HEBERT CONSTRUCTION

9 Gould Road
Lewiston, ME 04240
Ph : (207) 783-2091

Submittal

Job: 150091
Portland Gastro
Portland Gastro
1200 Congress Street
Portland, ME

Spec Section No: 260502
Submittal No: 2
Revision No: 0
Sent Date: 7/25/2016

Spec Section Title:

Submittal Title: 3M Firestopping

Contractor:
Hebert Construction LLC
Timothy Hebert

Contractor's Stamp

REVIEWED & APPROVED
Portland Gastro
260502.02 3M Firestopping
SUBMITTAL _____
SHIPMENT _____
FABRICATION _____
APPROVED AS NOTED Reviewed
REVISED & RESUBMIT _____
NOT APPROVED _____
DATE 7/25/16 BY TRH
HEBERT CONSTRUCTION LLC

Architect (Primary):
PDT Architects PA
Ann Fisher

Architect's Stamp

Engineer's Stamp

Submittal Transmittal

Date:	August 23, 2016
To/Company:	Dawn M. Clark, Assistant Project Mgr. Hebert Construction 2 Gould Road Saco, ME 04240
Project:	Portland Gastroenterology Center
Reviewed By:	Ann M. Fontaine-Fisher AIA, LEED AP BD+C
Submittal:	260502.02 3M Firestopping

SUBMITTAL REVIEW COMMENTS:

1. See attached PDT submittal review notes.

NOTE:

If you feel that a Change in Contract Sum or Contract Time is required, please submit a Change Order Proposal prior to proceeding with this Work.

CC: Owner, File

PDT ARCHITECTS

SUBMITTAL REVIEW NOTES

DATE: August 23, 2016
PROJECT: Portland Gastroenterology Center - #14054
REVIEWED BY: Ann Fontaine-Fisher
SPECIFICATION: 260502.02
SUBMITTAL: Submittal 2/ Revision 0

COMMENTS:

1.

ACTION:

- ❑ REVIEWED
- ❑ FURNISH AS CORRECTED
- ❑ REVISE AND RESUBMIT
- ❑ REJECTED
- ❑ SUBMIT SPECIFIED ITEM

This review is only for general conformance with the design concept and the information given in the Construction Documents. Corrections or comments made on the shop drawings during this review do not relieve the contractor from compliance with the requirements of the plans and specifications. Review of a specific item shall not include review of an assembly of which the item is a component. The contractor is responsible for: dimensions to be confirmed and correlated at the jobsite; information that pertains solely to the fabrication processes or to the means, methods, techniques, sequences and procedures of construction; coordination of the Work with that of all other trades and performing all Work in a safe and satisfactory manner.

49 DARTMOUTH STREET
PORTLAND, MAINE 04101
207-775-1059
207-775-2694 FAX
www.pdtarchs.com

Letter of Transmittal

To: Dawn Clark
Hebert Construction, LLC
9 Gould Rd.
Lewiston, ME 04240
Ph: (207)783-2091 Fax: (207)782-4938

Transmittal #: 12
Date: 7/22/2016
Job: 16-3035 Portland Gastroenterology Cent

Subject: 161 Marginal Way PGC...Electrical Submittal - 260502-2 Rev 0 3M Firestopping

WE ARE SENDING YOU ☐ Attached ☐ Under separate cover via None the following items:

☐ Shop drawings ☐ Prints ☐ Plans ☐ Samples
☐ Copy of letter ☐ Change order ☐ Specifications ☑ Submittal

Document Type	Copies	Date	No.	Description
Submittal	1		260502-2 Rev 0	3M Firestopping

THESE ARE TRANSMITTED as checked below:

☑ For approval ☐ Approved as submitted ☐ Resubmit ___ copies for approval
☐ For your use ☐ Approved as noted ☐ Submit ___ copies for distribution
☐ As requested ☐ Returned for corrections ☐ Return ___ corrected prints
☐ For review and comment ☐ Other
☐ FOR BIDS DUE ☐ PRINTS RETURNED AFTER LOAN TO US

Remarks:

Copy To: Tim Hebert (Hebert Construction, LLC), Mitch DeBlois (DeBlois Electric, Inc.), Stacey Fournier (DeBlois Electric, Inc.)

From: Stacey Fournier (DeBlois Electric, Inc.) **Signature:** _____

If enclosures are not as noted, kindly notify us at once.

DeBlois Electric, Inc.
Electrical Contractors ⚡ Design Build
Commercial • Industrial • Residential
www.debloiselectric.com

Submittal

Job: 16-3035
Portland Gastroenterology Cent
161 Marginal Way
Portland, ME 04101
Spec Section Title:
Submittal Title: 3M Firestopping

Spec Section No: 260502
Submittal No: 2
Revision No: 0
Sent Date:

Contractor:
DeBlois Electric, Inc.

Contractor's Stamp

DeBlois Electric - 07/22/16
Reviewed for Approval by Project Team.

