







# Table of Contents

Progress & Trends
Partnership, Training & Testing 6–
Through-Penetration Firestops
Construction Joint Firestops
Flexible Wrap Fire Protection
Ordering Information
Online Resources

### **Protecting Lives for More Than 30 Years**

In 1974, the movie *Towering Inferno*<sup>†</sup> sparked the imagination of Richard Licht, a 3M product developer who passionately believed 3M technologies could be used to improve the safety of multi-story buildings. Several devastating fires — including the 1980 MGM Grand Hotel fire that killed 84 people and injured 679 — inspired Licht to develop the first firestop products based on existing 3M intumescent technology.

Recognized by many as "one of the fathers of firestopping," Licht also helped develop some of the first firestop requirements in commercial building codes. He worked tirelessly to make the codes more progressive to improve the safety of all buildings.

As an industry leader, 3M drives technologies that enable lower cost building solutions. For instance, 3M intumescent technology enabled the use of plastic pipes that were previously banned in commercial buildings due to their combustible nature — providing a cheaper, easy-to-install solution for electrical conduits and plumbing lines.

# 3MFirestopping Produced by Irwin Allen 3MFirestopping & Irent State Compared by Irwin Allen 3MFirestopping Compared by Irwin Allen 3MFirestopping Compared by Irwin Allen

### From Understanding Your Needs to Providing the Solution





Firestop details in construction



Plan review & building official support









binder

**Facility** management & maintenance

Define customer needs

documents

pre-construction meetings













Comprehensive fire protection includes fire detection, fire containment and fire suppression.

3M™ Fire Protection Products address fire containment and are an integral part of a well-designed fire protection system.

Our understanding of the spread of fire, smoke and toxic gases helps us continue to create preventative and affordable firestopping solutions.

From time-tested fire barrier sealants to today's innovative firestop devices and duct wraps, 3M scientists work to develop solutions to firestop virtually anything on a building site. With over 100 products and almost 1,000 tested approved systems, 3M has the most complete program for all of your firestopping needs.

### **Leadership You Can Trust**

3M is proud to be the industry leader in firestopping. Our dedication to stringent testing and code developments help make buildings safer today than they were even 10 years ago. And when that dedication is backed by a brand as powerful as 3M, you get what you would expect — proven reliability and outstanding service.

The construction industry is increasingly moving toward easy-to-use firestop solutions. That's why 3M, in its leadership role, provides cutting-edge and fully integrated systems.

These systems are designed to help you efficiently construct safer buildings that help protect lives and property.

The majority of 3M's firestopping innovations are tested in the company's own UL and Intertek certified fire-test center. By testing these systems in job-specific conditions, 3M can more effectively provide fire protection solutions that meet current industry needs.

Building designs and uses continue to evolve, and so too must 3M firestop technology. For example, in buildings where telecommunication cables are constantly being upgraded, the 3M™ Fire Barrier Pass-Through Device allows for re-enterability and helps keep cables organized and protected.





### **Partners in Protection**

Being a leader in fire protection goes beyond selling innovative products. 3M partners with you from the start — providing a comprehensive library of tested and listed systems, excellent technical services and the superior training you need to enhance your firestopping capabilities.

We meet with you to discuss your application needs and to help you select the best firestopping solutions. To help ensure your inspection process goes smoothly, we work directly with building inspectors. By continuing to work closely with you throughout a building's life — including retrofit and maintenance activities — we support you as you work to ensure your building's firestopping is being properly managed.

### Risk Management and Facility Maintenance

3M™ Firestop Risk Management and Facility Maintenance Programs provide a comprehensive approach to helping you manage the complexities of the firestopping process. From helping you define your initial needs to helping manage your firestopping throughout a building's life, we walk you through the decisions and steps required to keep your project on time, in budget and code-compliant. Our Healthcare Facility Maintenance Program includes additional tools for Joint Commission and other critical life safety inspections.

For more information regarding the 3M Firestop Risk Management and Facility Maintenance Programs, contact your local 3M Fire Protection Sales Representative,

### Choosing a System

The easy-to-use, online 3M™ Firestop Systems Selector helps you choose the firestop solution best suited to your application. To learn more, and to see the latest in firestopping solutions, visit www.3mgulf.com/fireprotection





### **Training With The Best**

When it comes to training, 3M delivers. We provide comprehensive firestop training online through our exclusive e-Train program, so you can train when it's most convenient, 24/7.

e-Train provides a wealth of information — from firestopping basics and system nomenclature to detailed installation techniques. The program's high-quality videos highlight proper installation techniques in a broad range of systems for through penetrations, construction joints and flexible wrap systems.

Over the last 10 years, 3M has provided detailed, hands-on firestop training for more than 5,000 code officials, architects, contractors and firestop professionals at our fire-test center. Plus, 3M offers jobsite and on-location training by our qualified sales representatives.

For more information, visit www.3mgulf.com/fireprotection

# Training & Testing

### **3M™ Test Center**

For more than 20 years, our fire-test center has ensured quality results and has been qualified under UL and Intertek guidelines for UL's Client Test Data Program and Intertek's Satellite Laboratory Program. Extensive product testing, online and hands-on training are just a few more ways 3M partners with you to help keep people safe.

# Through

# Through-Penetration Firestops

Easy-to-install fire barrier products designed to take the guess work out of firestopping where mechanical, electrical or plumbing penetrations pass through fire-rated floors and walls.





Check UL directory. Not approved for use with CPVC pipes made using Noveon® resins.

### 3M™ Fire Barrier Sealant CP 25WB+

Our most popular intumescent firestop sealant with over 600 tested and listed systems.

- Up to 4-hour fire ratings per ASTM E 814 (UL 1479)
- Superior adhesion bonds to concrete, metals, wood, plastic and cable jacketing
- Extensive library of UL Classified fire protection systems
- Intumescent expands when heated to seal around items exposed to fire
- Low VOC\*

# Through-Penetration

# Sealants & Foam













TEMPERATURE





FILL VOID OR CAVITY MATERIAL FOR USE IN THROUGH-PENETRATION FIRESTOP SYSTEMS SEE UL FIRE RESISTANCE DIRECTORY 501 6

### 3M™ Fire Barrier Rated Foam FIP 1-Step

Innovative firestop foam that is a UL listed and rated alternative to mineral wool, bricks and runny, innefective foams.

