

FlameSafe® FS 1900 Sealant

Intumescent, Elastomeric Firestop

Benefits

- Underwriters Laboratories classified
- Factory Mutual approved
- Hundreds of firestop through-penetration and joint systems
- Listed in systems with up to 3 hour fire rating
- Tested to UL 1479 (ASTM E814), UL 2079 (ASTM E1399), ASTM C719, UL 723 (ASTM E84)
- Sound transmission tested in accordance with ASTM E90
- Water-based, easy to use and clean up
- Excellent adhesion to a variety of substrates and penetrants
- Used in bus and HVAC ducts, construction joints and through-penetrations with mixed penetrants, metallic or non-metallic pipes
- No solvents, silicones or outgassing
- Elastomeric
- Paintable
- Caulkable or trowelable

Description

FlameSafe® FS 1900 Sealant is a high performance, elastomeric and intumescent sealant. It is a high solids, water-based compound engineered to provide exceptional adhesive and elastomeric properties



FlameSafe FS 1900 Sealant

for the demanding firestop requirements of pipe, cable, sprinkler penetrations and construction joints when subjected to frequent expansion and contraction.

FS 1900 is intumescent and expands to fill the void created by the melting and burning of PVC,

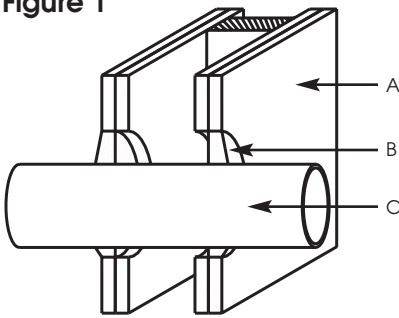
CPVC, cc-PVC, ABS, cc-ABS, PEX, insulated pipe and plastic coated cables.

FS 1900 does not contain solvents and, as a result, is not toxic and will not damage plastic pipes or cable jackets.

Physical Properties

Color	Red
Weight	10.0 lbs/gal (1.2 kg/L)
Storage and Installation Temperatures	40°F to 90°F (4°C to 32°C)
ASTM C719	Passed
Flame Spread (UL 723/ASTM E84)	0
Smoke Developed (UL 723/ASTM E84)	5

Figure 1

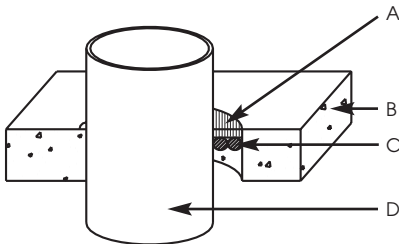


- A. UL classified steel or wood stud fire rated wallboard assembly
- B. FlameSafe FS 1900 at 0.625 in. (16 mm) deep with a 0.25 in. (6.4 mm) crown
- C. Max. 2 in. (50.8 mm) dia. PVC, CPVC, ABS, or non-metallic conduit
Max. 1.5 in. (38 mm) dia. ENT tubing

*See note

ABS, CPVC & PVC Through Gypsum Wall – 1 and 2 Hour (UL W-L-2170)

Figure 2

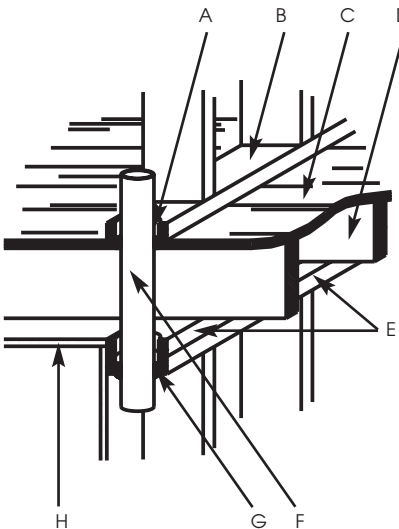


- A. FlameSafe FS 1900 applied a min. 1 in. (25.4 mm) thick flush with the floor
Apply a 0.375 in. (9.5 mm) bead at the point of contact
- B. Min. 4.5 in. (114 mm) concrete floor or wall
- C. Backer rod polyurethane backing
- D. Max. 24 in. (610 mm) dia. or smaller steel or cast iron pipe
Max. 4 in. (102 mm) dia. EMT conduit
Max. 6 in. (152 mm) copper pipe or steel conduit