Hebert Construction, LLC
Dawn Clark

Architect's Stamp

Engineer's Stamp

3M Fire Protection

Firestop- Electrical Submittal-161 Marginal Way-PGC - Copy

Submittal Information

Submittal Name	Firestop- Electrical Submittal-161 Marginal Way-PGC - Copy
Architect	
General Contractor	
Trade	DeBlois
Distributor	Gilman CED
Author / Company	Tim Lennon / 3M Company
Technical Sales Rep	Ryan Fenstermaker
Date Created	7/21/2016
Last Modified	7/21/2016
# Documents	30
Submittal Size	5.69
Additional Notes	Firestop Submittal for DeBlois Electric for 161 Marginal Way - PGC

3M Fire Protection Products

Date: April 20, 2016

Subject: GENERAL CERTIFICATE OF CONFORMANCE
3M FIRE PROTECTION PRODUCTS

Product Category: Through Penetration Firestop Products

3M™ Aluminum Foil Tape 425
3M™ Expantrol™ Flexible Intumescent Strip E-FIS
3M™ Fire Barrier 2" Plug PLG2
3M™ Fire Barrier 4" Plug PLG4
3M™ Fire Barrier Block B258
3M™ Fire Barrier Cast-In Devices & Accessories
3M™ Fire Barrier Composite Sheet CS-195+
3M™ Fire Barrier Sealant CP 25WB+
3M™ Fire Barrier Moldable Putty+ Pads (MPP+)
3M™ Fire Barrier Moldable Putty+ Sticks (MP+)
3M™ Fire Barrier Mortar
3M™ Fire Barrier Packing Material PM4
3M™ Fire Barrier Pass-Through Devices
3M™ Fire Barrier Pillows
3M™ Fire Barrier Plank PK39
3M™ Fire Barrier Plastic Pipe Device (PPD)
3M™ Fire Barrier Putty Sleeve Kits
3M™ Fire Barrier Rated Foam FIP 1-Step
3M™ Aluminum Foil Tape 425
3M™ Fire Barrier RC-1 Restricting Collar
3M™ Fire Barrier Sealant FD 150+
3M™ Fire Barrier Sealant IC 15WB+
3M™ Fire Barrier Self-Locking Pillows
3M™ Fire Barrier Silicone Sealant 2000+
3M™ Fire Barrier Tuck-In Wrap Strips
3M™ Fire Barrier Ultra Plastic Pipe Device (UPPD)
3M™ Fire Barrier Water Tight Sealant 1000 NS
3M™ Fire Barrier Water Tight Sealant 1003 SL
3M™ Fire Barrier Water Tight Sealant 3000 WT
3M™ Fire Barrier Wrap Strips FS-195+
3M™ Fire Barrier Wrap Ultra GS
3M™ Fire Block Foam FB-Foam
3M™ Fire Block Sealant FB 136
3M™ FireDam™ Spray 200
3M™ Interam™ Stainless Steel Foil Tape T-65
3M™ Marine Fire Wrap
3M™ Smoke and Sound Sealant SS 100
3M™ Fire Barrier RC-1 Restricting Collar

The above listed products are tested to one or more of the following standards:

- ASTM E 119 (ANSI/UL 263) Standard Test Methods for Fire Tests of Building Construction and Materials
- ASTM E 814 (ANSI/UL 1479) Standard Test Method for Fire Tests of Penetration Firestop Systems(under positive furnace pressure of minimum .01 inches of water column)
- ASTM E 84 (ANSI/UL 723) Standard Test Method for Surface Burning Characteristics of Building Materials
- ASTM E 1966 (ANSI/UL 2079) Standard Test Method for Fire-Resistive Joint Systems
- NFPA 252 Standard Methods of Fire Test and Door Assemblies
- UBC Standard 7-2(97)
- IMO Res. A.754(18)
- ASTM E 2307 Standard Test Method for Determining Fire Resistance of Perimeter Fire Barriers Using Intermediate-Scale, Multi-story Test Apparatus
- ASTM E 136 Standard Test Method for Behavior of Material in a Vertical Tube Furnace at 750° C

3M Fire Protection Products

- ASTM C 1338 Standard Test Method for Determining Fungi Resistance of Insulation Materials and Facings
- ISO 6944-1985 Fire resistance tests -- Ventilation ducts
- ASTM C 1241 Standard Test Method for Volume Shrinkage of Latex Sealants During Cure
- CAN/ULC S115 Standard Method of Fire Tests of Firestop Systems
- ASTM E 90 Standard Test Method for Laboratory Measurement of Airborne Sound Transmission Loss of Building Partitions and Elements

These products are formulated without asbestos, polychlorinated biphenyls (PCBs), or lead.

Issued by:

Quality Manager or Designee

Technical Manager, or Designee

Product Use: Many factors beyond 3M's control and uniquely within user's knowledge and control can affect the use and performance of a 3M product in a particular application. Given the variety of factors that can affect the use and performance of a 3M product, user is solely responsible for evaluating the 3M product and determining whether it is fit for user's particular purpose and suitable for user's method of application.

Technical Information: The technical information, recommendations and other statements contained in this document are based upon tests or experience that 3M believes are reliable, but the accuracy or completeness of such information is not guaranteed.

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."

