



TBP Converting, Inc.  
Emseal Seismic Colorseal PDS



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## PRODUCT DATA SHEET

# Seismic Colorseal®

**Watertight primary seal in wall expansion joints**



Seismic Colorseal sample shown here is displayed in substrate mock-up

### Product Description

**Seismic Colorseal** by Sika Emseal provides watertightness, thermal insulation, 100% movement capability, UV stability, and color coordination with substrates. It performs these multiple functions while incorporating no metals and no invasive anchoring.

In contrast to liquid-applied sealants, **Seismic Colorseal** is free of tensile stresses at the bond line and virtually free of tensile stresses in its low-modulus silicone facing. It is capable of movements up to  $\pm 50\%$  (total 100%) of mean temperature joint size and provides a cost-effective, long-term, watertight seal.

Seismic Colorseal combines factory-applied, low-modulus silicone with an open-cell polyurethane foam infused with a water-based, non-drying acrylic dispersion. The external-colored silicone facing is factory applied while the foam is partially precompressed to a width greater than maximum anticipated joint extension and is cured before final compression. When fully compressed, a bellows is created in the coating. The bellows folds and unfolds during movement virtually free of tensile stresses.

Supplied precompressed to slightly less than its nominal size for ease of installation, it is packaged in shrink-wrapped lengths (sticks) with a mounting adhesive on one side. The shrink-wrap and hardboard packaging are removed, as is the release liner covering the mounting adhesive. The product is inserted into the joint and adhered to one joint face. It then expands to seal the joint.

Sealing against the substrate is achieved through a combination of the pressure-sensitive adhesive acrylic in the foam, the back-pressure of the expanding foam and the field installation of a corner bead of silicone at the substrate-to-bellows interface.

**Product Designation Update:** *Decades of successful performance have proved "Seismic Colorseal" to provide functionally equivalent performance to the original "Colorseal" while offering more movement capability and better price value. As of January 2017, both products are built the same, feature the same movement capability, and are priced the same. All shipments are marked "Seismic Colorseal".*

### Uses

- For all joints 1/2-inch (12mm) to 10-inches (250mm).
- For small joints where a lasting alternative to liquid sealant and backer-rod is desired.
- **Facades** – Seismic Colorseal can be used in joints in building facades of masonry, precast concrete, brick, natural stone, metal curtainwall, window mullions, GFRP, EIFS and most other substrates.
- **Inside Corners and Additions** – Seismic Colorseal is uniquely suited to filling expansion joints at additions and particularly at inside corners. "Rubber-and-rail" alternatives cannot be properly installed at inside corners due to lack of access for drilling equipment. Seismic Colorseal uses no invasive anchoring and can be readily installed without violation of the substrates.
- **Panelized Systems** – Seismic Colorseal is ideally suited to sealing many panelized cladding systems that rely on "barrier-wall" sealing principles including metal cladding, window-wall systems, skylights, precast panels, etc.
- **Transitions from Wall to Deck Joints** – Transitions from vertical to horizontal-plane joints in parapets, walls, split columns, etc. are critical to watertightness and can be properly addressed using Seismic Colorseal. Transitions into other products by Emseal for waterproofing joints in decks, as well as into roof-joints, etc., are readily possible (*consult Emseal*).
- **Masonry Cavity Walls** – As the visible seal in a cavity wall facade, Seismic Colorseal can in addition be installed in the structural backup to ensure continuity of the wall's R-value and of the air/vapor barrier.
- **Varying Joint Sizes, Curves, & Plane Changes** – Joints vary in size due to construction tolerance buildup and because of substrate changes. Supplied to field-measurements, Seismic Colorseal accommodates joint size variations. It is pliable and can be conformed in the field to radii, and changes in plane and direction at soffits, and other architectural features.

## Features

Features the UV resistance, durability and impermeability of silicone.

Eliminates tensile stresses at bond line and adverse effects of movement occurring before liquid sealant cure.

Reduces installation labor and materials such as priming, accurate positioning of backer-rod, site mixing and tooling etc, and is less reliant on meticulous substrate-preparation.

Joint movement capability is  $\pm 50\%$  (100% total) of nominal material size.

Seismic Colorseal is anchored by back-pressure inherent in the elastic open-cell foam backing. In addition, it is adhered to the substrate by the pressure-sensitive-adhesive acrylic in the foam and finally by the field-applied corner beads.

