



FLAMESAFE® BAGS

Expandable through-penetration firestops

Product Features

- Underwriters Laboratories classified
- Factory Mutual approved
- Listed in systems with up to 3 hour fire rating
- Listed without wire mesh for concrete or gypsum wallboard*
- Ideal for re-entry/retrofit, including telecommunications and computer applications
- Water and weather resistant
- Chemically inert and nontoxic
- Quick and easy installation
- Temporary or permanent use
- Field proven, durable construction

Description

FlameSafe® Bags are a unique firestop product which allow easy access to cables, cable trays and metallic pipes for through-penetrations in fire-rated floors and walls. These are patented bags consisting of tightly woven, durable, coated cloth. Bags are filled with a combination of mineral fibers, incombustible components, intumescent agents and special fire-retardant additives. They are resistive to the environment and are effective when subjected to weather, temperature and atmospheric conditions.

Unlike plastic covered pillows, FlameSafe Bags are sealed in a durable, fiberglass mesh bag, effectively encasing the loose fill material. FlameSafe Bags allow for multiple re-entry.



FlameSafe Bags

Physical Properties

Solubility in water	Insoluble
Heat	Excellent
Cold	Excellent
Chemical resistance	Excellent

*Consult appropriate UL System for specific bag installation.

Application

FlameSafe Bags are used as a firestop wherever penetration occurs through walls or floors to maintain fire ratings up to 3 hours. They may be used during the construction phase as a temporary firestop or left in place as a permanent firestop. FlameSafe Bags are ideal for applications where frequent retrofitting of cables is expected, such as raised floors in telecommunication sites and computer rooms. Bags are approved for aluminum/steel cable trays, fiber optic cables, telecom cables, power cables, steel conduit and electrical wiring, and can be used in such substrates as masonry or gypsum wallboard.

Application Guide

Penetrations	
Metallic	
Non-metallic	
Cables	X
Cable trays	X
Insulated	
Misc. electrical	
HVAC	
Mixed	
Joists	
Perimeter Barrier (Curtain Wall)	

Applicable Standards

FlameSafe Bags are approved by Underwriters Laboratories Inc. and Underwriters' Laboratories of Canada for 1, 2 and 3 hour rated systems, in accordance with ASTM E814 (UL 1479/CAN4-S115M), *Fire Tests of Through-Penetration Firestops*. They are also Factory Mutual approved, accepted by the City of New York (MEA 47-98-M Vol. II, MEA 179-96-M Vol. II), the City of Los Angeles and the California State Fire Marshal (4485-1551:100) and ICBO.

Installation

FlameSafe Bags are installed a variety of ways to achieve the appropriate fire rating. Pack tightly into openings gaps around penetrants. Fill can be shifted and bags can be folded to adjust dimensions to fit application. Installation of a suitable wire mesh is optional.* A wire mesh support system may be used to secure the bags and protects them against damage or accidental removal. Insertion plates (WP35/65) are suggested for installation of final bags to ensure a tight fit and are available from RectorSeal.

Wall Penetration

Bags are packed tightly around penetrants and stacked to the top of the opening. Insertion plates can be used to install the top row of bags and immediately below cable trays.

Floor Penetration

Temporary forming material or wire mesh can be used to support the bags during installation.

Place bags in opening vertically,* overlapping the ends of each bag and packing tightly around penetrants to required depth.

Maintenance

Applications using FlameSafe Bags 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, RectorSeal shall not be liable for any damage, direct or consequential, resulting from the use of this material or design. RectorSeal's only warranty shall be to replace any of its products found to be defective.

Installation Tools and Accessories

FlameSafe Bags can be installed at freezing temperatures and at high temperatures without affecting their firestopping properties. Normal installation and storage temperatures are 40°F to 90°F (4°C to 32°C).

- Drill with masonry bit
- Steel anchors and fender washers
- Insertion plates
- Optional wire mesh*
- Bolt cutter for wire mesh

*Consult appropriate UL design for specific bag installation.