3M

Industrial Adhesives and Tapes Division
St. Paul, MN 55144-1000
1-800-328-1687
www.3M.com/firestop

3M Firestop Protection Products

Matrix of UL Tested and Approved Systems for Firestopping

ELECTRICAL PENETRATIONS

In Rated Gypsum Walls and Concrete Floor & Wall Construction

***Note: Final selection of UL system numbers subject to field conditions meeting parameters listed in the respective UL system number**

Penetrating Item	Assembly Penetrated	F Rating	System Number	3M FPP Product Solutions
Metal Pipe/Conduit	Framed Gypsum Walls	1 & 2 Hours	WL1296	IC15WB+, CP25WB+ or FB3000WT
Jacketed Cables	Framed Gypsum Walls	1 & 2 Hours	WL3195 WL3148	IC15WB+, CP25WB+ or FB3000WT
Insulated Cables via Device	Framed Gypsum Walls	1 & 2 Hours	WL3289	Pass Through Device and MP+ Putty
Cable Tray	Framed Gypsum Walls	1 & 2 Hours	WL4037	Fire Barrier Pillows and MP+ Putty
Cables Max 48% fill in Sleeve	Framed Gypsum Walls	1 & 2 Hours	WL3371	DT Series Putty and Sleeve Kit
Cables 50% fill in EMT sleeve	Framed Gypsum Walls	1 & 2 Hours	WL3347	IC15WB+, CP25WB+ or FB3000WT
Multiple Conduit (Max opening 67-1/2 sq in)	Framed Gypsum Walls	1 & 2 Hours	WL1228	IC15WB+, CP25WB+ or FB3000WT
Multiple Conduit (Max opening 225 sq in)	Framed Gypsum Walls	1 & 2 Hours	WL1255	Fire Barrier Pillows and MP+ Putty
Outlet Boxes	Framed Gypsum Walls	1 & 2 Hours	CLIV	MPP+ Putty Pads
Metal Pipe/Conduit	Concrete Floor & Walls	2 Hour	CAJ1427	IC15WB+, CP25WB+ or FB3000WT
Multiple Metal Pipe/Conduit	Concrete Floor & Walls	2 Hour	CAJ1429	IC15WB+, CP25WB+ or FB3000WT
Jacketed Cables	Concrete Floor & Walls	2 Hour	CAJ3200	IC15WB+, CP25WB+ or FB3000WT
Insulated Cables via Device	Concrete Floor & Walls	2 & 3 Hour	CAJ3250	Pass Through Device and IC15WB+ or MP+ Putty
Cables Max 48% fill in Sleeve	Concrete Floor & Walls	3 Hour	CAJ3310	DT Series Putty & Sleeve Kit
Cables Min 12% to Max 40% in Sleeve	Concrete Floor & Walls	3 Hour	CAJ3021	MP + Stix
Insulated Cables	Concrete Floor	2 Hours	FA3017	Cast-in-Place (CID)
Insulated Cables	Concrete Floor	2 Hour	FA3020	Cast-in-Place (CID)
Bus Duct	Concrete Floor	3 Hour	CAJ6041	Fire Barrier Pillows and MP+ Putty

3M Sleeve Systems

3M Firestop Sleeve – Max 6 in blank opening. Min 4-1/2 in concrete or min 6 in. hollow core or concrete block.	**Floor or Wall Assembly**	**3 Hour**	**CAJ0134**	**3M Fire Barrier MP+ Putty stix DT100, DT200, DT400**
Max 48% cable fill. Max 6 in. opening. Min 4-1/2 in. concrete or min 6 in. hollow core or concrete block wall. Space between device and periphery of opening point contact to max 1 in.	**Concrete Block Wall**	**3 Hour**	**CAJ3310**	**3M Fire Barrier MP+ Putty stix DT100, DT200, DT400**
Max 6-1/2 in. blank opening. U300 or U400 Series wall with wood or steel studs. Space between device and periphery of opening point contact to max 1 in.	**Wall with Wood or Steel Studs**	**1 and 2 hour**	WL0036	**3M Fire Barrier MP+ Putty stix DT100, DT200, DT400**
Max 6-1/2 in. blank opening. U300 or U400 Series wall with wood or steel studs. Space between device and periphery of opening point contact to max 1 in. Packing material required.	**Wall with Wood or Steel studs**	**3 and 4 Hour**	WL0037	**3M Fire Barrier MP+ Putty stix DT100, DT200, DT400**
Max 48% cable fill. Max 6-1/2 in. opening. U300 or U400 Series wall with wood or steel studs. Space between device and periphery of opening point contact to max 1 in.	**Wall with Wood or Steel studs**	**1 and 2 Hour**	WL3371	**3M Fire Barrier MP+ Putty stix DT100, DT200, DT400**
Max 48% cable fill. Max 6-1/2 in. opening. U300 or U400 Series wall with wood or steel studs. Space between device and periphery of opening point contact to max 1 in. Packing material required.	**Wall with Wood or Steel studs**	**3 and 4 hour**	WL3372	**3M Fire Barrier MP+ Putty stix DT100, DT200, DT400**

