



# HORIZONTAL COLORSEAL™

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

# TECHDATA

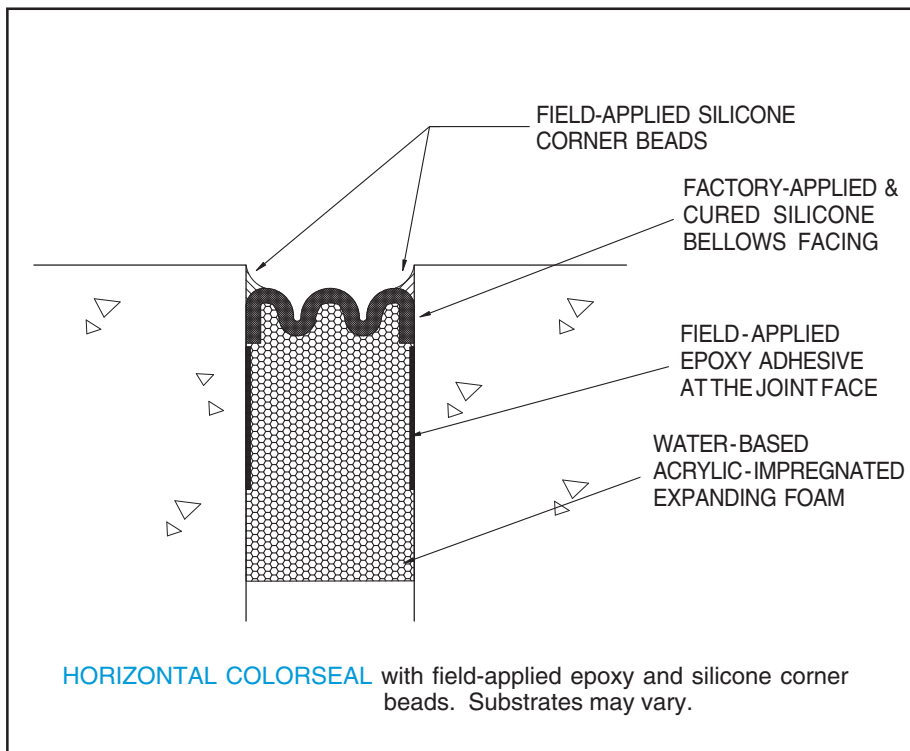
## Manufacturer:

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## Product Description

- **HORIZONTAL COLORSEAL** is an evolution of EMSEAL's COLORSEAL product with reduced compression in the expanding foam backing, field-applied epoxy adhesive on the joint faces, and a field-applied silicone corner-bead between the silicone "bellows" sealing element and the substrates.
- **HORIZONTAL COLORSEAL** is produced by coating an acrylic-impregnated open-cell polyurethane foam with silicone.
- The expanding foam is a patent-pending acrylic adhesive infused into the cellular foam base material. This new chemistry incorporates a hydrophobic microsphere component never before available in a sealant formulation.
- The silicone external facing is factory applied at a width greater than maximum joint extension and is cured before final compression.
- When compressed, a bellows is created in the coating. As the joint moves, the bellows fold and unfold; the silicone primary seal is thus virtually NEVER IN TENSION.
- **HORIZONTAL COLORSEAL** is supplied in shrink-wrapped lengths (sticks). It is precompressed to less than the joint size. After insertion, it expands against the joint faces.
- Non-invasive anchoring and sealing against the substrate is achieved through a combination of the back-pressure caused by the stored strain energy of compression in the foam backing, the field-applied epoxy adhesive, and the field installation of a corner bead of silicone at the substrate-to-bellows interface.



## Uses

As a watertight seal in joints including:

- Decks: structural joints, perimeter joints, isolation joints at stair-towers/elevators
- Parapets, roofs
- Concrete covers on above-grade tunnels, wastewater tanks etc.
- Back-up seal beneath expansion joint-cover assemblies
- For aesthetically compatible transitions to joints in the vertical plane see tech data sheets for COLORSEAL & SEISMIC COLORSEAL

## Advantages

- Features the UV resistance, durability and impermeability of silicone.
- Virtually eliminates tensile stresses at

sealant bond line and adverse effects of movement occurring before curing in typical sealant-and-backer-rod applications.

- Both mechanically and chemically anchored through back-pressure inherent in the permanently elastic open-cell foam and the adhesion of the epoxy adhesive and through the field-applied silicone corner bead.
- Reduces installation labor and materials, such as need for accurate positioning of a backer-rod, site mixing, tooling etc.
- Twelve standard colors (consult Dow Corning 790 color-chart or contact EMSEAL).
- Supplied precompressed to less than joint size—no field compression required.