- One step less product to order, keep track of and haul around
- Meets the intent of International Building Code for passive fire protection
- Broad range of applications
- One side complete some installations from one side of the opening
- Expands at a controlled and consistent pace









### 3M™ Fire Barrier Sealant IC 15WB+

Cost-effective, general-purpose intumescent firestop sealant.

- Up to 3-hour fire ratings per ASTM E 814 (UL 1479)
- CPVC compatible
- Expanded UL Classified fire protection systems
- Superior adhesion bonds to concrete, metals, wood, plastic and cable jacketing
- Intumescent expands when heated to seal around items exposed to fire
- Low VOC\*

<sup>\* 3</sup>M™ Fire Barrier Sealants, Putty and Sprays meet the intent of LEED® NC-EQ Credit 4.1 for Low-Emitting Materials. Adhesives and sealants contain <250 g/L VOC content (less H₂O and exempt solvents).</p>

### Sealants

### 3M™ Fire Barrier Sealant FD 150+

Economical firestop sealant for through-penetration and joint applications.

- Up to 3-hour fire ratings per ASTM E 814 (UL 1479)
- Up to 4-hour fire ratings for joint systems per ASTM E 1966 (UL 2079)
- Easy installation, cleanup and disposal
- Sag-resistant
- Low VOC\*





Available Colors:

Limestone



Red

Heu





# Through-Penetration

# Watertight Sealants

3M<sup>™</sup> Fire Barrier Water Tight Sealants achieve the benefits of firestopping and a water tight seal in one application, and offer the following benefits:

- Meet UL Water Leakage Test, W-rating Class 1 requirements for systems tested and listed in accordance with ANSI/UL 1479
- Provide excellent adhesion on most construction surfaces, including concrete, gypsum, metal, plastic (CPVC compatible), wood and insulation
- Ideal for the following interior construction voids: blank openings, metallic pipes, non-metallic pipes, cables, cable trays, insulated pipes, busways, HVAC vents and ducts, combos and bottom of wall construction joints
- Low VOC\*







### 3M™ Fire Barrier Water Tight Sealant 3000 WT

High-performance intumescent silicone achieves the benefits of a firestop and watertight seal.

- Up to 4-hour fire ratings per ASTM E 814 (UL 1479)
- Excellent weatherability ideal for fast-track construction
- Cures upon exposure to atmospheric humidity
- Re-enterable and repairable
- Fungal growth inhibited in the product per ASTM G 21









### 3M™ Fire Barrier Water Tight Sealant 1000 NS

Non-slumping silicone firestop for wall and floor applications.

- Up to 3-hour fire ratings per ASTM E 814 (UL 1479)
- Up to 3-hour fire ratings for joint systems per ASTM E 1966 (UL 2079)









### 3M™ Fire Barrier Water Tight Sealant 1003 SL

Self-leveling silicone firestop for floor applications.

- Up to 3-hour fire ratings per ASTM E 814 (UL 1479)
- Up to 3-hour fire ratings for joint systems per ASTM E 1966 (UL 2079)

# Through-Penetration Devices & Kits

3M™ Fire Barrier Devices and Kits offer effective, code-compliant solutions for the firestopping of penetrating items through rated walls and floors. During a fire, 3M™ Fire Barrier Devices and Kits intumesce to form a firestop seal, which helps protect against the spread of fire, smoke and toxic gases from one room or floor to another.

3M offers pass-through and putty sleeve options for new and retrofit wall and floor applications, as well as cast-in place options for poured concrete floors.



Re-enterable cable protection.

- Up to 4-hour fire ratings per ASTM E 814 (UL 1479)
- Available sizes: 2 in. round, 4 in. round and 4 in. square
- UL classified L-rating, Smoke Seal (when used in conjunction with 3M<sup>™</sup> Fire Barrier Moldable Putty)
- Hinged for easy retrofit installation around cables
- Mounting brackets accessories available for wall or floor installations
  - Single mounting brackets (all models)
  - Triplex and sixplex brackets for stacking multiple devices (4 in. square only)











### **3M™** Fire Barrier Putty Sleeve Kits

An affordable and re-enterable solution to meet firestop code for the installation of cable and blanks in both new or retrofit applications.

- Up to 4-hour fire ratings per ASTM E 814 (UL 1479)
- Ready-to-install kit for cable or blank firestop installations
- Blank sleeve (0% cable fill) accommodates future cable installations
- Two-piece split/hinged design for easy retrofit installation on existing cables
- Suitable for installation in gypsum wallboard and concrete walls or floors
- No gasket required

Cable types can be a mixture of the following:

- 100 pr. No. 24 AWG copper conductor telephone cables
- 1/C-750 kcmil copper conductor power cable
- 7/C-No. 12 AWG copper conductor control cables
- Coaxial cables
- 3/C-No 2/0 AWG aluminum conductor SER cable with No. 1 AWG aluminum ground conductor
- No. 23 AWG Category 6 data cables
- Fiber optic cable



Each ready-to-install kit includes everything you need for a complete cable or blank firestop installation.



Label holds sleeve together until you need to retrofit around existing cables. Slit label to open sleeve. Close the two halves around the cables.



Bracket covers oversized openings (up to 3/4 in. annular space). Innovative sleeve design assembles with the brackets to help prevent slipping during installation.



Installation of putty and application of identification label completes pass-through firestop. Putty holds cables in position, helping to prevent cable slippage and movement.

## Cast-In Devices

Devices designed to make firestopping through concrete easy and affordable. 3M™ Fire Barrier Cast-In Devices are installed prior to the concrete pour (attaching directly to the wood forms or fluted metal decking) and can be adjusted to various concrete depths.

### 3M™ Fire Barrier Cast-In Devices

Firestop devices used with metal, plastic, insulated pipes and cables.

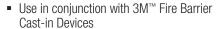
- Up to 3-hour fire ratings per ASTM E 814 (UL 1479)
- Attach directly to wood forms or metal decking before concrete is poured, penetrating item is passed through device after the
- Easily adjustable bodies that can be adapted to concrete height (from 2-1/2 in. to 8 in. — thicker pours accommodated with height adapter)
- Available in 2 in., 3 in., 4 in. and 6 in. diameter by 8 in. height
  - Metallic devices (black cap) are used for metallic pipe, single and multiple cables, insulated pipe and HVAC line sets
  - Non-metallic devices (white cap) are used for non-metallic pipe (including CPVC) and HVAC line sets





### 3M™ Fire Barrier Cast-In **Metal Deck Adapter**

One-piece plastic body assembly to accommodate fluted metal decks.