3M™ Interam™ Endothermic Mat

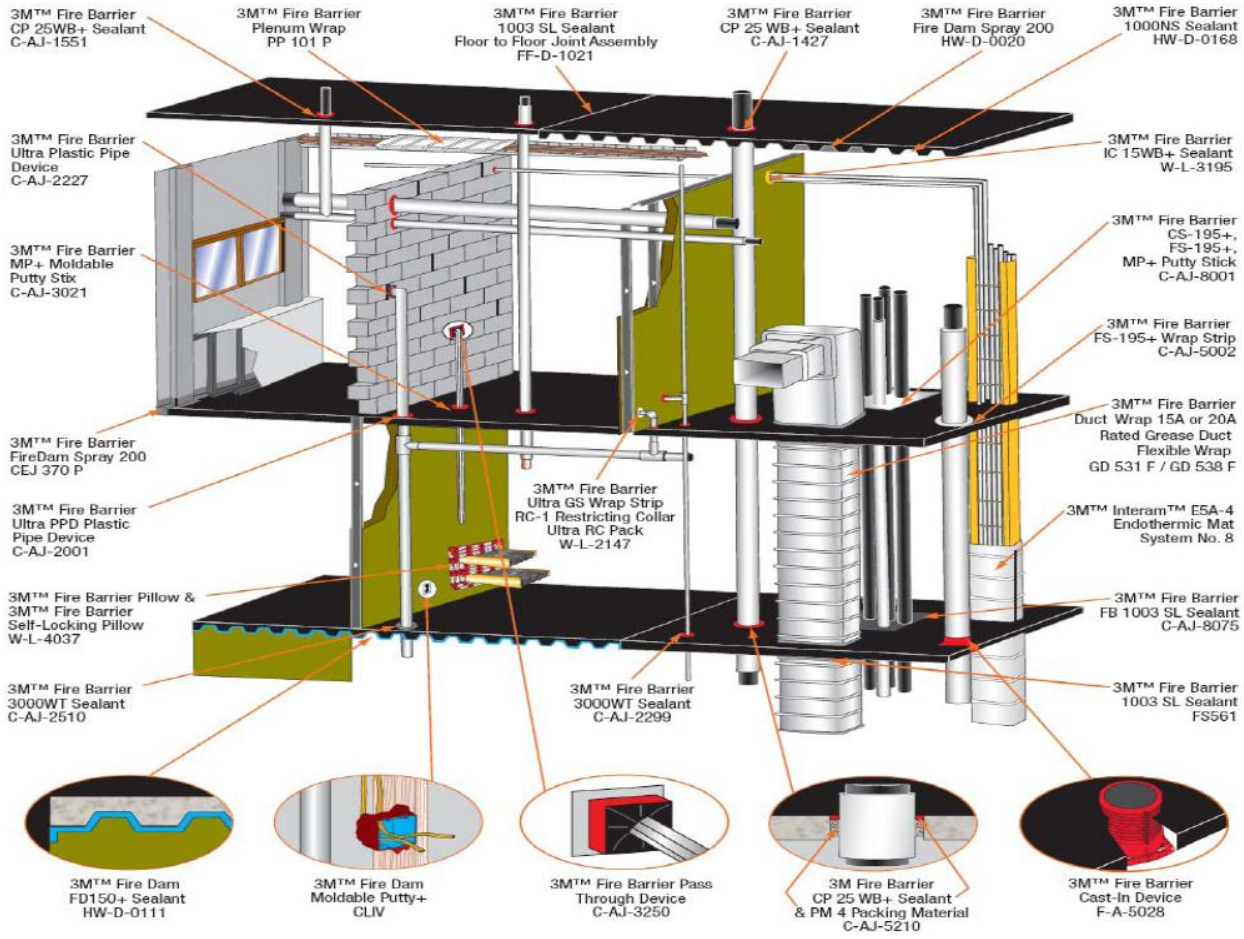
15’ Run of 4” Conduit

2 Hr Protection With 4 Layers Of E-Mat

2.5 Rolls Of E-Mat

Blankets to wrap items requiring fire protection. Made of ceramic fibers and inorganic endothermic material. These advanced endothermic materials contain chemically bound water. In the event of fire, they help prevent heat penetration via a chemical reaction which absorbs heat energy.

3M™ Interam™ Endothermic Mat when exposed to high temperatures release chemically bound water to cool the outer surfaces of wrap material, retard heat transfer and help protect critical electrical and structural components in the event of a fire. 3M™ Aluminum Foil Tape is ideal for high-temperature applications such as completing the total encapsulation of fire barrier mat or duct wrap.



3M™ Fire Protection Product Specifications are available on ARCAT.com (website for Building Materials and Manufacturers Specifications for the Architectural and Spec Writing Communities)

Note, Arcat currently defaults to MasterFormat 1995, you can toggle to MasterFormat 2004 in the upper right areas of Arcat's landing page

MasterFormat (2004) specification divisions relating to 3M™ Fire Protection Products are as follows:

Section 03 00 00 – Concrete
Section 04 20 00 – Unit Masonry
Section 05 12 00 – Structural Steel Framing
Section 07 27 00 – Air Barriers
Section 07 80 00 – Fire and Smoke Protection
Section 07 81 00 – Applied Fireproofing
Section 07 84 00 – Firestopping
Section 07 84 13 – Penetration Firestopping
Section 07 84 16 – Annular Space Protection
Section 07 84 43 – Fire-Resistant Joint Sealants
Section 07 86 00 – Smoke Seals
Section 07 87 00 – Smoke Containment Barriers

