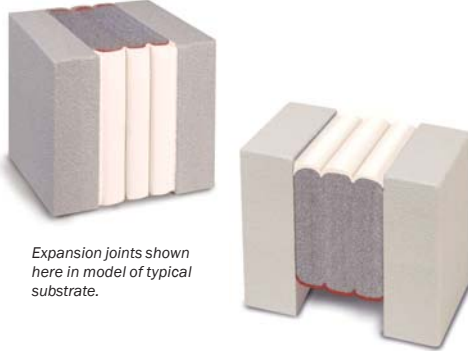




# EMSHIELD Expansion Joints

**Fire-Rated, Multi-Function, Single-Install Expansion Joints**



Expansion joints shown here in model of typical substrate.



## Innovation to meet today's needs

EMSEAL's new EMSHIELD innovative family of UL/ULC tested and certified fire-rated, multi-function, single-install expansion joints are designed to meet today's evolving building science. Each product is **watertight, fire-rated, sound attenuating, wind resistant, energy efficient, and easy to install**. By combining all of these performance features in a single-unit expansion joint, each EMSHIELD product replaces up to 4 separate products and 4 separate installations traditionally needed to perform these multiple functions.

The products' built-in fire-rated construction eliminates the need for additional external fire blankets, mineral wools, coverplates and other fire stopping materials thereby reducing installation time and costs. The products are designed for installation in exterior or interior floors and walls in both new and retrofit construction. They are available in many industry standard colors and also offer surfaces that are traffic-durable and pick/tamper resistant.

## UL/ULC tested and certified fire-rated

EMSHIELD products have been tested by the Underwriters Laboratories®, UL and ULC (UL 2079 Class II & III movement and hose stream). Individual EMSHIELD products are certified for 1-hour, 2-hour, or 3-hour fire-ratings.

### Additional ASTM Testing

- ASTM E-283: Air Leakage through exterior windows, curtain walls, and doors under specified pressure difference across the specimen.
- ASTM E-330: Structural performance of exterior windows, skylight and curtain walls by uniform static air pressure difference.
- ASTM E-331: Water penetration of exterior windows, skylight and curtain walls by uniform static air pressure difference.
- ASTM E-90: Measurement of airborne sound transmission loss of building partitions and elements.
- ASTM C518-04: Steady-state thermal transmission properties (R-value).

## The smart choice

### Benefits for the Design Community

- Simplified design
- Non-disruptive to adjacent building materials
- More energy efficient buildings (LEED qualification)
- Life Safety assurance
- Indoor occupancy environment enhancement

### Benefits for the Building Owner

- Longer life cycle – lower maintenance costs
- Energy Efficiency – lower operating costs
- Fire Protection – life safety contribution, safe evacuations, building compartmentation
- Revenue maximization through elimination of leaks in tenantable spaces
- Quicker return on development investment through faster occupancy

### Benefits for the Contractor

- Faster, safer installation
- Minimize lifts, other access equipment and overhead holding equipment
- Replace up to four installations of separate products with one single product



EMSHIELD WFR2 (2-hour) and (3-hour) fire-rated expansion joints for interior and exterior applications.

## EMSHIELD Family of Fire-Rated Products

All EMSHIELD expansion joints are fire-rated to UL/ULC 2079 testing and certification. Their single unit design, with its built-in fire-rating, eliminates the need for traditional fire blankets, mineral wools and other fire stops. The non-invasive anchoring method of installation is faster, more cost-effective and maintains the integrity of the substrate.



### Interior &/or Exterior Walls

#### EMSHIELD WFR2 and WFR3

2-Hour (WFR2\*) and 3-Hour (WFR3) UL/ULC-certified fire-rated for walls and vertical plane surfaces. Dual-sided expansion joints provide watertightness, sound attenuation (\*STC 62 / OITC 52), thermal value, and movement capabilities of +/- 25%. Available in choice of 26 colors. Nominal gap sizes from 1/2-inch to 6-inches (12mm - 150mm).