Unlike screwed-in "rubber-and-rail" products, Seismic Colorseal requires no drilling or invasion of the substrate for its anchoring. It is uniquely suited for curtain walls and applications at inside corners where access for installation is obstructed and where violation of the mullions or other substrates is not advisable.

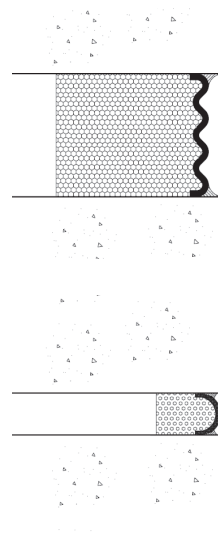
Available in a wide range of standard and custom colors (consult EMSEAL).

Supplied precompressed to less than joint size — no field compression required.

Standard sizes from 1/2-inch (12mm) to 10-inch (250mm). Other sizes available subject to review of application (*consult Emseal*).

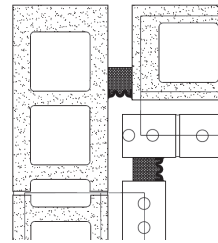
**NOTE** – sizes 1 1/4-inch (30mm) and smaller will have a convex single-bellows surface.

## Typical Seismic Colorseal Usage

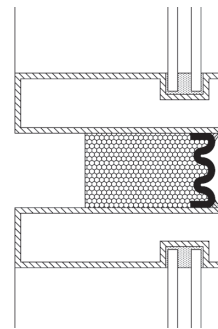


Seismic Colorseal is held in place by the back-pressure of the expanding foam in conjunction with a field-installed bead of silicone caulk at the substrate-to-bellows interface.

Sizes from 1/2-inch (12mm) to 1 1/4-inch (30mm) are manufactured with a single bellows silicone face. Larger sizes up to 10-inches (250mm) are manufactured with multiple bellows.



Seismic Colorseal is an excellent, simple sealing solution at inside corner conditions where it is impossible to install mechanically fastened 'strip-seal' systems. In cavity-wall conditions, installation of Seismic Colorseal in the structural backup maintains integrity of thermal insulation as well as the air barrier while preventing passage of cavity moisture into the structure.



Seismic Colorseal is uniquely suited to sealing structural joints in curtain walls. Non-invasive anchoring means that mullions are not violated by screwing through them as occurs with "strip-seal" systems.



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Seismic Colorseal Sizing			
Nominal Material Size (Joint Size at Mean T°F)		Depth of Seal	
1/2 in	(13mm)	1 3/4 in	(45mm)
3/4	(19)	1 3/4	(45)
1	(25)	1 3/4	(45)
1 1/4	(30)	1 3/4	(45)
1 1/2	(40)	2 1/4	(55)
1 3/4	(45)	2 1/2	(65)
2	(50)	2 1/2	(65)
2 1/4	(55)	2 1/2	(65)
2 1/2	(65)	2 3/4	(70)
2 3/4	(70)	3	(75)
3	(75)	3 1/8	(80)
3 1/4	(85)	3 3/4	(95)
3 1/2	(90)	3 3/4	(95)
3 3/4	(95)	4 1/4	(105)
4	(100)	4 1/2	(115)
4 1/4	(110)	4 1/2	(115)
4 1/2	(115)	5	(125)
4 3/4	(120)	5 1/4	(135)
5	(125)	5 1/2	(140)
5 1/4	(135)	5 3/4	(145)
5 1/2	(140)	5 3/4	(145)
5 3/4	(145)	5 3/4	(145)
6	(150)	6	(150)
6 1/2	(165)	6 1/2	(165)
7	(175)	7	(175)
7 1/2	(190)	7 1/2	(190)
8	(200)	8	(200)
8 1/2	(215)	8	(200)
9	(225)	8	(200)
9 1/2	(240)	8	(200)
10	(250)	8	(200)