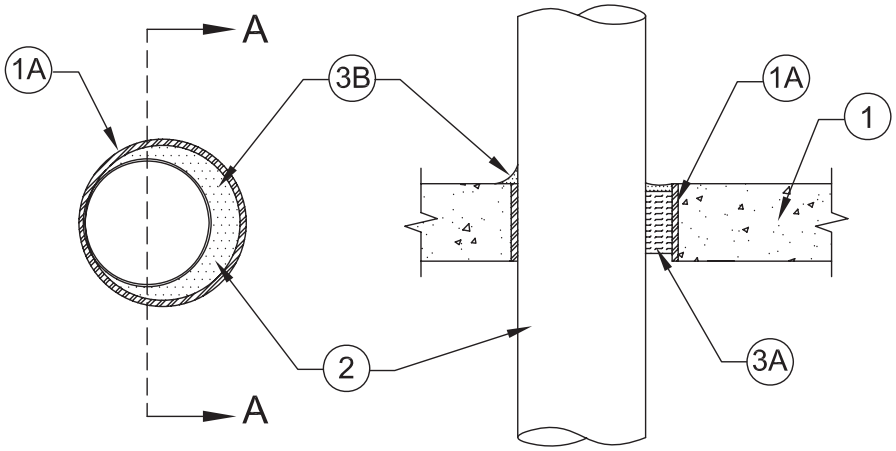
Section 07 92 13 – Elastomeric Joint Sealants
Section 07 92 19 – Acoustical Joint Sealants
Section 09 26 00 – Gypsum Wallboard Assemblies

Section 15 08 00 – Fire Rated Duct Insulation
Section 15 81 00 – Ducts
Section 15 82 00 – Duct Accessories
Section 26 00 00 – Electrical
Section 21 00 00 – Fire Suppression
Section 22 00 00 – Plumbing
Section 23 00 00 – Heating, Ventilation and Air-Conditioning (HVAC)
Section 26 01 00 – Operation and Maintenance of Electrical Systems
Section 27 20 00 – Data communications

CLICK HERE FOR MORE INFORMATION

System No. C-AJ-1427

March 05, 2007
F Rating – 3 Hr
T Rating – 0 Hr
W Rating – Class 1 (See Item 3)



SECTION A-A

1. **Floor or Wall Assembly** – Min 2-1/2 in. (64 mm) thick reinforced lightweight or normal weight (100-150 pcf or 1600 - 2400 kg/m^3) concrete floors or min 3 in. (76 mm) thick reinforced lightweight or normal weight concrete walls. Floor assembly may also be constructed of any min 6 in.(152 mm) thick UL Classified hollow-core **Precast Concrete Units***. Wall may also be constructed of any UL Classified **Concrete Blocks***. Max diam of opening 12-3/4 in. (324 mm). Max diam of opening in floors constructed of hollow-core concrete is 7 in. (78 mm).

   See **Concrete Blocks** (CAZT) and **Precast Concrete Units** (CFTV) categories in Fire Resistance Directory for names of manufacturers.

1A. **Steel Sleeve** – (Optional) - Nom 12 in. (305 mm) diam (or smaller) Schedule 10 (or heavier) steel sleeve cast or grouted into floor or wall assembly. Steel sleeve may be installed flush or may project max 2 in. (51 mm) beyond the floor or wall surfaces. As an alternate, nom 12 in. (305 mm) diam (or smaller) sleeve fabricated from nom 0.019 in. (0.48 mm) thick galv steel cast or grouted into floor or wall assembly flush with floor or wall surfaces.

2. **Through Penetrant** – One metallic pipe, conduit, tubing or flexible metal piping installed concentrically or eccentrically within opening. Annular space between penetrant and periphery of opening or sleeve shall be min of 0 in. (0 mm) (point contact) to max 2 in. (51 mm). Penetrant to be rigidly supported on both sides of floor or wall assembly. The following types and sizes of penetrants may be used:

   A. **Steel Pipe** – Nom 10 in. (254 mm) diam (or smaller) Schedule 10 (or heavier) steel pipe.
   B. **Iron Pipe** – Nom 10 in. (254 mm) diam (or smaller) cast or ductile iron pipe.
   C. **Conduit** – Nom 6 in. (152 mm) diam (or smaller) steel conduit or nom 4 in. (102 mm) diam (or smaller) steel electrical metallic tubing.
   D. **Copper Tubing** – Nom 4 in. (102 mm) diam (or smaller) Type L (or heavier) copper tubing.
   E. **Copper Pipe** – Nom 4 in. (102 mm) diam (or smaller) Regular (or heavier) copper pipe.
   F. **Through Penetrating Product*** – **Flexible Metal Piping** – The following types of steel flexible metal gas piping may be used:

      1.) Nom 2 in. (51 mm) diam (or smaller) steel flexible metal gas piping. Plastic covering on piping may or may not be removed on both sides of floor or wall assembly.
      OMEGA FLEX INC

      2.) Nom 1 in. (25 mm) diam (or smaller) steel flexible metal gas piping. Plastic covering on piping may or may not be removed on both sides of floor or wall assembly.
      GASTITE, DIV OF TITEFLEX

      3.) Nom 1 in. (25 mm) diam (or smaller) steel flexible metal gas piping. Plastic covering on piping may or may not be removed on both sides of floor or wall assembly.
      WARD MFG INC

3. **Firestop System** – The details of the firestop system shall be as follows:

   A. **Packing Material** – Min 2 in. (51 mm) thickness of min 4 pcf (64 kg/m^3) mineral wool batt insulation firmly packed into opening as a permanent form. Packing material to be recessed from top surface of floor or top edge of sleeve or from both surfaces of wall or both ends of sleeve as required to accommodate the required thickness of fill material. In floors constructed of hollow-core concrete, packing material to be recessed from top and bottom surfaces of floor or sleeve as required to accommodate the required thickness of fill material.