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

Property / Test	Value	Test Method
Colors	<b>Standard:</b> Precast white, limestone, black, gray, natural stone, bronze, sandstone, adobe tan, dusty rose, rustic brick, blue spruce, charcoal	
<b>Durometer Hardness</b>	<b>Silicone Coating: Shore A, 15 pts.</b>	<b>ASTM D2240</b>
Staining	None	ASTM C510
<b>Weatherometer</b>	<b>Xenon Arc Weatherometer</b>	<b>ASTM G26-77</b>
	<b>2000 hrs-No visible deterioration</b>	
Primary Surface Weathering	Atlas Weatherometer	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>

**CAD Drawings & Guide Specs Availability**

Guide specifications and CAD details are available from EMSEAL by email on request and at [www.emseal.com](http://www.emseal.com).

**Availability & Price**

HORIZONTAL COLORSEAL is available for shipment internationally. Prices are available from local representatives or direct from the manufacturer. The product range is continually being updated, and accordingly EMSEAL® reserves the right to modify or withdraw any product without prior notice.

**Limitations**

- Metal coverplates (by others) must be installed above HORIZONTAL COLORSEAL where spiked-high-heel pedestrian traffic, or other high-point-load/small-contact-surface area loads are anticipated.
- As an alternative to cover plates for pedestrian heel-traffic applications, 'heel-traffic-resistant' wet sealant (by others) installed over a bond-breaker tape above recessed HORIZONTAL COLORSEAL may be considered.
- If movement exceeds ±50% (100% total) of joint-gap size at mean temperature, integrity of seal will be affected.
- Capable of lateral ("shear") movements up to ±50% (total 100%) of joint size at mean temperature.
- Standard sizes from 1/2" (12mm) to 6" (150mm). Other sizes available subject to review of application: consult EMSEAL Technical Services.

- Remove shrink-wrap packaging, hardboard, and self-adhesive release paper.
- Wipe factory-applied release agent off silicone facing using clean, lint-free rag made damp with toluene.
- 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 side. Material expands to seal joint. (Wedge larger-sized material 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 a 1/4" x 1/4" (4mm x 4mm) corner bead at the substrate-to-bellows interface (see Fig. 1). (Note: unpainted metal surfaces and some natural stone surfaces may require priming -- consult EMSEAL.)

**Installation**

IMPORTANT: The following instruction-summary is generic. Refer to "Install Data: Horizontal Colored" and job-specific instruction of EMSEAL technician for complete procedures.

- Store indoors at room temperature. Expansion is quicker when warm, slower when cold.
- Ensure material nominal size matches joint size.
- Mix epoxy now and trowel onto joint faces.

**Warranty**

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

**Table 2: HORIZONTAL COLORSEAL Sizing**

Nominal Material Size (Joint Size at Mean T°F)	Depth of Seal
<b>1/2" (12mm)</b>	<b>1-1/2" (40mm)</b>
3/4" (20mm)	1 1/2" (40mm)
<b>1" (25mm)</b>	<b>1-1/2" (40mm)</b>
1-1/2" (40mm)	2-1/4" (55mm)
<b>2" (50mm)</b>	<b>2-1/2" (65mm)</b>
2-1/2" (65mm)	2-3/4" (70mm)
<b>3" (75mm)</b>	<b>3-1/2" (90mm)</b>
3-1/2" (90mm)	3-3/4" (95mm)
<b>4" (100mm)</b>	<b>4-1/2" (115mm)</b>
4-1/2" (115mm)	5" (125mm)
<b>5" (125mm)</b>	<b>5-1/2" (140mm)</b>
5-1/2" (140mm)	5-3/4" (145mm)
<b>6" (150mm)</b>	<b>6" (150mm)</b>
6-1/2" (165mm)	6-1/2" (165mm)
<b>7" (175mm)</b>	<b>7" (175mm)</b>
7-1/2" (190mm)	7-1/2" (190mm)
<b>8" (200mm)</b>	<b>8" (200mm)</b>

HORIZONTAL COLORSEAL is available in 1/4" sizes in addition to the sizing seen above. Sizes above 8" are also available. Consult EMSEAL Technical Services.

- Select nominal material size to correspond to joint-gap size at mean temperature.
- Material is supplied in shrink-wrapped sticks of 6.56 ft. (2 M).

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