Sika Emseal is a field-installed watertight seal used primarily in bridge and highway expansion gaps. The design and flexibility allow it to be installed in a wide range of joint gap sizes and conditions.

Built from preformed extruded silicone it is designed to be weather and UV resistant as well as strong enough to handle the harsh conditions of today's bridges and highways.

EMV-Seal can be installed in many conditions of expansion gaps including edge and wall combinations of concrete, metal angles, and elastomeric headers.

The expansion seal is easily folded and inserted into the expansion gap and held in place by a bead of supplied silicone adhesive.

EMV-Seal is available in five sizes to accommodate gaps of 1 1/4-inches (30mm), 2-inches (50mm), 3-inches (75mm), 4-inches (100mm) and 5-inches (125mm). Consult Emseal for variations within these sizes.

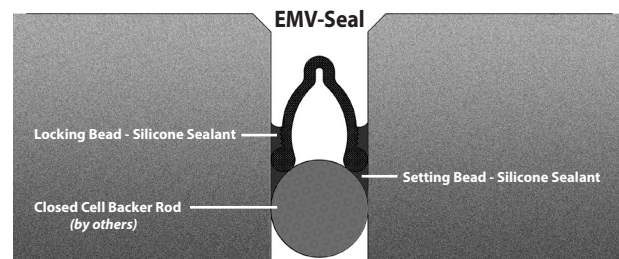
Uses

- Watertight, traffic durable, preformed, primary seal for retrofit and new expansion joints in bridges, abutments, wing walls, longitudinal joints, and highways.
- Primary watertight expansion joint seal for new construction and bridge preservation. Ideal for joint systems in concrete or rebuilt joint edges. Use in embedded metal angles where demo or removal of the metal angles is not feasible. Also compatible with high performance joint header materials.
- Suited for a lasting replacement of failed caulk joints.

Features

Watertight – the tensionless silicone gland is installed just below the wearing surface with field applied, injected silicone bands ensuring a primary watertight joint seal.

Non-Invasive Anchoring – No mechanical anchoring or invasive concrete connections required. The system is adhered and locked to the joint faces by means of backpressure, the silicone adhesive, and the injected silicone sealant bands at the joint face.



Quick Installation – EMV-Seal is simple to install while ensuring a watertight seal. Rapid application minimizes road traffic disruption time without sacrificing performance.

Chemical Resistance – Fuel and chemical resistant silicone blend not degraded by contact with fuel or chemicals. Some swelling of the silicone material may occur, however the product will return to its original shape upon evaporation of the fuel.

Aesthetics & Versatility

Standard color is black. Uniform bellows appearance, fuel resistance, and an enhanced ability to handle variations in joint size are among other system features.

Performance

- Substrates must be parallel and plumb. Gap walls should be capable of providing a substantial surface to apply silicone locking adhesive.
- EMV-Seal is designed to expand and contract within a normal expansion range to accommodate lateral and shear movement of the structure.

Composition

- EMV-Seal is extruded from 100% silicone polymer for long lasting durability.
- Sikasil® WS-295 silicone provides a long lasting watertight seal. It also acts as a bonding adhesive.

Typical Applications

The versatile nature of Sika Emseal's EMV-Seal allows it to be used in many applications found in new and retrofit bridge and highway construction.

Fig.1: EMV-Seal in Typical Installation

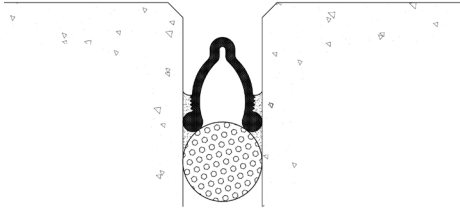


Fig.2: EMV-Seal in Emseal Elastomeric Header

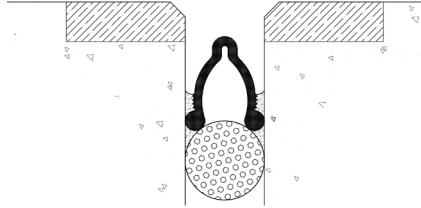
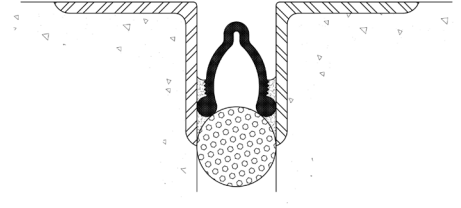


Fig.3: EMV-Seal in Steel Angles



Technical Specifications

EMV-Seal meets and exceeds the rigid performance requirements of today's highways. In combination with Sikasil® WS-295 silicone it provides a long lasting watertight seal.

