

3M

Fire Barrier Pillow

Product Data and Installation Instructions



Fill, Void, and Cavity Material Classified by Underwriters Laboratory, Inc.® For Use In Through-Penetration Firestop Systems (XHEZ). See Current UL Fire Resistance Directory.

1. Product Description

3M™ Fire Barrier Pillow is a self contained, highly intumescent firestop product for use in through-penetration firestops.

The 3M Fire Barrier Pillows achieve up to 3 hour fire ratings when tested by Underwriters Laboratory, Inc. in accordance with ASTM E 814 (UL1479).

Features

- Tested to UL 910 flammability test
- Graphite free composition.
- Multiple sizes available.
- Red Color- Easy to inspect
- Easy retrofit - remove and replace pillows, as needed.

2. Applications

- No wire mesh required. Consult UL Fire Resistance Directory for specific systems.
- Gypsum Wall, Block Wall, and Concrete Floors
- Blank openings up to 540 sq. in. (3483 sq. cm).
- 1 or 2 Cable Trays per penetration
- Conduit Bank and steel pipe applications

See the 3M Application and Specifiers guide for complete details.

3. Availability

Product	Unit	Size	Units/ctn.	Wt./ctn.
3M Fire Barrier Pillow FB 249	each	2 in. x 4 in. x 9 in. (51 mm x 10,2 cm x 22,8 cm)	24	12,5 lbs. 5,6 kg
3M Fire Barrier Pillow FB 269	each	2 in. x 6 in. x 9 in. (51 mm x 15,2 cm x 22,8 cm)	32	12,5 lbs. 5,6 kg
3M Fire Barrier Pillow FB 369	each	3 in. x 6 in. x 9 in. (76 mm x 15,2 cm x 22,8 cm)	20	15 lbs. 6,8 kg

4. Typical Physical Properties

Blanket Color: 3M Red

Density: 6 PCF (nominal)

5. Performance

3M Fire Barrier Pillow has been tested in accordance with ASTM E 84.

- Heat Expansion Begins: 392°F (200°C)
- Significant Expansion Begins: 536°F (280°C)
- Volume Expansion: 18% (calculated)

L Rating: See UL Listing.

Installation shall be in strict accordance with manufacturer's written instructions. The product shall be classified by Underwriter's Laboratory, Inc. as a Fill, Void and Cavity Material. When installed in accordance with systems outlined in the current UL Fire Resistance Directory and tested in accordance with ASTM E 814 and (UL 1479), up to a 3 hour rating is achieved.

6. Installation Techniques

1. Install 3M Fire Barrier Pillows so the 9 in. (22,8 cm) dimension travels through the wall, or floor.
2. One of the large faces of the 3M Fire Barrier Pillow shall face the framing of the penetration.
3. A mixture of following pillows may be necessary to obtain the correct compression (20% - 25% compression).
FB 249: 2 in. x 4 in. x 9 in.
(50,8 mm x 101,6 mm x 228,6 mm)
FB 269: 2 in. x 6 in. x 9 in.
(50,8 mm x 152,4 mm x 228,6 mm)
FB 369: 3 in. x 6 in. x 9 in.
(76,2 mm x 152,4 mm x 228,6 mm)
4. Begin by installing as many FB 369 pillows, as possible. Then install additional FB 269 and FB 249, as needed, to complete the installation.

Storage

The 3M Fire Barrier Pillows must be stored in a dry warehouse environment. Pallets should not be stacked.

Methods:

1. Choose the appropriate firestop system in the 3M Fire Protection Products Applications and Specifiers Guide, or the UL Fire Resistance Directory.
2. Starting in the bottom corners of the penetration, install 3M Fire Barrier Pillows vertically so that the large faces of the pillows are facing the framing. See picture.
3. Fill in the space between vertical pillows with pillows installed horizontally in rows.
4. Repeat steps 2 and 3 until the penetration is completely full. See Figure 2.
5. If required, apply a minimum 1 in. (25,4 mm) depth of 3M Moldable Putty+ in all four corners between the vertical pillow and framing.
6. Check for any openings between pillows (and penetrating items) greater than 1/16 in. (1,5 mm) Fill any openings between 1/16 in. (1,5 mm) and 1-1/2 in. (38 mm) with a minimum 1 in. (25,4 mm) depth of 3M Moldable Putty+.

Calculating Pillow Requirement:

Measure the opening, in inches, and multiply the length by the width to get the total area. Estimate the area occupied by the penetrating items and subtract it from the area of the opening. This is the amount of area to be firestopped.

