# Product Data Sheet

# willseal® FR-V
## VERTICAL 2 & 3 HR FIRE RATED SEAL

### DESCRIPTION

Willseal FR-V provides a factory controlled, watertight, clean handling, UV stable, sound attenuating, energy efficient and fire rated joint seal in a single, unified installation process.

Willseal FR-V is designed to be used in vertical wall installations by itself, but it can be used behind any other expansion joint cover, plate or filler where joint depth allows. Because it is coated on both sides, it can be placed with either side exposed, adding to the versatility and increasing the aesthetic fireproof sealing options.

Willseal FR-V is a second generation, unified fire rated, sound, energy, and waterproof sealant system that can be supplied for +/- 25% and +/- 50% joints.

### MATERIAL

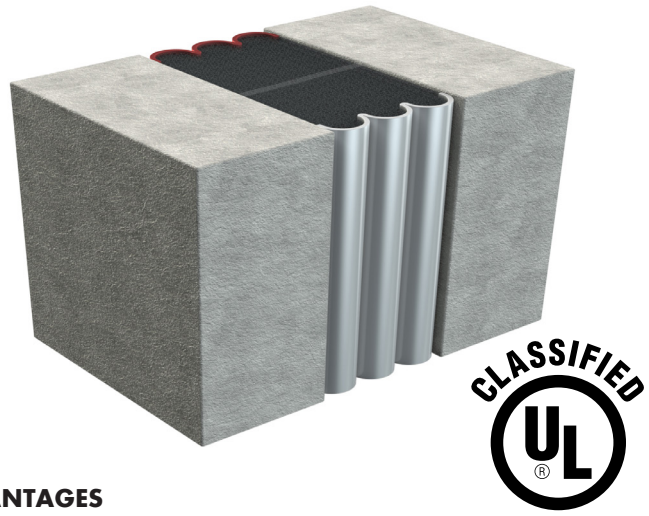
Willseal FR-V features a waterproof silicone face on each side of a fire-retardant impregnated foam sealant without the need for additional intumescent bellows. Willseal FR-V does not rely on the silicone face or intumescent bellows to provide its fire rating. This is an important safety improvement over first generation materials that are subject to vandalism or damage to the thin silicone/ intumescent bellows.

The main function of the silicone face is to enhance the waterproofing nature of the sealant and provide an aesthetic, colored finish. Willseal FR-V Type UC is supplied without silicone for use as a secondary seal.

Willseal FR-V is not made of thin, unbonded vertical layers that can delaminate with joint shear or thermal shock. In addition to UL 2079, Willseal FR-V has been independent lab tested to ASTM 330, 331, 283 & 547 for water and air penetration. It has been tested and passes TAS 202/203 requirements for hurricane force exposure. Contact Willseal for complete details.

### AVAILABLE SIZES

- 1/2" (12mm) to 4 1/2" (112 mm)
- 2" depths only have a smoke barrier by request
- Depth of seal is 2", 3" or 4".
  Refer to UL listings at www.ul.com




### ADVANTAGES

- Depending on application and UL listing, Willseal FR-V can be supplied with a silicone coating on one side, both sides, or uncoated for use as a secondary seal.
- Watertight: Installed with tensionless bellows, which when installed with an optional silicone bead on the weather face, maintains a watertight seal.
- Joint-Size Variation: Controlling uniform bellows appearance, and the ability to handle variations in joint size through incremental sizing, are additional product features.
- Movement Capability: +/- 25 (50% total) or +/- 50% (100% total) of nominal joint size, depending on the material selected.
- Smoke Barrier: Willseal's innovative internal smoke barrier prevents toxic gases and fumes from penetrating the joint system.
- Sound Attenuation: Minimizes sound transfer which can occur at expansion joints and wide openings. Tested to ASTM E90.
- Non-Invasive Anchoring: There is no drilling or modification to the substrate required. This includes embedded pins, anchors, screws, bolts, tracks, rails, flanges or coverplates. The system is secured to the joint substrate by means of the internal recovery force of the foam, the epoxy adhesive, and the optional injected sealant bands at the joint face.

