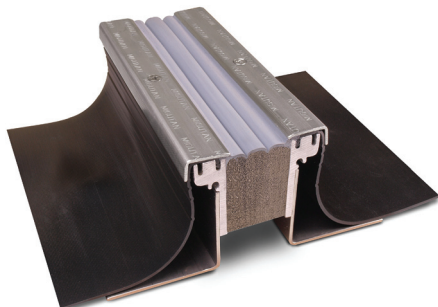




## DSM-FP

**Watertight, Deck Expansion Joint System  
for Split-Slabs, Plazas, Stadium Concourses, etc.**

# TECHDATA



### Uses and Applications

- For new construction and retrofit of old or failed joint systems
- For restoring watertightness to chronic leaking over occupied spaces
- Uniquely suited to joint openings between split-slab and solid-slab construction
- Uniquely suited to deck-to-wall and deck-to-column conditions in split-slab construction
- Plaza and podium decks
- Split-slab or asphalt-overlay parking decks
- Airport roadways
- Mall bridge connectors
- Stadium concourses, etc.

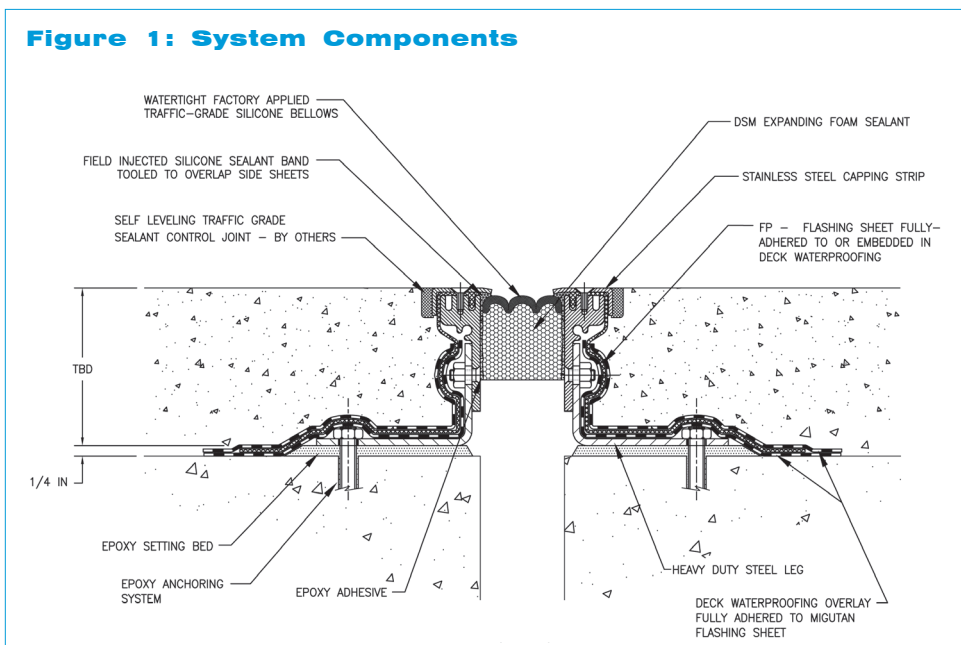
### Product Description

The **DSM-FP SYSTEM** is designed to provide a watertight, trafficable joint system in smaller 1/2" (12mm) to 4" (100mm) joint openings, in decks of split-slab design. **DSM-FP** expands the use of the DSM SYSTEM to waterproofed split-slab deck designs through the use of side flashing sheets that integrate with the deck waterproofing membrane.

The material that bridges and seals between the DSM-FP mounting rails is EMSEAL's DSM SYSTEM which is comprised of a silicone-coated, precompressed foam hybrid sealant that ensures watertightness, absorbs sound, dampens vibration and offers uncomplicated installation. DSM is the latest evolution in the field-proven technology that EMSEAL has used for 30 years of sealing horizontal plane joints with impregnated foam sealants.

- The DSM-FP SYSTEM consists of two subassemblies:
  - 1) The structural-slab mounted supporting legs with integral waterproofing side sheets; and
  - 2) the silicone-faced, precompressed, foam sealant--DSM SYSTEM.
- The mounting leg assembly is delivered with opposing legs factory-set to the nominal joint size. It is installed onto a wet settingbed of epoxy mortar and bolted to the deck.
- Epoxy gel adhesive is applied to the faces of the installed mounting leg assembly.
- The DSM SYSTEM precompressed foam sealant is installed into the joint gap where it self-expands into the wet epoxy adhesive.
- Consecutive lengths are joined through the field-application to the intersecting bellows surfaces of EMSEAL-supplied, low-modulus, high-movement silicone.
- To complete the waterproofing, a field-applied silicone sealant band is injected at the bellows to the mounting-leg interface and tooled over the side flashing sheet at its insertion point.
- Stainless steel capping strips are installed over the top of the retainer legs and hold the side-flashing sheets firmly in compression.
- With the DSM-FP side flashing sheets pulled out of the way, the deck waterproofing membrane is installed on the deck and brought over the leg flange and up the DSM-FP mounting legs.