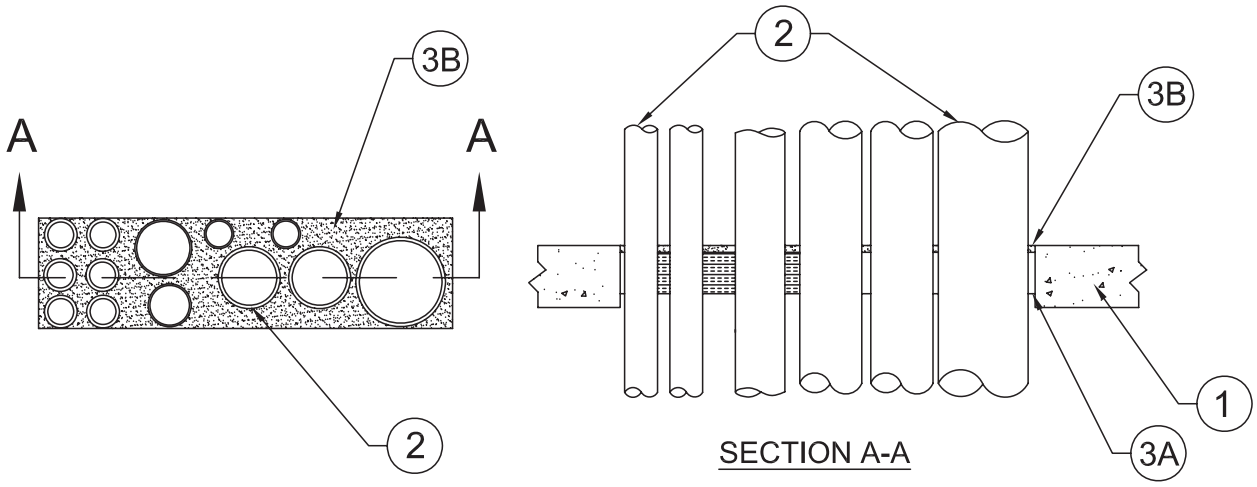
   B. **Fill, Void or Cavity Materials*** – **Caulk or Sealant** – Min 1/2 in. (13 mm) thickness of caulk applied within the annulus, flush with top surface of floor or top edge of sleeve or with both surfaces of wall or both ends of sleeves. In floors constructed of hollow-core concrete, min 1/2 in. (13 mm) thickness of caulk applied within the annulus, flush with top and bottom surfaces of floor or sleeve. Min 1/4 in. (6 mm) diam bead of caulk applied to the penetrant/concrete or penetrant/sleeve interface at the point contact location on the top surface of floor or both surfaces of wall or hollow-core.

      3M COMPANY – IC 15WB+, CP 25WB+ caulk or FB-3000 WT sealant
      (Note: W Rating applies only when FB-3000 WT is used.)

*Bearing the UL Classification Mark

System No. C-AJ-1429

March 05, 2007
F Rating – 2 Hr
T Rating – 0 Hr
W Rating – Class 1 (See Item 3)



1. **Floor or Wall Assembly** – Min 4-1/2 in. (114 mm) thick reinforced lightweight or normal weight (100-150 pcf or 1600-2400 kg/m^3) concrete. Floor assembly may also be constructed of any min 6 in. (152 mm) thick UL Classified hollow-core **Precast Concrete Units***. Wall may also be constructed of any UL Classified **Concrete Blocks***. Max area of opening 240 sq in. (1548 sq cm) with a max dimension of 30 in. (762 mm). Max area of opening in floors constructed of hollow-core concrete is 49 sq in. (316 sq cm) with a max dimension of 7 in. (178 mm).

   See **Concrete Blocks** (CAZT) and **Precast Concrete Units** (CFTV) categories in Fire Resistance Directory for names of manufacturers.

1A. **Steel Sleeve** – (Optional, Not Shown) – Nom 16 in. (406 mm) diam (or smaller) circular sleeve fabricated from nom 0.028 in. (0.71 mm) thick galv steel cast or grouted into floor or wall assembly flush with floor or wall surfaces.

