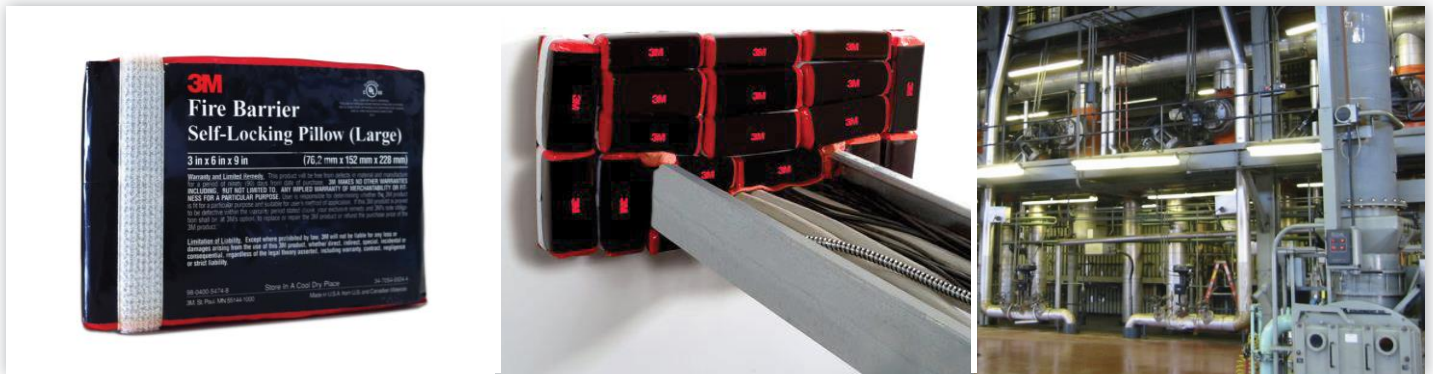


Fire Barrier Self-Locking Pillows

Tested to AS1530.4, EN 1366, ASTM E 814 & UL Listed



Technical Data Sheet

a **3M** product

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KEY BENEFITS

- Interlocking strips lock pillows together
- Available in three sizes to fit a variety of openings
- Very easy to install – saves time and labour
- Easy to remove, re-enter and are fully re-usable
- Up to 3 hours UL listings
- See MORE benefits below

INTRODUCTION



3M™ Fire Barrier Self-Locking Pillows are a self-contained, intumescent firestop product for use where services penetrate fire barriers. Simple to use, with interlocking velcro strips that lock pillows together. The 3M Fire Barrier Self-Locking Pillows achieve up to 3 hours fire ratings and are tested to Underwriters Laboratories, ASTM E 814 and AS1530.4.

BENEFITS & FEATURES

- ✓ Interlocking strips lock pillows together
- ✓ Available in three sizes to fit a variety of openings
- ✓ Very easy to install — saves time and labour
- ✓ Easy to remove, re-enter, and are fully reusable
- ✓ Up to 3-hour UL Listings (system dependent)
- ✓ Passes hose stream test without additional support
- ✓ Tested to UL L Rating (Air Leakage)
- ✓ Listed for blank or filled openings in plasterboard walls or concrete assemblies
- ✓ Recognisable quality of global innovator 3M
- ✓ Optional field cutting if needed

APPLICATION

- 3M™ Fire Barrier Self-Locking Pillows are ideal for firestopping medium to large openings with power or communication cables, conduits and cable trays.
- No additional support required.
- Plasterboard, Concrete or Block Wall, and Concrete Floors
- Blank openings up to 590 x 590mm or 3483cm²
- Cable Racks or Trays per penetration
- Conduits, duct cable and cable tray applications

For complete details contact BOSS Technical Services team on 1300 50 BOSS.

TYPICAL PHYSICAL PROPERTIES

Density	6 PCF (nominal)
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PERFORMANCE

3M Fire Barrier Self-Locking Pillows are fully approved for up to 3 hours fire protection to AS1530.4.

Heat Expansion Begins	200°C
Significant Expansion Begins	280°C
Volume Expansion	18% (calculated)

INSTALLATION

1. Install 3M Fire Barrier Self-Locking Pillows so the 22.8cm dimension travels through the wall or floor.
2. The large surface (side with label) of the 3M Fire Barrier Self-Locking Pillow must face the framing of the penetration. The 3M logo should face the installer.
3. Compress the pillows minimum 33% and insert units in the opening. A single size of pillow or combination of small, medium and large self-locking pillows may be used to complete the correct firestop through-penetration installation.
4. Repeat the procedure until the penetration is completely full and the correct compression has been achieved.

SIZE

Product	Unit Size	Box Qty
Small	51mm x 102mm x 228mm (51.6cm ²)	24
Medium	51mm x 152mm x 228mm (77.4cm ²)	16
Large	76mm x 152mm x 228mm (116.1cm ²)	20

CALCULATING PILLOW REQUIREMENT

Measure the opening and multiply the length by the width to get the total area. Then deduct the area of the penetrating item (rack & cables) to determine the total open area (annular space). This is the amount of area to be firestopped.