Technical Support

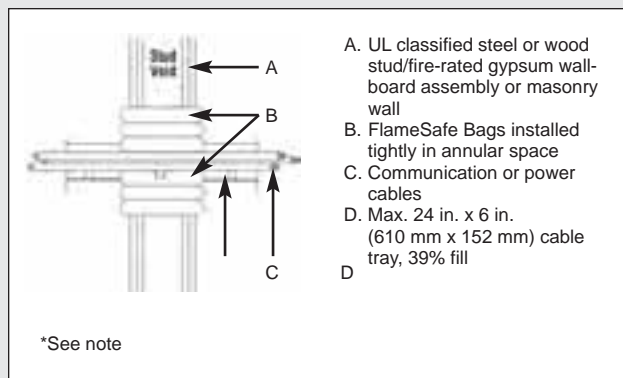
RectorSeal provides technical support for all of its products, including FlameSafe Bags. Call toll free at 800-231-3345 for assistance in product selection and for detailed specifications and approvals. We provide engineering analysis for unique firestopping applications, including system design drawings suitable for submittals. Material Safety Data Sheets are also available. More information is available at our web site, <http://flamesafe.rectorseal.com>.

Availability

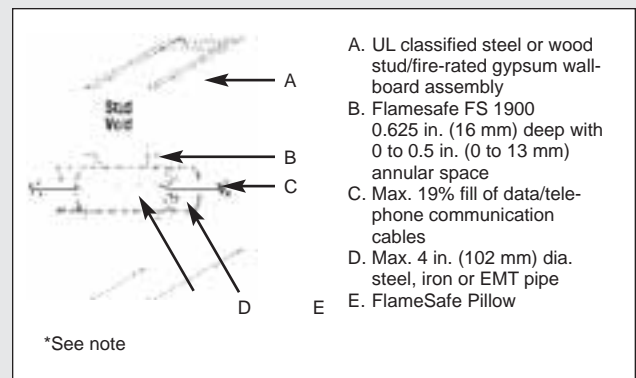
FlameSafe Bags are available through authorized RectorSeal distributors in the following sizes:

Description	Part No.	Dimensions
FSB 50	66896	0.50 in. x 7 in. x 13.5 in. (13 mm x 178 mm x 343 mm)
FSB 75	66897	0.75 in. x 7 in. x 13.5 in. (19 mm x 178 mm x 343 mm)
FSB 150	66898	1.50 in. x 7 in. x 13.5 in. (38 mm x 178 mm x 343 mm)
WP 35/65	28943	Insertion Plates (1 pair each)— 6 in. x 14 in. or 3.5 in. x 14 in. (152 mm x 343 mm or 76 mm x 343 mm)

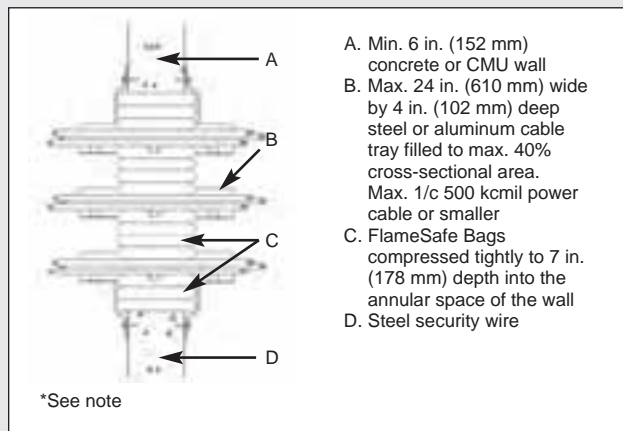
(Insertion plates are suggested to insure proper installation.)