For example, an opening through a gypsum wall measures 30 in. x 18 in. (76 cm x 45 cm). The openings area 30 in. x 18 in. (76 cm x 45 cm) is 540 sq. in. (3483 sq. cm). A 24 in. x 4 in. (60,9 cm x 10 cm) cable tray which is 40% full of cables is running through the opening. The tray occupies an area 0.4 in. x 24 in. x 4 in. (10,1 mm x 60,9 cm x 10 cm) of 38.4 sq. in. (247,7 sq. cm). The amount of

area to be firestopped 540 sq. in. – 38.4 sq. in. (3483 sq. cm - 247 sq. cm) is 501.6 sq. in.

After calculating the amount of area to be firestopped determine the number of each size pillow needed to firestop the penetration. In most penetrations you will need to use some of each of three sizes of pillows. Determine the number of each pillow by dividing the total area by the pillows Estimating Number and round up the nearest whole pillow. See Table1. In this example it should take approximately twenty-five FB 369 pillows, eleven FB 269 pillows,

Pillow Size	Estimating Number	Example (501.6 sq. in.) (3232 sq. cm)
FB 369 3 in. x 6 in. x 9 in. (76,2mm x 152,4mm x 228,6mm)	20.3	$501.6/20.3 = (25)$ pillows
FB 269 2 in. x 6 in. x 9 in. (50,8mm x 152,4mm x 228,6mm)	49.4	$501.6/49.4 = (11)$ pillows
FB 249 2 in x 4 in. x 9 in. (50,8mm x 101,6mm x 228,6mm)	172.0	$501.6/172.0 = (3)$ pillows

and three FB 249 pillows to properly firestop this penetration.

7. Maintenance

Inspection: Installations should be inspected periodically for subsequent damage. Damaged pillows shall be replaced.

Retrofit: Cables may be added or replaced by simply removing and replacing pillows and putty as required.

8. Purchase Information

3M Fire Barrier products are available through a network of nationwide distributors. For information on where to buy, go to www.3m.com/firestop.

9. Safe Handling Information

Consult Material Safety Data Sheet prior to handling and disposing of 3M Fire Barrier Pillow.

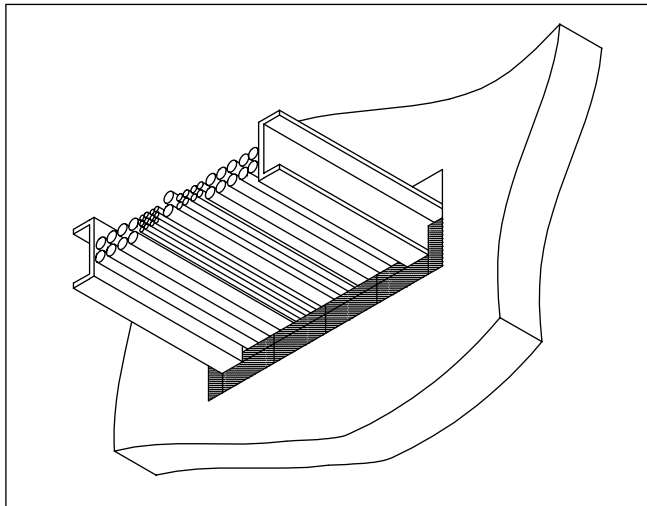


Figure 1

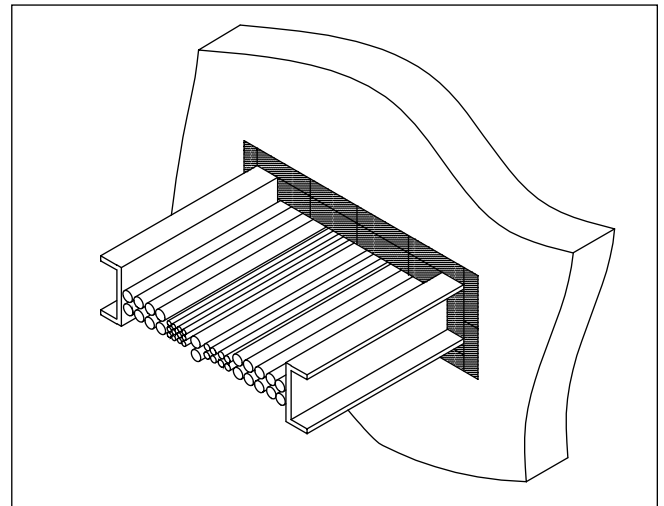


Figure 2

Warranty and Limited Remedy. This product will be free from defects in material and manufacture for a period of ninety (90) days from date of purchase. **3M MAKES NO OTHER WARRANTIES INCLUDING, BUT NOT LIMITED TO, ANY IMPLIED WARRANTY OR MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE.** User is responsible for determining whether the 3M product is fit for a particular purpose and suitable for user's method of application. If this 3M product is proved to be defective within the warranty period stated above, your exclusive remedy and 3M's sole obligation shall be, at 3M's option, to replace or repair the 3M product or refund the purchase price of the product.

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