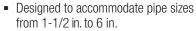






### 3M™ Fire Barrier Cast-In **Device Height Adapter**

One-piece plastic body assembly allows 3M™ Fire Barrier Cast-in Devices to be used in up to 12 in. concrete thickness.



- Easily snaps into place no additional fastening required
- Available for use with 2 in., 3 in., 4 in. and 6 in. 3M™ Fire Barrier Cast-In Devices



### 3M™ Fire Barrier Cast-In **Tub Box Assembly**

Fastens to a 2 in. metallic 3M™ Fire Barrier Cast-In Device and creates a void for plumbing access.

- 2 in. or 3 in. foam insert depending on desired depth of access void
- Easily snaps into place and then attaches directly to wood forms
- Accommodates 1-1/2 in. and 2 in. pipe



### 3M™ Fire Barrier Cast-In **Aerator Adaptor**

One-piece plastic body assembly used to create a void around aerators.

• For use with 4 in. metallic or non-metallic 3M™ Fire Barrier Cast-In Devices



### Mortar

### **3M<sup>™</sup> Fire Barrier Mortar**

Lightweight, endothermic firestop that is ready for mixing with potable water. Firestops penetrations passing through fire-rated floor or wall assemblies.\*

- Up to 3-hour fire ratings per ASTM E 814 (UL 1479)
- Variable mix ratio permits self-leveling as well as trowelable application consistencies
- UL listed systems (including concrete floors with 2-1/2 in. minimum thickness)
- Excellent adhesion bonds to concrete, metals, wood, plastic and cable jacketing
- Re-enterable/repairable with common trade tools
- Acts as a heat sink, reducing the likelihood of combustible matter igniting on the unexposed side of the assembly
- Dry mix available in 5 gallon (28 lbs.) pails and 44 pound bags



# Through-Penetration

Packing Material

A light-weight packing material approved for use in all of 3M's UL listed through-penetration firestop systems. 3M™ Fire Barrier Packing Material is ideal for use around metallic, non-metallic, insulated pipe, HVAC, power cable and communication cable penetrants — a long-awaited alternative to mineral wool, fiberglass or backer rod.

### 3M™ Fire Barrier Packing Material PM 4

Lightweight packing material for use in up to 4-hour through-penetration firestops.

- Convenient, hand-tear dispensing
- Approved for use in all of 3M's UL listed through-penetration firestop systems
- 1/2 in. x 4 in. x 20.5 ft. roll (28 cu. ft.)



<sup>\*</sup>Not load bearing.

# Specialty Products

Code-approved, UL listed products that help round out 3M's comprehensive offering of through-penetration firestops.

### 3M™ Fire Barrier Tuck-In Wrap Strips and Rolls

Quick and easy! Eliminates the need for retaining collars, concrete screws, ladders, and other materials often required for bottom-side installations of plastic pipe.

- Up to 3-hour fire ratings per ASTM E 814 (UL 1479)
- Non-metallic listed applications include PVC, ccPVC. RNC and FRPP piping systems and HVAC line sets in concrete floor assemblies and concrete or gypsum wallboard assemblies (not for use with CPVC)
- Available in 8 ft. roll which can be cut to length for larger sized (up to 8 in.) combustible piping penetrations and in 3 sizes of precut strips for nominal plastic pipe sizes of 2 in., 3 in. and 4 in.



Simplified top-side installation and labor savings!



Gently Wrap 3M™ Fire Barrier Tuck-In Wrap Strip around pipe, over floor opening, and adhere label to adjacent side of foam strip.



Slide wrap strip downward into concrete floor to fill gaps. Once installed, wrap strip should be seated slightly below concrete floor surface.



Follow wrap installation with layer of 3M™ Fire Barrier Sealant CP 25 WB+, IC 15 WB+, or 3000 WT to create seal that meets code; fire-rated to 3 hours.

Note: Follow system details

ire Barrier Tuck-In Wrap Strip WS 400



### **3M<sup>™</sup> Fire Barrier Ultra Plastic Pipe Devices**

Firestops penetrating items such as plastic pipe and cables in new and retrofit installations.

- Up to 3-hour fire ratings per ASTM E 814 (UL 1479)
- One-piece construction makes installation easy
- Proven technology intumescent action quickly seals around the penetrating item in a fire
- Can be used to seal the following plastic pipes: ccPVC, PVC, FRPP, PVDF, ccABS and ABS
- Available in 1-1/2 in., 2 in., 3 in., 4 in. and 6 in. sizes\*
- Ultra-fast anchoring system secures the device to most substrates without power tools (3M™ Ultra Fast Anchors sold separately)

<sup>\*</sup> All sizes with the exception of the 6 in. device utilize Ultra GS intumescent material. The 6 in. plastic pipe device utilizes FS-195+ intumescent material.

# Specialty Products









Multiple pillow sizes and ability to field-cut allow for a secure fit in most openings (seal cut edges with polypropylene box sealing tape).

### 3M™ Fire Barrier Self-Locking Pillows

Self-contained, highly-intumescent pillows designed to firestop a wide variety of through penetrations including cable trays, conduit and blank openings. Interlocking strips hold pillows securely together yet release easily for retrofit or reuse — just remove and reinstall pillows as needed.

- Up to 3-hour fire ratings per ASTM E 814 (UL 1479)
- UL listed systems with openings up to 1,080 sq. in.
- No wire mesh reduces safety issues
- Easy to install, easy to remove and reuse
- Lock pillows together, compress and place (use 3M™ Fire Barrier Moldable Putty+ in voids to ensure proper seal)
- No graphite
- Excellent aging properties
- Pillows can be field-cut when needed
- Available sizes: 2 in. x 4 in. x 9 in. (small), 2 in. x 6 in. x 9 in. (medium) and 3 in. x 6 in. x 9 in. (large)

3M™ Fire Barrier Pillows and Self-Locking Pillows meet the intent of LEED® NC-EQ Credit 4.1 for Low-Emitting Materials. Adhesives and sealants contain <250 g/L VOC content (less H<sub>2</sub>O and exempt solvents per SCAQMD Rule 1168).



### 3M™ Fire Barrier Pillows

Self-contained, highly-intumescent firestop pillows are stackable and conformable for new and retrofit projects.