**EMSHIELD WFR2 and WFR3**  
Double-sided, available in 26 colors

#### EMSHIELD SecuritySeal SSW2

2-Hour UL/ULC-certified fire-rated for walls and vertical plane surfaces. Built with pick/tamper-resistant polyurethane outer surfaces at the front and back. Dual-sided expansion joint provides watertightness, sound attenuation (STC 62 / OITC 52), thermal value, and movement capabilities of +/- 25%. Nominal gap sizes from 1/2-inch to 6-inches (12mm - 150mm).



**EMSHIELD SecuritySeal SSW2**  
Pick-resistant and tamper-resistant polyurethane surfaces

### Interior &/or Exterior Floors and Decks

#### EMSHIELD DFR2 and DFR3

2-Hour (DFR2) and 3-Hour (DFR3) UL/ULC-certified fire-rated for floors, parking decks and horizontal plane surfaces. Silicone bellows top surface for watertightness and trafficability. DFR2 and DFR3 provide sound attenuation (STC 62 / OITC 52), thermal value, and movement capabilities of +/- 25%. Nominal gap sizes from 1/2-inch to 4-inches (12mm - 100mm).



**EMSHIELD DFR2 and DFR3**  
Trafficable and watertight

#### EMSHIELD SecuritySeal SSF2 and SSF3

2-Hour (SSF2) and 3-Hour (SSF3) UL/ULC-certified fire-rated for floors, parking decks and horizontal plane surfaces. Polyurethane bellows top face provides a pick/tamper-resistant surface. Both expansion joints provide watertightness, as well as sound attenuation (STC 62 / OITC 52), thermal value, and movement capabilities of +/- 25%. Nominal gap sizes from 1/2-inch to 4-inches (12mm - 100mm).



**EMSHIELD SecuritySeal SSF2 and SSF3**  
Pick-resistant and tamper-resistant polyurethane surfaces

#### EMSHIELD SJS-FR1 and SJS-FR2

1-Hour (SJS-FR1) and 2-Hour (SJS-FR2) UL/ULC-certified fire-rated expansion joint for larger width and seismic expansion gaps found in parking decks, stadiums, and other horizontal plane surfaces. Integral coverplate provides a high degree of trafficability while remaining watertight, sound dampening and handling movement of +/- 50%. Nominal gap sizes from 4-inches to 10-inches (100mm - 250mm).



**EMSHIELD SJS-FR1 and SJS-FR2**  
Seismic and larger gaps with high-traffic sound-dampened integral coverplate (shown here in EMCRETE breakout nosing)

### EMSHIELD Fire-Rated Product Reference Chart

EMSHIELD Product	UL/ULC Fire Rating	Available Nominal Joint Sizes (at Mean T°)	Depth of Seal	Movement Capability
WFR2	2-Hour	1/2 inch - 6 inches (12mm - 150mm)	4 inches (100mm)	50% (+/- 25%)
WFR3	3-Hour	1/2 inch - 6 inches (12mm - 150mm)	5 inches (125mm)	50% (+/- 25%)
SecuritySeal SSW2	2-Hour	1/2 inch - 6 inches (12mm - 150mm)	4 inches (100mm)	50% (+/- 25%)
DFR2	2-Hour	1/2 inch - 4 inches (12mm - 100mm)	4 inches (100mm)	50% (+/- 25%)
DFR3	3-Hour	1/2 inch - 4 inches (12mm - 100mm)	4 inches (100mm)	50% (+/- 25%)
SecuritySeal SSF2	2-Hour	1/2 inch - 4 inches (12mm - 100mm)	4 inches (100mm)	50% (+/- 25%)
SecuritySeal SSF3	3-Hour	1/2 inch - 4 inches (12mm - 100mm)	4 inches (100mm)	50% (+/- 25%)
SJS-FR1	1-Hour	4 inches - 10 inches (100mm - 250mm)	6 inches (150mm)	100% (+/- 50%)
SJS-FR2	2-Hour	4 inches - 10 inches (100mm - 250mm)	6 inches (150mm)	100% (+/- 50%)