**Figure 1: System Components**

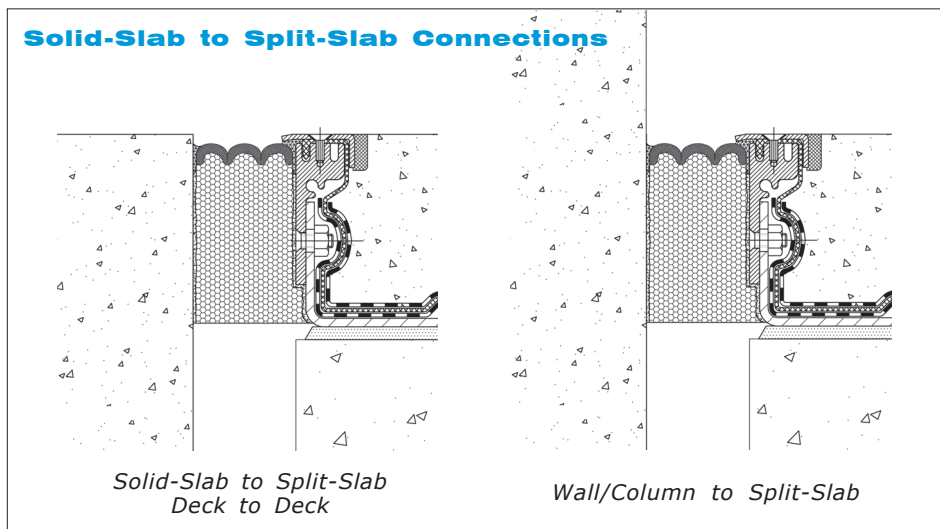


- The side flashing sheets are lowered into the liquid membrane (or into the non-sag mastic component of a sheet waterproofing system) and sandwiched with another layer of waterproofing. Drainage board and/or protection board are added in accordance with the designer's preference.
- Concrete, pavers, asphalt, or other topping slab or wearing course material is installed up to the stainless steel retaining caps on the DSM-FP mounting rails with or without a field-applied sealant control joint depending on the wear-course material (consult EMSEAL).

## Features

- 1) **Watertight Surface Joint**—EMSEAL's DSM precompressed foam sealant serves as a dual seal when installed between the DSM-FP SYSTEM's two mounting legs or between a single mounting leg and another substrate on the opposite side of the joint. The precompressed foam and silicone external facing create a watertight seal with movement capabilities of +30%, -25% (55% total) of nominal material size. This ensures that watertightness is achieved at the deck surface. The need for moisture barriers and secondary gutter systems is eliminated or made optional.
- 2) **Watertight Integration with the Split-Slab Waterproofing Membrane**—Integration of the DSM-FP side flashing sheets into a sandwich with the deck waterproofing membrane ensures the deck-to-joint interface is watertight.
- 3) **Sound Attenuation**—the impregnated foam and silicone hybrid acts not only as the sealing mechanism, but also as a highly effective sound dampener.
- 4) **Trafficable, Fuel-Resistant Surface**—The DSM impregnated foam is compressed to handle normal pedestrian and vehicular traffic. The watertight bellows surface is made of a traffic-grade silicone which is not degraded by incidental contact with fuel.
- 5) **Deck-To-Wall Conditions**—Because the DSM SYSTEM installs to substrates without the need for any supporting metal rails or invasive anchors, the DSM-FP SYSTEM is uniquely suited to handling deck-to-wall, deck-to-column, entryway and other conditions.
- 6) **Continuity of Seal**—as in all EMSEAL expansion joint systems, continuity of seal through changes in plane and direction is an essential performance differentiator. Factory-fabricated transitions in the mounting leg and side flashing sheets at curbs, sidewalks, parapets, tees, and crosses are available with the DSM-FP SYSTEM. It also transitions to other EMSEAL precompressed foam products with ease. Details for watertight transitions between different EMSEAL product systems are available.

## Solid-Slab to Split-Slab Connections



DSM-FP is an effective watertight expansion joint for bridging split-slab and solid-slab construction. The watertight precompressed DSM foam sealant is held securely in place by utilizing the back-pressure of the expanding foam, epoxy adhesive, and a field-injected silicone sealant band at the substrate interface. The connection to solid-slab construction is made directly to the slab substrate. The split-slab connection is made to the DSM-FP mounting leg. The split-slab connection incorporates an integral waterproofing flashing sidesheet embedded between layers of the deck waterproofing membrane on the structural slab and beneath the topping slab.

### Performance & Selection:

- **Joint Sizes:**  
For mean-temperature, structural-slab, joint sizes from:  
**1-inch (25mm) up to 4-inches (100mm)** in the upper topping slab.  
**1/2-inch (12mm) up to 4-inches (100mm)** in the lower structural slab.  
For special conditions consult EMSEAL.

For larger than 4" (100mm) see SJS-FP.

- **Movement Capability:**  
55% (+30% and -25%) of nominal material size.
- **Leg Heights:**  
3-inches (75mm) to 12-inches (300mm)
- **Fire Rating:**  
EMSEAL offers a variety of products to fire-rate expansion joint openings. Contact EMSEAL for more information.
- **Models:**  
Model selection is designated by product codes. The code segments relate to the product configuration: For example,

*DSMF55-400-75 means:*

Product	Movement	JointWidth	LegHeight
DSMF55	-55	-400	-75
	(55%)	(4" joint)	(75mm, 3")

Consult EMSEAL for model number suitable to your specific application.

### Warranty

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

### CAD .dwg's & Guide Specs

Guide specifications and CAD details are available at [www.emseal.com](http://www.emseal.com), or by email--contact EMSEAL.

### Availability & Price

DSM-FP is available for shipment domestically and 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.