Multiply the open area by a factor of 1.5 to determine the required area of uncompressed pillows. This will ensure that once installed the pillow will achieve minimum 33% compression.

**Estimate Table
(Cross-sectional area of Self-Locking Pillows)**

Fire Pillow	Dimension (cm)	Nominal Area (cm ²)	Area when compressed 33%(cm ²)
Small	5.1 x 10.2	51.6	34.2
Medium	5.1 x 15.2	77.4	51.6
Large	7.6 x 15.2	116	77.4

Calculating Self-Locking Pillow Requirement (examples)

Example 1.

Plasterboard opening measuring 30.5cm x 61cm with a cable rack & cables occupying 40% of the opening.

$$30.5\text{cm} \times 61\text{cm} \text{ Opening} = 1858\text{cm}^2$$

$$\text{Rack \& Cable fill (40\% of total opening area)} = 743\text{cm}^2$$

$$\text{Total open area to be firestopped} = 1858 - 743 = 1115\text{cm}^2$$

Multiply open area by a factor of 1.5 to find the required area of uncompressed pillows:

$$1115\text{cm}^2 \times 1.5 = 1673\text{cm}^2$$

Therefore, 1673cm² of uncompressed pillows are required to achieve 33% compression in this opening.

$$\text{If all small pillows: } 1673\text{cm}^2 / 51.6\text{cm}^2 \text{ per pillow} = 33 \text{ pillows (rounded up from 32.5)}$$

$$\text{If all medium pillows: } 1673\text{cm}^2 / 77.4\text{cm}^2 \text{ per pillow} = 22 \text{ pillows (rounded up from 21.6)}$$

$$\text{If all large pillows: } 1673\text{cm}^2 / 116\text{cm}^2 \text{ per pillow} = 15 \text{ pillows (rounded up from 14.4)}$$

Example 2.

Minimum Quantity of Pillows Required to Firestop a Blank Opening Using One Size of Self-Locking Pillow to Achieve Minimum 33% Compression.

Size	Dimension (cm)	Opening Sizes (cm)			
		35.6x35.6	30.5x61	45.7x83.8	61x91.4
S	5.1x10.2	37	54	112	162
M	5.1x15.2	25	36	75	108
L	7.6x15.2	17	24	50	72

Any combination of small, medium, or large pillows can be used to firestop an opening provided the minimum compression requirements are met.

STORAGE

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

MAINTENANCE

Inspection: Installations should be inspected periodically in accordance with AS1851 for subsequent damage. Replace any damaged pillows.

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

Remove by inserting fingers to both sides of the pillow at the 3M logo and squeeze to release the self-locking bond and gently pull pillow out. 3M Fire Barrier Self-Locking Pillows are reusable.

HEALTH AND SAFETY

To learn more about the safe handling of 3M Fire Barrier Self-Locking Pillows, see the Material Safety Data Sheet available at www.bossfire.com.au.

INSTALLATION INSTRUCTION

1. Install pillows lengthwise through the opening; make sure that the large surface (label side) is placed directly against the framed opening.



2. Combine self-locking pillows at interlocking strips. Compress pillows to 33%. Insert and install in groups into the wall.



3. Completely fill the penetration opening. The red 3M logo must be visible to the installer on all pillows.



INSTALLATION INSTRUCTION CONTINUES

4. The smaller-sized self-locking pillows are useful for smaller voids and spaces created by the cable tray. 3M™ Moldable Putty+ is used to seal any small openings greater than 1.59mm between the pillows, cables, cable trays and pillows within the frame.



5. 3M™ Fire Protection Self-Locking Pillows are completely reusable. Simply remove the desired pillow(s) by inserting fingers on both sides. Squeeze gently to release the interlocking bond and remove the pillow. For wall configurations no additional support required (e.g. wire mesh or steel cover plates).



LIMITATION

BOSS Fire & Safety Pty Ltd has provided the above technical information in good faith and to the best of its knowledge. This information was deemed to be correct at the time of publication. Should any data come to BOSS Fire & Safety's attention relating to the fire resistance or performance of the product described, BOSS Fire & Safety reserve the right to amend this report.

BOSS Fire & Safety strive to constantly improve and develop products so this information may change without notice.

FIELD CUTTING PROCEDURES

1. 3M™ Fire Barrier Self-Locking Pillows can be field cut if desired.



2. Resealing 3M™ Fire Barrier Self-Locking Pillows can be accomplished by using either the removed original outer cover, minus contents, or by use of two inch wide carton sealing or packaging tape.



3. Re-sealed 3M™ Fire Barrier Self-Locking Pillows ready for installation.



FURTHER TECHNICAL INFORMATION

For additional technical information on the performance of 3M™ Fire Barrier Self-Locking Pillows or other BOSS products please contact our Technical Services team on:

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