- Up to 3-hour fire ratings per ASTM E 814 (UL 1479)
- UL listed systems with openings up to 1,080 sq. in.
- No wire mesh or graphite
- Excellent aging properties
- Available sizes: 2 in. x 4 in. x 9 in. (small), 2 in. x 6 in. x 9 in. (medium) and 3 in. x 6 in. x 9 in. (large)

# Specialty Products











3M™ Fire Barrier Sealants, Putty and Sprays meet the intent of LEED® NC-EQ Credit 4.1 for Low-Emitting Materials. Adhesives and sealants contain <250 g/L VOC content (less H<sub>2</sub>O and exempt solvents per SCAQMD Rule 1168).



### 3M™ Fire Barrier Composite Sheet CS-195+

Ideal for firestopping blank openings and through-penetrations of multiple cables, pipe ducts, bus ducts and cable trays.

- Up to 4-hour fire ratings per ASTM E 814 (UL 1479)
- No mixing or damming required
- Easy to install using common trade tools
- Easy to fasten, bolt punch or drill through (mounts easily with self-tapping screws or anchor bolts)
- Re-enterable
- Bottom-of-floor applications available
- Available sizes: 16 in. x 28 in., 36 in. x 24 in., 36 in. x 36 in., 36 in. x 41 in. and 28 in. x 52 in.

### 3M™ Fire Barrier Moldable Putty MP+ Stix and Pads

Designed to firestop a wide variety of through penetrations, including cable, conduit, insulated pipe and metal pipe.

- Up to 3-hour fire ratings per ASTM E 814 (UL 1479)
- Provides cold smoke seal (L-rating)
- Pliable can form into almost any desired shape
- Will not dry out or crumble can be sealed for reuse
- Available in 1/10 in. thick pads: 4 in. x 8 in., 7 in. x 7 in. and 9.5 in. x 9.5 in. sizes
- Available stix sizes: 1.45 in. x 6 in. and 1.4 in. x 11 in.

Pads are typically used as a wall opening protective to meet building requirements, for protection of membrane penetrations made by listed steel or non-metallic electrical boxes.

Stix are typically used to seal gaps between cables in multiple penetrations (including fiber optic inner duct) and to firestop cable bundles, insulated pipe, electrical conduit, metal pipe and other through penetrations.

# Specialty Products

### 3M™ Fire Barrier Silicone Sealant 2000+

Bonds to most common construction materials to form a flexible firestop seal.

- Up to 3-hour fire ratings per ASTM E 814 (UL 1479)
- Up to 4-hour fire ratings for joint systems per ASTM E 1966 (UL 2079)
- Superior adhesion
- Remains elastomeric
- Weather-resistant

SOUND BARRIER

ELASTOMERIC







### 3M™ Fire Barrier Wrap Ultra GS

Flexible, intumescent wrap strip expands when exposed to high temperatures.

- Up to 3-hour fire ratings per ASTM E 814 (UL 1479)
- Excellent weatherability
- For use in drain, waste, vent or closed pipe systems
- Easily cut and shaped with common tools
- Used to firestop the following plastic pipes: ccPVC, PVC, FRPP, PVDF, ccABS and ABS
- Provides a smoke seal when used in conjunction with 3M™ Fire Barrier Sealant (CP 25WB+, IC 15WB+, 3000 WT) or 3M™ Fire Barrier Moldable Putty MP+



### 3M™ Fire Barrier Wrap Strips FS-195+

A one-part, intumescent strip with foil on one side.

- Up to 4-hour fire ratings per ASTM E 814 (UL 1479)
- Can be cut to fit irregular shapes
- Used with the 3M<sup>™</sup> Fire Barrier RC-1 Restricting Collar and/or 3M™ Fire Barrier Sealant for "in-hole" applications
- Use for firestopping metallic pipes, non-metallic pipes, insulated pipes and cable bundles
- 24 in. x 2 in. strips



### 3M™ Fire Barrier RC-1 Restricting Collar

Works in conjunction with 3M™ FS-195+ Wrap/Strip or 3M™ Interam™ Ultra GS to firestop plastic pipes up to 10 in. in diameter.

- 28 gauge steel
- Convenient 25 ft. roll cut only what you need



Whether you are a drywaller, carpenter, caulker, glazer or masonry contractor, one thing you know is construction joints move. When construction joints require firestopping, you need a tested product that can meet the demands of expanding and contracting joints day in and day out.

That's why 3M Fire Protection Products developed fire barrier sealants and sprays that meet the movement needs of head-of-wall, wall-to-wall and perimeter joints. These products undergo stringent building movement testing prior to firestop testing and are designed to meet the challenges of firestopping construction joints for many years.

### 3M<sup>™</sup> FireDam<sup>™</sup> Spray 200

This sprayable coating is a quick and easy method for firestopping fire rated construction joints, including: head-of-wall, wall-to-wall, floor-to-floor and perimeter joints.

- Up to 4-hour fire ratings for joint systems per ASTM E 1966 (UL 2079)
- Up to 2-hour fire ratings for through penetrations per ASTM E 814 (UL 1479)
- Elastomeric forms a flexible seal with compression/extension of up to ±50% of nominal joint width
- High coverage rate reduces installation time
- Fast-drying, low-sag formula
- Applied with conventional airless spray equipment
- Paintable when cured
- Applied as 1/8 in. wet coating (per system details)
- Easy clean-up with water
- Available in 5 gallon pails

 $3M^{\infty}$  Fire Barrier Sealants, Putty and Sprays meet the intent of LEED® NC-EQ Credit 4.1 for Low-Emitting Materials. Adhesives and sealants contain <250 g/L VOC content (less  $H_2O$  and exempt solvents per SCAQMD Rule 1168).

# Construction Joint

# Tapes, Sprays & Sealants

### **3M<sup>™</sup> Fire and Water Barrier Tape**

3M™ Fire and Water Barrier Tape and 3M™ Smoke and Sound Tape provide tough, elastomeric protection from fire, water, smoke and sound. A unique pressure-sensitive adhesive aggressively sticks and stays stuck to a wide variety of substrates at both high and low temperatures, and will even adhere to damp surfaces.



Elastic material maintains performance with up to ± 50% movement capabilities.



High-tack adhesive sticks and stays stuck to most common building materials — exceeds the AAMA 711 minimum for adhesion in peel.



Can be installed in temps as low as 0°F (-18°C) and as high as 120°F (49°C).



Ideal for sealing perimeter joints (curtain wall joints) and other construction joints as well as some through-penetration applications. When installed properly (using mineral wool or backer rod if needed), this tape acts as a barrier to fire, water, smoke and sound.