2. **Through Penetrant** – One or more metallic pipes, conduits, tubes or flexible metal pipes installed concentrically or eccentrically within opening. Annular space between penetrants and periphery of opening shall be min of 0 in. (0 mm) (point contact) to max 2 in. (51 mm) Space between penetrants shall be min of 1/4 in. (6 mm) to max 2 in. (51 mm). Penetrants to be rigidly supported on both sides of floor or wall assembly. The following types and sizes of penetrants may be used:

   A. **Steel Pipe** – Nom 6 in. (152 mm) diam (or smaller) Schedule 10 (or heavier) steel pipe.
   B. **Iron Pipe** – Nom 6 in. (152 mm) diam (or smaller) cast or ductile iron pipe.
   C. **Conduit** – Nom 6 in. (152 mm) diam (or smaller) steel conduit or nom 4 in. (102 mm) diam (or smaller) steel electrical metallic tubing.
   D. **Copper Tubing** – Nom 3 in. (76 mm) diam (or smaller) Type L (or heavier) copper tubing.
   E. **Copper Pipe** – Nom 3 in. (76 mm) diam (or smaller) Regular (or heavier) copper pipe.
   F. **Through Penetrating Product*** – **Flexible Metal Piping** – The following types of steel flexible metal gas piping may be used:

      1. Nom 2 in. (51 mm) diam (or smaller) steel flexible metal gas piping. Plastic covering on piping may or may not be removed on both sides of floor or wall assembly.

         OMEGA FLEX INC.

      2. Nom 1 in. (25 mm) diam (or smaller) steel flexible metal gas piping. Plastic covering on piping may or may not be removed on both sides of floor or wall assembly.

         GASTITE, DIV OF TITEFLEX

      3. Nom 1 in. (25 mm) diam (or smaller) steel flexible metal gas piping. Plastic covering on piping may or may not be removed on both sides of floor or wall assembly.

         WARD MFG INC.

3. **Firestop System** – The details of the firestop system shall be as follows:

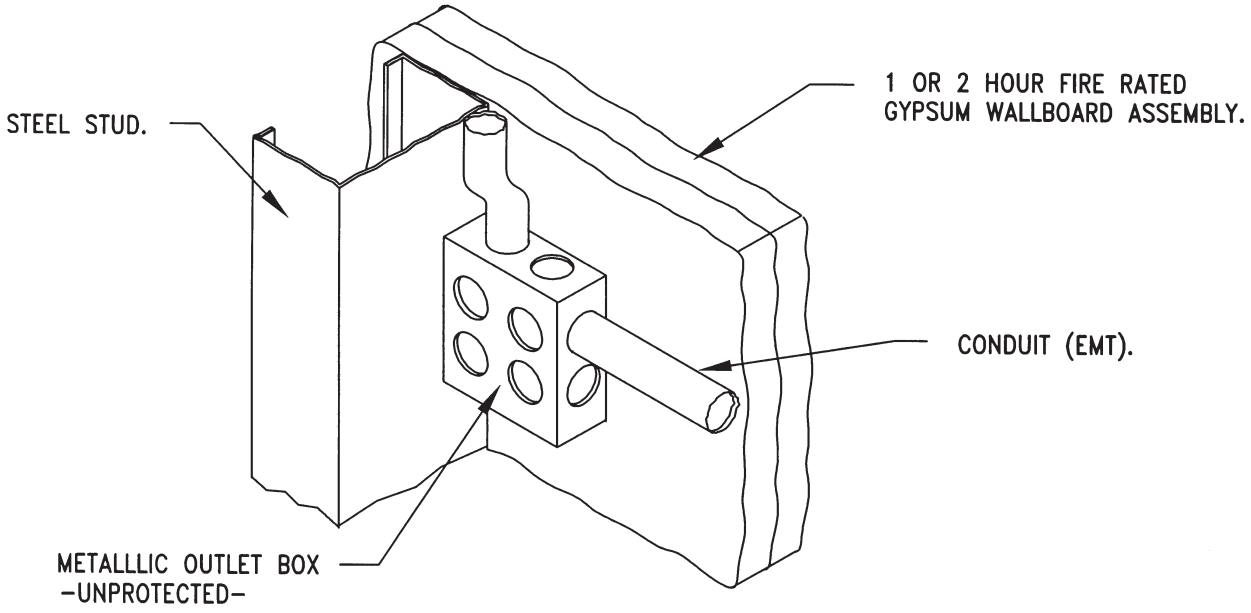
   A. **Packing Materia**l – Min 3 in. (76 mm) thickness of min 4 pcf (64 kg/m^3) mineral wool batt insulation firmly packed into opening as a permanent form. Packing material to be recessed from top surface of floor or from both surfaces of wall as required to accommodate the required thickness of fill material. In floors constructed of hollow-core concrete, packing material to be recessed from top and bottom surfaces of floor as required to accommodate the required thickness of fill material.