### AVAILABLE COLORS: Refer to actual color chart for exact match

**DOW CORNING® 790 COLORS**

| | | |
|---|---|---|
| Black | Limestone | Dusty Rose |
| Bronze | Precast White | Rustic Brick |
| Sandstone | Natural Stone | Blue Spruce |
| Adobe Tan | Gray | Charcoal |
| | | White |

**PECORA 890NST COLORS**

| | | |
|---|---|---|
| Black | Precast | Beige |
| Limestone | Anodized Aluminum | Aluminum Stone |
| Natural Stone | Sandstone | Charcoal Gray |
| Classic Bronze | Red Rock | Hartford Green |
| | | Tru White |

Willseal LLC • 34 Executive Drive • Hudson, NH 03051 • 800-274-2813 • 800-416-0550 (Fax) • willseal.com • email: custserv@willseal.com

## TESTED PHYSICAL PROPERTIES

Willseal FR-V has been tested and certified under UL 2079. It meets the requirements of ASTM E1966, ASTM E119 and ASTM E1399. UL 2079, like ASTM E1966, was developed to encompass the fire testing of ASTM E119 and movement cycling regime of ASTM E1399.

It is also tested to ASTM E283, 330, 331 & 547 to confirm its sealing capabilities through its entire stated movement range. ASTM E90 testing has been completed to verify the sound attenuating properties of the system. Complete test results are available from Willseal technical support.

This material has been tested to UL 2079 and is manufactured under UL's Follow-Up Service. Willseal FR-V is manufactured in an ISO 9001:2008 facility. In addition to being proof of our commitment to overall quality, the system ensures that any change to form, fit, function or safety of the product will be documented and published.

## DESIGN AND ASSEMBLY

Because the material is being supplied as a fire-rated component of a wall assembly, it has been tested to UL 2079 in assemblies as depicted in our UL listings in the UL Certifications Directory. Use of this material in assembly configurations other than depicted in the named UL listings will not encumber or lower the resistance of the deck or wall assembly, but is done so at the designer's discretion and responsibility for designing substrates as part of a fire rated assembly that meet applicable standards for the project.

The online information in the UL Listings cannot always address every construction nuance encountered in the field. Authorities having jurisdiction should be consulted in all cases as to the particular requirements covering the installation and use of UL Listed or Classified products or materials. Authorities having jurisdiction should be consulted before construction to ensure that specific adjacent substrates and assemblies are detailed and constructed to meet local fire-rating requirements.

### UL Vertical Listings (Floor to Floor)

Visit the Online Certifications Directory at www.ul.com for complete & most current listing information

- WW-D-0134
- WW-D-0135
- WW-D-0136
- WW-D-0137
- WW-D-0138
- WW-D-0139
- WW-D-0165
- WW-D-1121
- WW-D-1122
- WW-D-1123
- WW-D-1124
- WW-D-1125
- WW-D-1126
- WW-D-1127

### UL Vertical Listings (Head of Wall)

- HW-D-0700
- HW-D-1101

## INSTALLATION

(see supplied installation data for complete procedures)

- Manufactured in 6.5 LF (2M) sticks which can be joined in the field to factory fabricated 90° transitions. These factory fabricated 90° units are coated on both sides with the silicone coating allowing them to be installed as an upturn or downturn transition.
- Typically, transitions have a 6" long horizontal leg and a 12" vertical leg. Custom sizes are available to meet actual field conditions. Transitions end in an uncoated 90° miter to be adhered to another transition piece as used in walls-to-decks, treads and risers, parapets, curbs and other applications.
- In addition to ensuring watertightness, 90° transitions can sometimes allow for much faster and secure installation by eliminating field cutting at angles.
- Can be installed facing out from an exterior or interior wall and maintain its two or three hour fire-rating. When either (or both) faces have a field applied band of silicone, that face is watertight. Willseal FR-V is installed with an epoxy adhesive field applied to the sides of the Willseal FR-V and on the face of the joint substrate. Although required by other competitive, but lower performing systems, Willseal FR-V does not require the "injected bead" for its waterproof characteristics. The unions between each stick are made using a field applied silicone sealant at the silicone bellows and a UL approved sealant on the ends of the foam sealant.

## WARRANTY

- Standard or project specific warranties are available from the manufacturer upon request. This product can only perform its designed function if it, and the joint gap into which it is installed, is properly sized for the anticipated joint movements in consideration of the movement capability of the product. This can vary based on the temperature at time of installation and should be considered to determine the mean joint dimension.
- Material must be installed in strict accordance with our installation instructions.

Willseal LLC • 34 Executive Drive • Hudson, NH 03051 • 800-274-2813 • 800-416-0550 (Fax) • willseal.com • email: custserv@willseal.com