- Up to 4-hour fire protection in construction joints per ASTM E1966 (UL 2079)
- Up to 3-hour fire protection in perimeter joints per ASTM E2307
- Up to 2-hour fire protection in through-penetration applications per ASTM E814 (UL 1479)
- Elastic material maintains performance with up to ± 50% movement capabilities
- Great for water protection: meets UL Water Leakage Test, W Rating Class 1 requirement; tested and immediately passed ASTM D 6904 Rain Resistance Test
- Paintable
- Broad range of applications (extensive portfolio of tested and listed building and perimeter joint systems)
- High tack adhesive sticks and stays stuck to most common building materials exceeds the AAMA 711 minimum for adhesion in peel
- Can be installed in temperatures as low as 0°F (18°C) and as high as 120°F (49°C)
- Unique adhesive even adheres to damp surfaces









# Construction Joint

# Tapes, Sprays & Sealants







Available Colors:

Limestone





### 3M™ Fire Barrier Sealant FD 150+

Economical firestop sealant for through-penetration and joint applications.

- Up to 4-hour fire ratings for joint systems per ASTM E 1966 (UL 2079)
- Up to 3-hour fire ratings for through penetrations per ASTM E 814 (UL 1479)
- Elastomeric forms a flexible seal with compression/ extension of up to ±19% of nominal joint width
- Easy installation, cleanup and disposal
- Formulated without halogens
- Sag-resistant

Check UL directory. Not approved for use with CPVC pipes made using Noveon® resins.

### 3M™ Fire Barrier Water Tight Sealant 1000 NS

Non-slumping silicone firestop for wall and floor applications.

- Up to 3-hour fire ratings for joint systems per ASTM E 1966 (UL 2079)
- Up to 3-hour fire ratings for through penetrations per ASTM E 814 (UL 1479)
- Compression/extension recovery of ±31% of original joint width

### 3M™ Fire Barrier Water Tight Sealant 1003 SL

Self-leveling silicone firestop for floor applications.

- Up to 3-hour fire ratings for joint systems per ASTM E 1966 (UL 2079)
- Up to 3-hour fire ratings for through penetrations per ASTM E 814 (UL 1479)
- Compression/extension recovery of ±31% of original joint width

### 3M™ Fire Barrier Silicone Sealant 2000+

Bonds to most common construction materials to form a flexible firestop seal.

- Up to 4-hour fire ratings for joint systems per ASTM E 1966 (UL 2079)
- Up to 3-hour fire ratings for through penetrations per ASTM E 814 (UL 1479)
- Compression/extension recovery of ±13% of original joint width
- Superior adhesion
- Weather-resistant





# Flexible Wrap Fire Protection

Flexible solutions for the protection of grease ducts, ventilation air ducts, return air plenums, emergency circuits, structural steel and more. These flexible wrap products make installation easy, even around corners. Ideal for use in a wide variety of commercial and industrial applications.

### 3M<sup>™</sup> Fire Barrier Duct Wrap 615+

Lightweight. Flexible. Protective. The only fire-rated duct wrap product you'll need to help protect grease and air ducts.

- Certified for grease ducts to ASTM E 2336 (including ASTM E 119 engulfment) in 2-layer systems. Certified for ventilation ducts to ISO 6944 in 1-layer systems and for other key life-safety duct applications.
- Also used to achieve T-ratings for metallic penetrations
- Tested and listed with UL and Intertek (OPL), meets the intent of IBC, IMC, UMC, NFPA and other key life safety codes
- Listed by California State Fire Marshal (Listing No. 2440-0941:5555)
- ICC-ES Evaluation Report ESR-1255
- Lightweight (6 lbs. per cu. ft.) and thin (1-1/2 in. in accordance with ASTM C 892 tolerances) for easier application
- Heat-resistant (up to 2,192°F)
- Flexible for wrapping around corners and obstacles
- Non-asbestos wrap\*
- Available in 1-1/2 in. x 24 in. x 25 ft. roll, or 1-1/2 in. x 48 in. x 25 ft. roll

<sup>\*</sup> Made with non-biopersistent fibers, as defined by Nota Q of European Commission Directive 97/69/EU.

# Flexible Wrap

# Firestop Systems

### 3M™ Fire Barrier Plenum Wrap 5A+

Lightweight wrap provides a flexible, non-combustible enclosure for cables and pipes in return air plenums.

- Strong, lightweight and flexible material for easy installation
- Tested to ASTM 84, NFPA 262 (UL 910) and UL 1887
- Foil encapsulated scrim
- Non-asbestos wrap
- Available in 1 in. x 24 in. x 50 ft. roll, or 1 in. x 48 in. x 25 ft. roll







### 3M™ Aluminum Foil Tape 425

Designed to perform in high temperatures.

- Used to seal cut edges of 3M™ Interam™ Endothermic Mat in order to complete total encapsulation
- Thermally-conductive, dead-soft aluminum backing combined with a transparent acrylic adhesive backing
- 4.6 mil (0.12mm) aluminum foil
- 4 in. x 60 yd. roll

### 3M<sup>™</sup> FSK Facing Tape 3320

Conformable, easy-to-apply and temperature-resistant.

- Used to seal cut edges of 3M<sup>™</sup> Fire Barrier Duct Wrap, 3M™ Fire Barrier Plenum Wrap and similar products in order to complete total encapsulation
- High-performance reinforced insulation tape (Foil/Scrim/Kraft)
- UL listed and mold-resistant
- Special acrylic adhesive works in both very cold and hot temperatures
- 3.89 in. x 50 yd. roll

# Flexible Wrap

# Firestop Systems



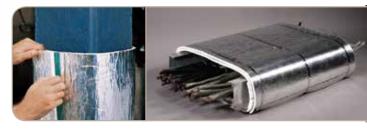


### 3M™ Interam™ Endothermic Mat E-5A-4

Endothermic — releases chemically bound water to cool the assembly when exposed to high temperatures to protect structural steel, cable trays and circuits in conduits.

- Up to 4-hour protection for structural steel (ASTM E 119), up to 3-hour electrical circuit protection (ASTM E 1725) and up to 2-hour protection for wall opening membranes (UL 1479)\*
- Outstanding performance in high-intensity fires, provides protection against large hydrocarbon pool fires in accordance with ASTM E 1529 (UL 1709)
- Made of a combination of organic/inorganic materials
- Outdoor durable\*\*
- Available with a stainless-steel or aluminum backing
- Easily cuts to size and flexible install in new applications or directly over existing fire protection
- 2/5 in. thick x 24-1/2 in. wide x 20 ft. long roll
- \* See system details for layering requirements.
- \*\* When covered with 0.010 in. stainless steel jacketing.