*See note

Metallic Pipe Through Concrete Floor or Wall – 3 Hour (UL C-AJ-1235)

Figure 3



- A. FlameSafe FS 1900 applied at floor surface to a 0.75 in. (19 mm) depth with a 0.375 in. (9.5 mm) crown
- B. Nominal 2 in. x 6 in. (50.8 mm x 152 mm) or parallel 2 in. x 4 in. (50.8 mm x 102 mm) lumber plates
- C. Min. 0.75 in. (19 mm) lumber or plywood subfloor
Max. 5 in. (125 mm) opening
- D. Nominal 2 in. x 10 in. (50.8 mm x 250 mm) lumber joists
- E. Double top plate consisting of two 2 in. x 6 in. (50.8 mm x 152 mm) or two sets of parallel 2 in. x 4 in. (50.8 mm x 102 mm) lumber studs
- F. Max. 4 in. (102 mm) dia. PVC, ABS (solid or cellular core) and CPVC piping as an open (vented) or closed system
- G. FlameSafe FS 1900 applied at bottom of top plate to a 0.75 in. (19 mm) depth with 0.375 in. (9.5 mm) crown
- H. One layer of gypsum wallboard ceiling capable of providing a 1 hr rating

*See note

Wood Joist and Chase Wall Floor-Ceiling – 1 Hour (UL F-C-2082)

Applications

FlameSafe FS 1900 is used to seal openings in fire-rated structures. Systems are available for metallic and non-metallic pipe, cable, conduit, cable tray and duct penetrations through typical wall and floor construction. Also available for joints between fire-resistive assemblies (such as wall-to-wall, floor-to-floor and head of wall), concrete, masonry, fluted deck and gypsum substrates, wood joist floor-to-ceiling and chase wall assemblies. See Figures 1-3 for examples of typical details.

FS 1900 is particularly suited for use in applications where system vibration and building movement are concerns.

Application Guide

Penetrations	
Metallic	X
Non-metallic	X
Cables	X
Cable Trays	X
Insulated	X
Misc. Electrical	X
HVAC	X
Mixed	X
Joints	
Perimeter Barrier (Curtain Wall)	X

Applicable Standards

FlameSafe FS 1900 is classified by Underwriters Laboratories Inc. and by Underwriters' Laboratories of Canada for 1, 2 and 3 hour rated systems, in accordance with ASTM E814 (UL 1479/CAN 4-S115M),

*Refer to UL designs for full system description.

“Fire Tests of Through-Penetration Firestops” and UL 2079, “Standard for Fire Tests of Joint Systems.” FS 1900 is Factory Mutual approved and listed by Warnock Hersey. It has been tested to and passed ASTM C719, “Adhesion/Cohesion of Elastomeric Joint Sealant for Cyclic Movement.” In addition,

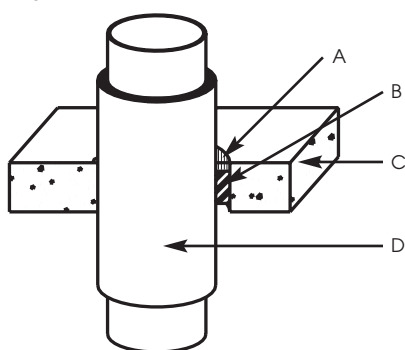
FS 1900 is approved by the City of New York (MEA 83-89-M Vol. V, 47-98-M Vol. II, 179-96-M Vol. II), the California State Fire Marshal (4485-1551:103) and ICBO.

Installation

All contact surfaces must be free of loose dirt, scale, oil or other foreign materials. Installation procedures

and material used may vary according to the size of opening being protected and the type of penetrant. Material may be installed using a standard or powered caulk gun, or troweled into place using a mason’s trowel or putty knife. FlameSafe FS 1900 is a water-based sealant and time required for drying will vary according to environmental conditions.

