



HORIZONTAL COLORSEAL™

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

TECH D A T A

Manufacturer:

EMSEAL JOINT SYSTEMS, LTD.

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EMSEAL CORPORATION

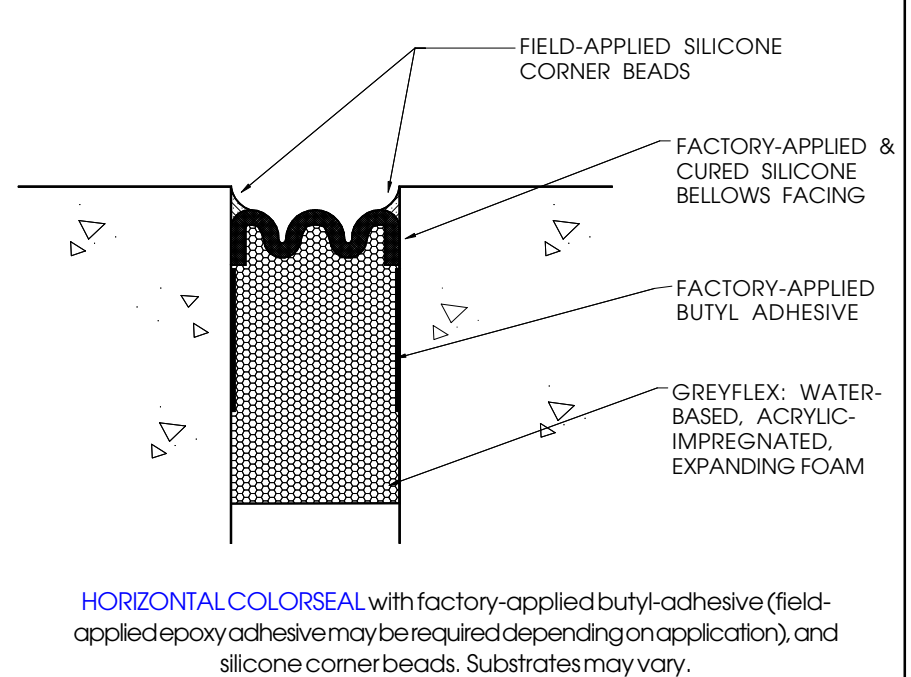
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Product Description

- **HORIZONTAL COLORSEAL** is an evolution of Emsal's COLORSEAL product with reduced compression in the expanding foam backing, additional factory-applied butyl-adhesive tape (or field-applied epoxy adhesive) on each side, 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 Dow Corning silicone.
- The expanding foam is Emsal's GREYFLEX™-open-cell polyurethane foam impregnated with a water-based, stabilized, polymer-modified acrylic.
- 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 butyl (or field-applied epoxy) adhesive, and the field installation of a corner bead of silicone at the substrate-to-bellows interface.

Figure 1: HORIZONTAL COLORSEAL in Typical Installation



Uses

As a watertight seal in joints including:

- Decks: structural joints, perimeter joints, isolation joints at stair-towers/elevators
- Roadways
- 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 butyl (or 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.
- Five standard colors, six special colors (see list in Table 1, consult Dow Corning 790 color-chart or contact EMSEAL).
- Supplied precompressed to less than joint size—no field compression required.

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

CAD Drawings & Guide Specs On Disk or By Email

Guide specifications and CAD details are available on floppy disk or by email. Please contact your local representative or call EMSEAL.

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.

| Property / Test | Value | Test Method |
|-----------------------------|--|--------------------|
| Colors | Standard: Precast white, black, grey natural stone, bronze; Special: sandstone, adobe tan, dusty rose, rustic brick, blue spruce, charcoal | |
| Durometer Hardness | Silicone Coating: Shore A, 15 pts. | ASTM D2240 |
| Staining | None | ASTM C510 |
| Weatherometer | Xenon Arc Weatherometer | ASTM G26-77 |
| | 2000 hrs-No visible deterioration | |
| Primary Surface Weathering | Atlas Weatherometer | ASTM G26-77 |
| | 6000 hrs-Minimal hardness change | |
| Temperature Range | | |
| High Permanent | 185°F (85°C) | ASTM C711 |
| Low Permanent | -40°F (-40°C) | |
| Tensile Strength | 21 psi min; 145 kPa | ASTM D3574 |
| Thermal Conductivity | 0.34 Btu. in/hr. ft² °F (0.05 W/m.°C) | ASTM C518 |

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 3/4" (20mm) to 6" (150mm). Other sizes available subject to review of application; consult EMSEAL Technical Services.

Installation

IMPORTANT: The following instruction-summary is generic. Refer to "Install Data: Horizontal Colorseal" 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.
- If application requires use of epoxy

adhesive, mix epoxy now and trowel onto joint faces.

- 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.)

Warranty

Table 2: HORIZONTAL COLORSEAL Sizing

| Nominal Material Size (Joint Size at Mean T°F) | Depth of Seal |
|---|-----------------------|
| 3/4" (20mm) | 1-1/4" (30mm) |
| 1" (25mm) | 1-1/2" (40mm) |
| 1-1/4" (30mm) | 1-1/2" (40mm) |
| 1-1/2" (40mm) | 2" (50mm) |
| 1-3/4" (45mm) | 2" (50mm) |
| 2" (50mm) | 2-1/2" (60mm) |
| 2-1/4" (55mm) | 2-1/2" (60mm) |
| 2-1/2" (60mm) | 2-3/4" (70mm) |
| 2-3/4" (70mm) | 3-1/8" (80mm) |
| 3" (75mm) | 3-1/8" (80mm) |
| 3 1/2" (90mm) | 4" (100mm) |
| 4" (100mm) | 4 3/8" (110mm) |
| 4-1/4" (105mm) | 4 3/8" (110mm) |
| 4-1/2" (115mm) | 4 3/4" (120mm) |
| 4-3/4" (120mm) | 5" (125mm) |
| 5" (125mm) | 5" (125mm) |
| 5-1/4" (135mm) | 5-1/4" (135mm) |
| 5-1/2" (140mm) | 5-1/2" (140mm) |
| 5-3/4" (145mm) | 6" (150mm) |
| 6" (150mm) | 6" (150mm) |

Over 6" 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).

"Dow Corning" is a registered trademark of Dow Corning Corporation, Midland, MI