Wraps easily around existing structures. Multiple layers can be applied, allowing you to tailor the amount of fire protection required.



Approved for membrane penetration protection (e.g., electrical boxes and medical gas boxes).

Visit www.3M.com/firestop for technical information, listed systems, training information

### **3M™** Fire Barrier Sealants

Product Number	Description	Size	Color	Unit	Stock Number	Qty.	Price Unit
CP 25WB+	Up to 4-hr Penetration Firestop	10.1 oz.		Cartridge	98040054565	12/Cs	Each
	Up to 4-hr Penetration Firestop	20 oz.		Sausage	98040053831	10/Cs	Each
FIRE BARRIER SMOKE SEAL SOUND BARRIER  UP 4 5	Up to 4-hr Penetration Firestop	2 gal.		Pail	98040053807	1/Cs	Each
Fire Protection Meets Optional L Requirements In STC 54-rated wall assembly	Up to 4-hr Penetration Firestop	5 gal.		Pail	98040053815	1/Cs	Each
IC 15WB+	Up to 3-hr Penetration Firestop	10.1 oz.		Cartridge	98040055091	12/Cs	Each
SMOKE SEAL SOUND BARRIER  UP 3 \( \frac{1}{2} \)  L \( \frac{1}{2} \)  L \( \frac{1}{2} \)  S \( \frac{1}{2} \)  S \( \frac{1}{2} \)	Up to 3-hr Penetration Firestop	20 oz.		Sausage	98040055125	10/Cs	Each
Fire Protection Meets Optional L Requirements In STC 54-rated wall assembly	Up to 3-hr Penetration Firestop	4.5 gal.		Pail	98040055109	1/Cs	Each
FD 150+	Up to 3-hr Penetration/4-hr Joint Firestop	10.1 oz.		Cartridge	98040056248	12/Cs	Each
FIRE BARRIER SMOKE SEAL SOUND BARRIER ELASTOMERIC #19%	Up to 3-hr Penetration/4-hr Joint Firestop	20 oz.		Sausage	98040056396	12/Cs	Each
Fire Protection Deep Description In STC 56-rated wall assembly Movement Capability	Up to 3-hr Penetration/4-hr Joint Firestop	4.5 gal.		Pail	98040056404	1/Cs	Each

### **3M™** Fire Barrier Water Tight Sealants (W-Rated)

Product Number	Description	Size	Color	Unit	Stock Number	Qty.	Price Unit
3000 WT	Intumescent Silicone			Cartridge	98040055034	12/Cs	Each
FIRE BARRIER SMOKE SEAL SOUND BARRIER WATER BARRIER BY 45 CM 56 CM	Intumescent Silicone (Up to 4-hr Penetration Firestop)	4.5 gal.		Pail Pail	98040055042	1/Cs	Each
1000 NS  ELASTOMERIC  ±31%  Expensive  Expen	Non-slump Silicone (Up to 3-hr Penetration/Joint Firestop)	10.1 oz.		Cartridge	98040052767	12/Cs	Each
FIRE BARRIER SMOKE SEAL SOUND BARRIER WATER BARRIER  LES SOUND BARRIER WATER BARRIER  LES SOUND BARRIER WATER BARRIER  LES SOUND BARRIER WATER BARRIER  WATER BARRIER  LES SOUND BARRIER WATER BARRIER BARRIER  LES SOUND BARRIER WATER BARRIER BARR	Non-slump Silicone (Up to 3-hr Penetration/Joint Firestop)	4.5 gal.		Pail	98040052783	1/Cs	Each
1003 SL  LASTOMERIC  ±31%  Mocentum	Self-Leveling Silicone (Up to 3-hr Penetration/Joint Firestop)	10.1 oz.		Cartridge	98040052791	12/Cs	Each
FIRE BARRIER  SMOKE SEAL  SUND BARRIER  WAITER BARRIER  LE  LE  Mach Optional Legisterostic Legister	Self-Leveling Silicone (Up to 3-hr Penetration/Joint Firestop)	4.5 gal.		Pail	98040052817	1/Cs	Each

### 3M™ Fire Barrier Silicone Sealant (water-resistant)

Product Number	Description	Size	Color	Unit	Stock Number	Qty.	Price Unit
2000+ FIRE BARRIER SMOKE SEAL SOUND BARRIER ELASTOMERIC	Up to 3-hr Penetration/4-hr Joint Firestop	10.3 oz.		Tube	98040052999	12/Cs	Each
UP 4 € E E E E E E E E E E E E E E E E E E	Up to 3-hr Penetration/4-hr Joint Firestop	4.5 gal.		Pail	98040053005	1/Cs	Each

### 3M<sup>™</sup> FireDam<sup>™</sup> Spray 200

Product Number	Description	Size	Color	Unit	Stock Number	Qty.	Price Unit
PRE BARRIER SMOKE SEAL SOUND BARRIER ELASTOMERIC  10 4 5	Up to 2-hr Penetration/4-hr Joint Firestop	5.0 gal.		Pail	98040055885	/Cs 1	Each

### 3M™ Fire Barrier Moldable Putty MP+

Product Number	Description	Size	Color	Unit	Stock Number	Qty.	Price Unit
MPP-4S+ WALL OPENING SMOKE SEAL SOUND BARRIER FRE BARRIER  10 2 5	Moldable Putty Firestop—Pad (Up to 2-hr Wall Openings/ 4-hr Penetration Firestop)	7 in. x 7 in. (1/10 in. thick)		Pad	98040055240	20/Cs	Each
MP+ FIRE BARRIER  W 4 g L Barrier  Fire Protection  SMOKE SEAL SOUND BARRIER  SMOKE SEAL SOUND B	Moldable Putty Firestop—Stix (Up to 4-hr Penetration Firestop)	1.4 in. Dia. x 11 in. Approximate Dimension		Stix	98040054177	12/Cs	Each

### 3M™ Fire Barrier Mortar

Product	Description	Size	Color	Unit	Stock Number	Qty.	Price Unit
Mortar (non load-bearing) RICE DARRIER  TO 3 5 Fire Protection	Dry Mix Mortar Firestop (Up to 3-hr Penetration Firestop)	44 lbs.		Bag	XE 005313970	1/Cs	Each

Visit www.3M.com/firestop for technical information, listed systems, training information