Figure 4



- A. FlameSafe FS 1900 Sealant
0.5 in. (13 mm) deep
- B. Mineral wool insulation (4 pcf),
2 in. (50.8 mm) deep
- C. Min. 4.5 in. (114 mm) NW or LW
concrete floor or wall
- D. Max. 12 in. (305 mm) steel or iron pipe
with a max. 1 in. (25.4 mm) fiberglass
insulation

*See note

Insulated Pipe Through Concrete Floor or Wall – 2 Hour (UL C-AJ-5116)

*Refer to UL designs for full system description.

Availability

FlameSafe FS 1900 Sealant is available through authorized Grace Construction Products distributors in the following quantities:

Description	Part No.	Volume	Std. Pack
Caulk Tubes			
Caulk Tube 10.3 oz (305 mL)	26871	19 in. ³ (312 cm ³)	12
Caulk Tube* 31 oz (0.92 L)	26874	57 in. ³ (934 cm ³)	6
Sausage Pack 20.2 oz (0.62 L)	31756	37 in. ³ (606 cm ³)	12
Poly Pails			
Poly Pail 1 gal (3.8 L)	26872	231 in. ³ (3,788 cm ³)	4
Poly Pail 5 gal (19.0 L)	26873	1,155 in. ³ (18,942 cm ³)	1

* For use with powered caulk gun only. Call Grace Construction Products for tool recommendation.

Maintenance

Applications using FlameSafe FS 1900 are maintenance free, however, installations should be inspected periodically for accidental damage and repaired as per the original approved design.

Warranty

All statements, technical information and recommendations contained herein are based on tests we believe to be reliable. However, since the conditions of use and application are beyond our control, Grace Construction Products shall not be liable for any damage, direct or consequential, resulting from the use of this material or design. Grace Construction Products’ only warranty shall be to replace any of its products found to be defective.

Technical Support

Grace Construction Products provides technical support for all of its products, including FlameSafe FS 1900 Sealant. Call toll free at 866-333-3SBM (3726) for assistance in product selection and for detailed specifications and approvals. We provide engineering analysis for unique firestopping applications, including system design drawings suitable for submittals. Material Safety Data Sheets are also available. More information is available at our web site, www.graceconstruction.com.

Product Estimating Guide for Through-Penetrations
 (Volume in cubic inches assuming 0.5 inch required depth)

PIPE	SIZE	Size of Round Opening (Inches)																			
		1	2	3	4	5	6.5	7	8	9	10	11	12	13	14	15	16	17	18	19	20
0.54	1/4	0.3	1.5	3.4	6.2																
0.68	3/8	0.2	1.4	3.6	6.1																
0.84	1/2	0.1	1.3	3.3	6.0																
1.05	3/4		1.1	3.1	5.8																
1.32	1		0.9	2.8	5.6	9.1															
1.66	1 1/4		0.5	2.5	5.2	8.7															
1.90	1 1/2		0.2	2.1	4.9	8.4															
2.38	2			1.3	4.1	7.6	11.9														
2.88	2 1/2			0.3	3.0	6.6	10.9														
3.50	3				1.5	5.0	9.3	14.4	20.3	27.0											
4.00	3 1/2					3.5	7.9	13.0	18.8	25.5											
4.50	4					1.9	6.2	11.3	17.2	23.9	31.3	39.6	48.6								
5.56	5						2.0	7.1	13.0	19.7	27.1	35.6	44.4								
6.63	6							2.0	7.9	14.5	22.0	30.2	39.3	49.1	59.7	71.1					
8.63	8									2.6	10.0	18.3	27.3	37.1	47.7	59.1					
10.75	10											2.1	11.2	21.0	31.6	43.0	51.1	68.1	81.8		
12.75	12													2.5	13.1	24.5	36.7	49.6	63.4		
14.00	14															11.4	23.5	36.5	50.2	64.8	80.1
16.00	16																	12.9	26.7	41.2	56.5
18.00	18																			14.5	29.8



For Technical Assistance call toll free at 866-333-3SBM (3726).

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