Table 1: EMV-Seal Sizing

Nominal Gap Width (Joint Size at Mean T°F)	EMV-Seal Part Number
1 1/4-inch (30mm)	EMV-0125
2-inch (50mm)	EMV-0200
3-inch (75mm)	EMV-0300
4-inch (100mm)	EMV-0400
5-inch (125mm)	EMV-0500

Table 2: Typical Physical Properties of Emseal EMV-Seal

Property	Value	Test Method
Color	Black	NA
Durometer – Shore A	55 +/- 5	ASTM 2240
Tensile Strength	1,000 psi min.	ASTM D412
Elongation	400 % min.	ASTM D412
Tear Strength – Die B	100 ppi min.	ASTM D624
Compression Set	30% max. 212°F 70-hours	ASTM D395

Table 3: Typical Physical Properties of Sikasil® WS-295

Property	Value	Test Method
Color	Black	NA
Durometer – Shore A	25	ASTM 2240
Tensile Strength	200 psi (1.38 MPa)	ASTM D412
Tensile Stress at 100% Elongation	55 psi (0.38 MPa)	ASTM D412
Elongation at Break	700%	ASTM D412
Adhesion in Peel	30 pli	ASTM C749
Tooling Time	Initial Skin: 20–30 minutes	NA



Product Installation

Inspect/Prepare expansion gap surface and walls.

Concrete: Remove loose particles and weak concrete to ensure sound concrete. Spalls, chipped edges, and uneven surfaces must be repaired. Suitable patching material and proper patching geometry and techniques must be used to create parallel joint face.

Note: DO NOT use a wire wheel on concrete – this will polish the substrate and cause bond-failure.

Metal: Sandblast or grind to rough, white metal and solvent-wipe immediately prior to application of silicone setting bead.

Install in proper climate conditions.

Installation of EMV-Seal should only occur in dry conditions where the application surface temperature is 40° F (5° C) and rising.

Unroll EMV-Seal

Upon opening and unrolling EMV-Seal gland be sure to wipe the surfaces clean. Acetone can be used with a clean lint-free cloth.

Place backer rod into gap.

Choose and provide an appropriate diameter of backer rod equal to, or slightly larger than, the width of the gap at time of installation. It should be snug and able to hold itself in place. Backer rod should be placed at a depth where the folded EMV-Seal placed on top of it will leave a 1/2" (12mm) min. gap between the top of the EMV-Seal bellows and the wearing surface (If a chamfer exists, be sure to install 1/2" below bottom edge of chamfer).

Suggested Minimum Backer Rod Placement Depths

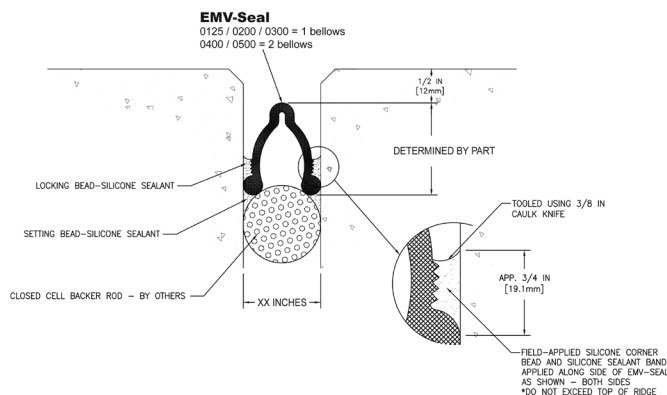
EMV-0125 – 1.75" (40mm)
EMV-0200 – 2.5" (65mm)
EMV-0300 – 3.0" (75mm)
EMV-0400 – 4.0" (100mm)
EMV-0500 – 4.5" (115mm)

Apply setting bead of Sikasil® WS-295 to top of backer rod-to-wall gap.

Apply a continuous 3/8" to 1/2" setting bead of Sikasil® WS-295 silicone to the joint faces at the depth the EMV-Seal bulbs will rest.

Insert V-Seal into gap

Fold the EMV-Seal profile and insert into the expansion joint opening. Allow the seal to open and press into the adhesive beads to ensure contact with the bead and joint faces.



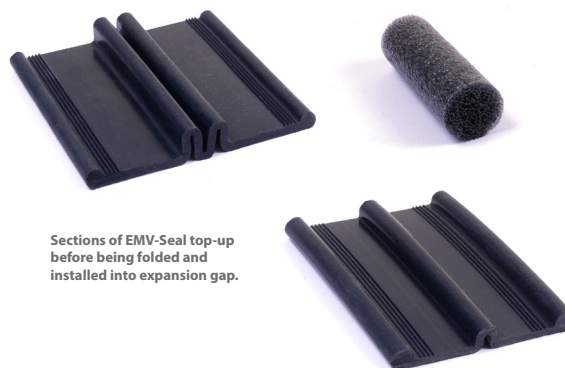
Apply locking bead of silicone.

Apply the locking bead of Sikasil® WS-295 in the joint over the bulbs. Do not apply the bead any higher than the serrations in the joint profile. Use a caulking tool to smooth the bead and to ensure that it makes full contact with the EMV-Seal gland and the joint substrate.

Allow to dry.

Under dry weather conditions allow a minimum 1 hour after tooling before permitting any vehicular/pedestrian traffic over the finished expansion gap. EMV-Seal should be allowed a min. of 24 hours of moisture-free cure time.

For more information on EMV-Seal or its installation contact EMSEAL.



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