### 3M™ Fire Barrier Composite Sheet CS-195+

Product Number	Description	Size	Unit	Shipping Wt./Case	Stock Number	Qty.	Price Unit
CS-195+ (non load-bearing) Openings up to 36 sq. ft.	Composite Sheet (Up to 4-hr Penetration Firestop)	36 in. x 24 in. (.303 in. thick nominal)	Sheet	18.6 lbs.	98040024071	1/Cs	Each
	Composite Sheet (Up to 4-hr Penetration Firestop)	28 in. x 52 in. (.303 in. thick nominal)	Sheet	32.0 lbs.	98040029476	1/Cs	Each
7 - 7 - 7 - 7 - 7 - 7 - 7 - 7 - 7 - 7 -	Composite Sheet (Up to 4-hr Penetration Firestop)	16 in. x 28 in. (.303 in. thick nominal)	Sheet	10.6 lbs.	98040026019	1/Cs	Each
FIRE BARRIER	A THE STATE OF THE	36 in. x 41 in. (.303 in. thick nominal)	Sheet	34.9 lbs.	98040024097	1/Cs	Each
To 4 g Fee Protection	Composite Sheet (Up to 4-hr Penetration Firestop)	36 in. x 36 in. (.303 in. thick nominal)	Sheet	30.2 lbs.	98040024089	1/Cs	Each

### 3M<sup>™</sup> Fire Barrier Wrap Strips FS-195+

Product	Product Number	Description	Size	Unit	Shipping Wt./Case	Stock Number	Qty.	Price Unit
Wrap Strip FIRE BARRIER W 4 5 Fire Principles	FS-195+	Intumescent wrap for most pipes and cables (Up to 4-hr Firestop)	2 in. x 24 in. (1/4 in. thick)	Strip	7.7 lbs.	98040022224	10/Cs	Each

### **3M™ Fire Barrier Wrap Ultra GS**

Product	Product Number	Description	Size	Unit	Shipping Wt./Case	Stock Number	Qty.	Price Unit
Ultra GS PRE BARRER  UP 4 E	ULTRA-GS-40	Intumescent wrap for insulated pipes, plastic pipes and combos (Up to 4-hr Firestop)	2 in. x 40 ft. (1/8 in. thick)	Roll	29.0 lbs.	98040053989	5/Cs	Each

### 3M™ Fire Barrier Tuck-In Wrap Strips

Product	Product Number	Description	Size	Unit	Shipping Wt./Case	Stock Number	Qty.	Price Unit
Tuck-In Wrap Strips	WS 200	Intumescent wrap for 2 in. nominal plastic pipes (Up to 3-hr Firestop)	2-1/2 in. x 8-1/4 in. (3/16 in. thick)	Strip	3.9 lbs.	98040056024	24/Cs	Each
	WS 300	Intumescent wrap for 3 in. nominal plastic pipes (Up to 3-hr Firestop)	2-1/2 in. x 11-1/2 in. (3/16 in. thick)	Strip	5.4 lbs.	98040056032	24/Cs	Each
	WS 400	Intumescent wrap for 4 in. nominal plastic pipes (Up to 3-hr Firestop)	2-1/2 in. x 14-7/8 in. (3/16 in. thick)	Strip	7.0 lbs.	98040056057	24/Cs	Each
FIRE BARRIER  10 3 5 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	WS Roll	Intumescent wrap for plastic pipes (Up to 3-hr Firestop)	2-1/2 in. x 98.4 in. (3/16 in. thick)	Roll	15.9 lbs.	98040056065	6/Cs	Roll

### 3M™ Fire Barrier Pillows

	Product	Product Number	Description	Size	Unit	Shipping Wt./Case	Stock Number	Qty.	Price Unit
FIRE BARRIER  W 3 5 Fire Protection	FB249	Re-enterable pillows (Up to 3-hr Firestop)	2 in. x 4 in. x 9 in. (Small)	Pillow	12.5 lbs.	98040054219	24/Cs	Each	
	FB269	Re-enterable pillows (Up to 3-hr Firestop)	2 in. x 6 in. x 9 in. (Medium)	Pillow	12.5 lbs.	98040054227	16/Cs	Each	

### **3M™** Fire Barrier Self-Locking Pillows

Product	Product Number	Description	Size	Unit	Shipping Wt./Case	Stock Number	Qty.	Price Unit
Firestop Pillows with Self-locking Strips	FB269SL	Re-enterable, self-locking pillows (Up to 3-hr Firestop)	2 in. x 6 in. x 9 in. (Medium)	Pillow	12.5 lbs.	98040054730	16/Cs	Each
FRE BARRIER UP 3 g TO 3 o Free Autocloss	FB369SL	Re-enterable, self-locking pillows (Up to 3-hr Firestop)	3 in. x 6 in. x 9 in. (Large)	Pillow	15.8 lbs.	98040054748	20/Cs	Each

### **3M<sup>™</sup> Fire Barrier Plastic Pipe Devices**

Product	Product Number	Description	Size	Unit	Shipping Wt./Case	Stock Number	Qty.	Price Unit
Ultra Plastic Pipe Device	Ultra PPD 1.5	Firestop for non-metallic pipes, cables and combos (Up to 3-hr Firestop)	1.5 in. Dia.	Device	3.9 lbs.	98040052601	10/Cs	Each
	Ultra PPD 2.0	Firestop for non-metallic pipes, cables and combos (Up to 3-hr Firestop)	2 in. Dia.	Device	4.5 lbs.	98040052619	10/Cs	Each
	Ultra PPD 3.0	Firestop for non-metallic pipes, cables and combos (Up to 3-hr Firestop)	3 in. Dia.	Device	7.5 lbs.	98040052627	10/Cs	Each
	Ultra PPD 4.0	Firestop for non-metallic pipes, cables and combos (Up to 3-hr Firestop)	4 in. Dia.	Device	11.9 lbs.	98040052635	10/Cs	Each
Plastic Pipe Device FRE BARRER  FRE Photocom  Re Photocom	PPD 6.0	Firestop for non-metallic pipes, cables and combos (Up to 3-hr Firestop)	6 in. Dia.	Device	20.2 lbs.	98040029443	5/Cs	Each

### 3M™ Fire Barrier RC-1 Restricting Collar

Product Number	Description	Size	Unit	Shipping Wt./Case	Stock Number	Qty.	Price Unit
RC-1	Steel collar for use with Ultra GS or FS-195+ for firestopping up to 10 in. diameter plastic pipe	2 in. x 25 ft.	Roll	5.4 lbs.	80008006563	1/Cs	Roll

