



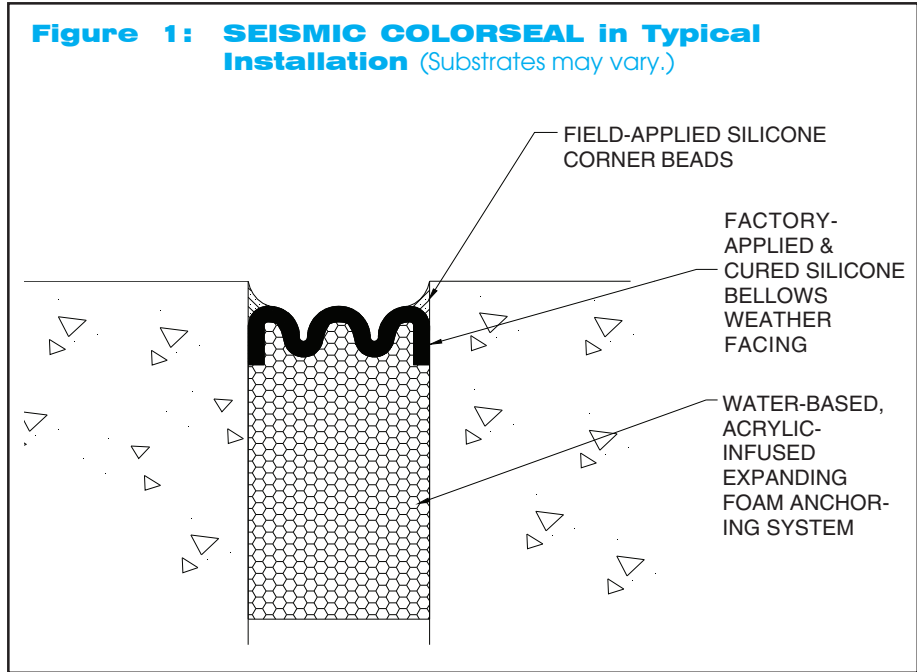
# SEISMIC COLORSEAL™

U.S. Patent No. 5,130,176

# TECH DATA

## Product Description

- SEISMIC COLORSEAL 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 silicone external color 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, 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.

## Uses

- For all joints 1-inch (25mm) and larger.
- For joints 1-inch (25mm) and smaller (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 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.

**Table 1: Typical Physical Properties & Testing**

Property / Test	Value	Test Method
Colors (Standard)	Precast white, black, gray, natural stone, bronze, sandstone, adobe tan, dusty rose, rustic brick, blue spruce, charcoal, limestone	
<b>Durometer Hardness (as cured)</b>	<b>Silicone Coating: Not to exceed 25 pts (±5), Shore A.</b>	<b>ASTM C 661</b>
Staining	None	
<b>Weatherometer</b>	<b>Xenon Arc Weatherometer</b>	ASTM C510
	<b>2000 hrs--No visible deterioration</b>	<b>ASTM G26-77</b>
Primary Surface Weathering	Atlas Weatherometer	
	6000 hrs--minimal hardness change	ASTM G26-77
<b>Temperature Range</b>		
<b>High Permanent</b>	<b>185°F (85°C)</b>	<b>ASTM C711</b>
<b>Low Permanent</b>	<b>-40°F (-40°C)</b>	
Tensile Strength	21 psi min; 145 kPa	ASTM D3574
<b>Thermal Conductivity</b>	<b>0.34 Btu. in/hr. ft<sup>2</sup> °F (0.05 W/m. °C)</b>	<b>ASTM C518</b>

**Advantages**

- 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 ± 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 to curtainwall and applications at inside corners where access for installation is obstructed and where violation of the mullions or other substrates is not advisable.
- 12 standard colors (see list in table above, or contact EMSEAL).
- Supplied precompressed to less than joint size--no field compression required.
- Standard sizes from 1/2" (12mm) to 10" (250mm). Other sizes available subject to review of application--consult EMSEAL. **Note:** sizes 3/4" (20mm) and smaller will have convex single-bellows surface.

**Installation**

**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 material nominal size 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" (6mm) recess and adhere to one joint face. Allow material to expand against other joint face. (Wedge larger-sizes in place while it expands.)
- Blend silicone at joins 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 (see Fig. 1). (Note: unpainted metal surfaces and some natural stone surfaces may require priming--consult EMSEAL.)

**Warranty**

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

**CAD & Guide Specs**

Guide specifications and CAD details are available online at [emseal.com](http://emseal.com) or by email. Contact EMSEAL.

**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 EMSEAL® reserves the right to modify or withdraw any product without prior notice.

**Table 2: Sizing**

Nominal Material Size (Joint Size at Mean T°)	Depth of Seal (Required substructure depth)
1/2" (12mm)	1-1/2" (40mm)
5/8" (15mm)	1-1/2" (40mm)
3/4" (20mm)	1-1/2" (40mm)
1" (25mm)	1-1/2" (40mm)
1-1/4" (30mm)	2-1/4" (55mm)
1-1/2" (40mm)	2-1/4" (55mm)
1-3/4" (45mm)	2-1/2" (65mm)
2" (50mm)	2-1/2" (65mm)
2-1/4" (55mm)	2-1/2" (65mm)
2-1/2" (65mm)	2-3/4" (70mm)
2-3/4" (70mm)	3" (75mm)
3" (75mm)	3-1/2" (90mm)
3 1/4" (80mm)	3-3/4" (95mm)
3 1/2" (90mm)	3-3/4" (95mm)
3 3/4" (95mm)	4-1/4" (105mm)
4" (100mm)	4-1/2" (115mm)
4-1/4" (105mm)	4-1/2" (115mm)
4-1/2" (115mm)	5" (125mm)
4-3/4" (120mm)	5-1/4" (135mm)
5" (125mm)	5 1/2" (140mm)
5-1/4" (135mm)	5-3/4" (145mm)
5-1/2" (140mm)	5-3/4" (145mm)
5-3/4" (145mm)	5-3/4" (145mm)
6" (150mm)	5-3/4" (145mm)
6-1/2" (165mm)	5-3/4" (145mm)
7" (175mm)	5-3/4" (145mm)
7 1/2" (190mm)	5-3/4" (145mm)
8" (200mm)	5-3/4" (145mm)
8-1/2" (215mm)	5-3/4" (145mm)
9" (225mm)	5-3/4" (145mm)
9 1/2" (240mm)	5-3/4" (145mm)
10" (250mm)	5-3/4" (145mm)

- Select nominal material size to correspond to joint-gap size at mean temperature.
- Capable of movements up to ±50% (total 100%) of mean temp. joint size.
- For sizes not shown consult EMSEAL.
- Material is supplied in shrink-wrapped sticks of 6.56 ft. (2 M).