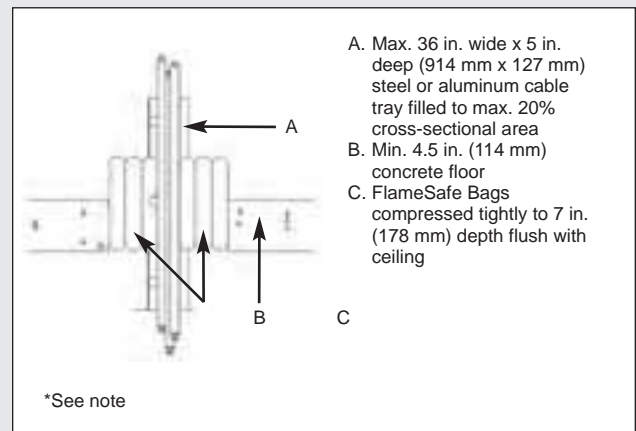
Cable Tray Through Gypsum Wall Assembly—1 or 2 Hour (UL W-L-4025)



Sleeved Cable Through Gypsum Wall Assembly—1 or 2 Hour (UL W-L-3118)



Cable Trays Through Concrete Wall Assembly—3 Hour (UL C-BJ-4023)



Cable Tray Through Concrete Floor Assembly—3 Hour (UL C-AJ-4038)

*Refer to UL designs for full system description.

Estimating Guide

Description	Percentage of Opening Bag Should Fill	7 in. (178 mm) Depth Approx. Coverage Square Inches (mm ²)	13 in. (330 mm) Depth Approx. Coverage Square Inches (mm ²)
FSB 150	80% (.80)	13.5 (8710)	6.5 (4355)
FSB 75	15% (.15)	8 (5161)	4 (2581)
FSB 50	5% (.05)	5 (3226)	2.5 (1613)
1. Figure square inches (mm) of opening to be firestopped (W x H). (Approximations based on blank opening, subtract area occupied by penetrants from total area of opening.)			
2. Using the chart above for each bag size, multiply total square inches (mm) of opening by the percentage of opening each bag size will fill. Next divide this sum by the square inch (mm) coverage given or each bag size. Round all answers up to the nearest whole number (bag). This will give you the total number of each bag size to order.			
3. Example: 12 in. x 12 in. opening = 144 in.² (305 mm x 305 mm opening = 93025 mm²)			
FSB 150	144 in. ² x .80 = 115.2 in. ² (93025 mm ² x .80 = 74420 mm ²) 115.2 in. ² ÷ 13 in. ² = 8.86 in. ² = 9 FSB150 (74420 mm ² ÷ 8387 mm ² = 5716 mm ² = 9 FSB150)		
FSB 75	144 in. ² x .15 = 22.6 in. ² (93025 mm ² x .15 = 13954 mm ²) 22.6 in. ² ÷ 8 in. ² = 2.82 in. ² = 3 FSB75 (13954 mm ² ÷ 5161 mm ² = 1819 mm ² = 3 FSB75)		
FSB 50	144 in. ² x .05 = 7.2 in. ² (93025 mm ² x .05 = 4651 mm ²) 7.2 in. ² ÷ 5 in. ² = 1.44 in. ² = 2 FSB50 (4651 mm ² ÷ 3226 mm ² = 929 mm ² = 2 FSB50)		
Therefore, nine FSB 150, three FSB 75 and two FSB 50 bags are required.			



Quick and easy installation of FlameSafe Bags can be achieved using insertion plates.



Wire mesh support system



FlameSafe Bags are ideal for frequent retrofitting applications.



METRO SUPPLY COMPANY

12 Andrews Drive
Woodland Park, NJ 07424
Telephone: 973-237-1551
Fax: 973-237-1552
Internet: www.metrosupplycompany.com
Email: info@metro-supply-co.com

RectorSeal makes the Limited Express Warranty that when the instructions for storage and handling of our products are followed we warrant our products to be free from defects. THIS LIMITED EXPRESS WARRANTY IS EXPRESSLY IN LIEU OF ANY OTHER EXPRESS OR IMPLIED WARRANTIES, INCLUDING ANY IMPLIED WARRANTY OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE, AND OF ANY OTHER OBLIGATION ON THE PART OF RECTORSEAL. The sole remedy for breach of the Limited Express Warranty shall be the refund of the purchase price. All other liability is negated and disclaimed, and RectorSeal shall not be liable for incidental or consequential damages.

Suggestions and recommendations covering the use of our products are based on our past experience and laboratory findings. However, as we have no control as to the methods and conditions of application, we only assume responsibility for the uniformity of our products within manufacturing tolerances.