### 3M™ Fire Barrier Packing Material PM 4

Product Number	Description	Size	Unit	Shipping Wt./Case	Stock Number	Qty.	Price Unit
PM 4	Packing material for use in 3M through-penetration firestop systems	4 in. x 20.5 ft.	Roll	19.6 lbs.	98040055299	5/Cs	Roll

Visit www.3M.com/firestop for technical information, listed systems, training information

### 3M™ Interam™ Endothermic Mat E-5A-4

Product Number	Description	Size	Unit	Shipping Wt./Case	Stock Number	Qty.	Price Unit
E-5A-4  WALCHEST  WALCHEST  W 28  Fre Protection  W 48  Fre Protection  W 48  Fre Protection	Protective wrap for cable trays, conduits, wall opening membranes and more	24.5 in. x 20 ft. (.408 in. thick)	Roll	86.1 lbs.	98040056206	1/Cs	Roll

### 3M™ Fire Barrier Duct Wrap 615/615+

Product Number	Description	Size	Unit	Shipping Wt./Case	Stock Number	Qty.	Price Unit
615/615+	Space saving, flexible wrap for protection of air, ventilation ducts	24 in. x 25 ft. (1.5 in. thick)	Roll	49.7 lbs.	XT005310062	1/Cs	Each
PRE BARRER ICC ES ICC-ES ESR-1255	Space saving, flexible wrap for protection of air, grease, and chemical fume ducts	48 in. x 25 ft. (1.5 in. thick)	Roll	99.4 lbs.	98040056123	1/Cs	Each

Use two (2) layers for grease ducts per ASTM 2336. Use one (1) layer for air ducts per ISO 6994. Up to 2-hr T-ratings for through penetrations.

### 3M<sup>™</sup> Fire Barrier Plenum Wrap 5A+

Product Number	Description	Size	Unit	Shipping Wt./Case	Stock Number	Qty.	Price Unit
5A+	Flexible wrap for protection of plenum spaces	48 in. x 25 ft. (0.5 in. thick)	Roll	115.0 lbs.	98040055927	2/Cs	Roll

### 3M<sup>™</sup> Fire and Water Barrier Tape

Product Number	Description	Size	Unit	Shipping Wt./Case	Stock Number	Qty.	Price Unit
FWBT	Self-adhered membrane tape that provides a tough, elastomeric coating used to firestop perimeter joints (curtain wall), construction joints, and through penetration openings.	3 in. x 75 ft. (76 mm x 22.8m)	Roll	25.99 lbs.	98044110355	16	432
		4 in. x 75 ft. (101 mm x 22.8m)	Roll	26.45 lbs.	98044110272	12	324
		8 in. x 75 ft. (202 mm x 22.8m)	Roll	18.38 lbs.	98044110280	4	144

# Online tools available at Value Beyond the Products www.3M.com/firestop

The 3M Fire Protection Product website is designed to enhance our technical and sales support by providing users easy access to critical information needed in the construction and maintenance of buildings requiring passive fire protection. In addition to a wealth of product and technical information, here are some value-added tools that can be accessed from the 3M Fire Protection website:





### 3M<sup>™</sup> System Selector

Helps you quickly navigate through our extensive library of tested and listed systems to provide a short list of suitable systems for a specific application.

### 3M™ Submittal Wizard

Allows users to access, select and combine documents from multiple applications on the 3M Fire Protection website. Selected documents can be combined into a single pdf for user's submittal.

### **Training**

3M offers fire protection training online or at our UL certified test center. Our website provides information on upcoming courses as well as registration for e-Train. e-Train is the 3M Fire Protection online learning management system designed to provide users with general firestopping information and trade-specific installation details.

### 3M™ Firestop Management System

This web-based application is designed to help existing facilities monitor their fire barrier management system. With specific functionality to help healthcare facilities pass Joint Commission and other key life safety inspections, key features include contractor management (e.g. issue permits, monitor access), firestop system management down to every floor or wall, document retention including life safety plans and installation photos, and report generation (e.g. system inventory or contractor status).

Contact Your Local Distributor or 3M Fire Protection Sales Representative for More Information

# Note


Warranty and Limited Remedy. 3M warrants that each 3M Fire Protection Product will be free from defects in material and manufacture for 90 days from the date of purchase from 3M's authorized distributor. 3M MAKES NO OTHER EXPRESS OR IMPLIED WARRANTIES, INCLUDING ANY IMPLIED WARRANTY OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE. If a 3M product does not conform to this warranty, the sole and exclusive remedy is, at 3M's option, replacement of the 3M product or refund of the purchase price.

Limitation of Liability. Except where prohibited by law, 3M will not be liable for any loss or damage arising from the 3M product, whether direct, indirect, special, incidental or consequential, regardless of the legal theory asserted.

The FBC® System Compatible logo indicates that a 3M product has been tested and is monitored on an on going basis to assure chemical compatibility with FlowGuard Gold®, BlazeMaster®, and Corzan® pipe and fittings. FBC is a registered trademark and FlowGuard Gold, Blazemaster and Corzan are trademarks of Lubrizol Advanced Materials, Inc. © Lubrizol Advanced Materials, Inc. 2013. All rights reserved.

3M, Interam and FireDam are trademarks of 3M. Used under license in Canada. NFPA is a trademark of the National Fire Protection Association. HandyMax and PowerMax are registered trademarks of Soraton SA. All other trademarks are the property of their respective owners.

> Please recycle. © 3M 2013. All rights reserved. 98-0213-4364-9 Rev.



### **Industrial Adhesives and Tapes Division Fire Protection Products** 3M Gulf Ltd.

**Dubai Internet City** Post Box: 20191, Dubai - U.A.E Tel.: +971 4 3670 777 Fax: +971 4 3670 629 www.3mgulf.com/fireprotection

3M Abu Dhabi Post Box 55337 Abu Dhabi - UAE

3M Kuwait Post Box 148 Safat 13002 Kuwait Tel +971 2 4476301 Tel +965 2249 1649 Fax +971 2 4476287 Fax +965 2249 1648

3M Lebanon Post Box 11-5025 Riad El Solh - Beirut 1107 2180 Tel +961 1 373771 Fax +961 1 379947 - 379938

3M Qatar Post Box 14684 Doha - Qatar Tel. +974 44866 272 Fax. +974 44866 274

3M Oman P.O. Box 686, PC 112 Muscat

Tel: +968 2 4951 617

Sultanate of Oman