Performance and Physical Properties		
Property / Test	Value	Test Method
Durometer Hardness (as cured)	Silicone coating — not to exceed 25 pts (± 5), Shore AI	ASTM C661
Weatherometer	Xenon Arc Weatherometer 2000 hrs — No visible deterioration	ASTM C510 ASTM G26-77
Primary Surface Weathering	Atlas Weatherometer 6000 hrs – minimal hardness change	ASTM G26-77
Temperature Range High Permanent Low Permanent	185°F (85°C) -40°F (-40°C)	
Temperature Stability, Bleeding, Staining and Recovery Under Field Conditions Material will not bleed or stain after withstanding 150°F (65°C) for 3 hours while compressed down to the minimum of movement capability (-50% of nominal material size). After cooling to room temperature, 68°F (20°C), the material will self-expand to the maximum of movement capability (+50% of nominal material size) within 24 hours.		
R-Value	2.15 per 1-inch (25mm) depth at as-installed nominal joint size compression	ASTM C518-04
STC Rating (Sound Transmission Class)	STC 52 (in a STC 56 wall)	ASTM E90-09
OITC Rating (Outdoor Indoor Transmission Class)	OITC 38 (in a OITC 38 wall)	ASTM E90-09
Air Permeability ABAA air leakage limit for materials — not to exceed .02 L/(s·m²) @75 DP(Pa)	ABAA Compliant 0.0078 L/(s·m²) @75 DP(Pa) 0.0118 L/(s·m²) @ 250 DP(Pa)	ASTM E283-04
Water Penetration	No water penetration after consecutive 15 minute soak durations under pressures of: 500 ΔP(Pa), 65 mph equivalent wind driven rain 1000 ΔP(Pa), 92 mph equivalent wind driven rain 5000 ΔP(Pa), 205 mph equivalent wind driven rain	ASTM E331-00
Wind Loading  Hurricane Standard Miami-Dade County, FL = 150 mph	-0.1mm Net Deflection of Span @ +2730 ΔP(Pa), 150 mph equivalent +0.1mm Net Deflection of Span @ -2730 ΔP(Pa), 150 mph equivalent -0.6mm Net Deflection of Span @ +4854 ΔP(Pa), 200 mph equivalent +0.5mm Net Deflection of Span @ -4854 ΔP(Pa), 200 mph equivalent	ASTM E330
Back Pressure	~2.5 psi Note: substrates must be capable of resisting, without deflection, ~2.5 psi backpressure from the foam across the area of contact as determined by the supplied materials' nominal dimensions. Consult Emseal	



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## Installation Overview

*IMPORTANT: This instruction-summary is generic. Refer to [Install Data](#) and, if applicable, to job-specific instructions of an Emseal technician.*

- Store at room temperature. Expansion is quicker when warm, slower when cold.
- Ensure nominal size of material matches joint size adjusted from mean temperature.
- Remove shrink-wrap packaging, hardboard, and mounting adhesive release paper.
- Wipe factory-applied release agent off silicone facing using damp, clean, lint-free rag
- Apply thin bead of silicone sealant along edge of bellows at end where the material will join with next length.
- Insert material into joint with at least a 1/4-inch (6mm) recess and adhere to one joint face. Allow material to expand against other joint face. (Wedge larger-sizes in place while it expands.)
- At joints blend silicone into the silicone bellows to create a consistent finished appearance being sure not to restrict the folds of the bellows.
- Once material has equalized its expansion across the joint, gun and tool fillet bead of the supplied liquid silicone at the substrate-to-bellows interface.

**NOTE** – unpainted metal surfaces and some natural stone surfaces may require priming (*consult Emseal*).

## CAD & Guide Specs

[Guide Specifications](#) and [CAD details](#) are available online at [Emseal.com](http://Emseal.com) or by [contacting Emseal](#).

## Warranty

Standard or project-specific warranties are available from Sika Emseal on request.

## Availability & Price

Seismic Colorseal is available for shipment internationally. Prices are available from local distributors and representatives or direct from the manufacturer. Product range is continually being updated, and accordingly Sika Emseal reserves the right to modify or withdraw any product without prior notice.

*IMPORTANT: It is critical in ensuring building and wall system performance, and when comparing pre-compressed foam sealant materials, to use performance data from materials as would be supplied to the jobsite. R-Values, temperature resistance and other properties of uncompressed foam or "foam-core" are irrelevant as materials are not installed uncompressed. The above-stated properties and performance results are derived from tests conducted on materials at compression levels and configurations of the as-supplied product. Furthermore they are tested to the same standards of typical wall systems into which they will be installed.*



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