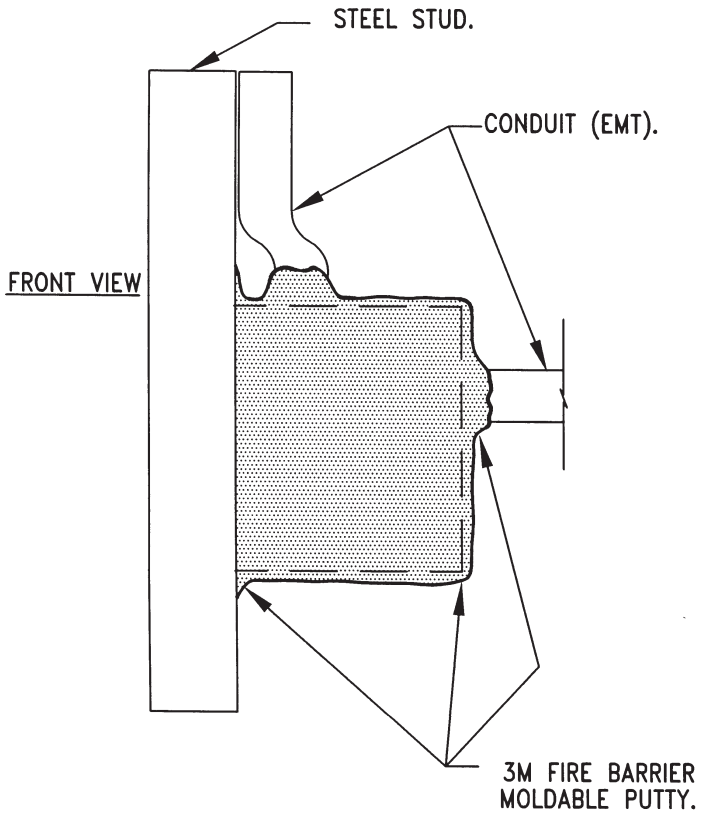
   B. **Fill, Void or Cavity Materials*** – **Caulk or Sealant** – Min 1/2 in. (13 mm) thickness of caulk applied within the annulus, flush with top surface of floor or with both surfaces of wall. In floors constructed of hollow-core concrete, min 1/2 in. (13 mm) thickness of caulk applied within the annulus, flush with top and bottom surfaces of floor. Min 1/4 in. (6 mm) diam bead of caulk applied to the penetrant/concrete interface at the point contact location on the top surface of floor or both surfaces of wall or hollow-core concrete.

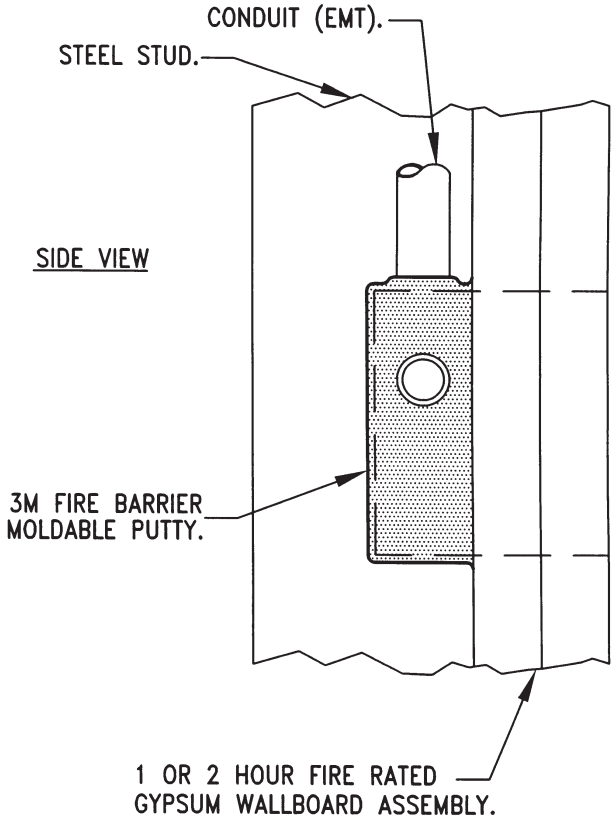
      3M COMPANY – IC 15WB+, CP 25WB+ caulk or FB-3000 WT sealant.
      (Note: W Rating applies only when FB-3000 WT is used.)

* Bearing the UL Classification Marking

Suggested Installation for 3M™ Fire Barrier Moldable Putty+ on Electrical Outlet Boxes







This material was extracted and drawn by 3M Fire Protection Products from the 2007 edition of the UL Fire Resistance Directory.

WALL OPENING PROTECTIVE MATERIALS
(CLIV)

This category covers proprietary compositions which are used to maintain the hourly ratings of fire resistive walls and partitions containing flush mounted devices such as outlet boxes, electrical cabinets and mechanical cabinets. The individual Classifications indicate the specific applications and the method of installation for which the materials have been evaluated.

The basic standard used to investigate products in this category is ANSI/UL 263, "Fire Tests of Building Construction and Materials".

LOOK FOR CLASSIFICATION MARKING ON PRODUCT

The Classification Marking of Underwriters Laboratories Inc. (shown below) on the product or container is the only method provided by Underwriters Laboratories Inc. to identify Wall Opening Protective Materials produced under its Classification and Follow-Up Service.

UNDERWRITERS LABORATORIES INC.®
CLASSIFIED
WALL OPENING PROTECTIVE MATERIAL
FIRE RESISTANCE CLASSIFICATION
SEE PRODUCT CATEGORY IN UL FIRE RESISTANCE DIRECTORY

3M COMPANY **R9700**
3M CENTER, ST PAUL MN 55144 USA

Type MPP+ moldable putty pads for use with max 4-11/16 by 4-11/16 by 2-1/8 in. deep flush device UL Listed Metallic Outlet Boxes installed with steel cover plates for use in 1 or 2 hr fire rated gypsum board wall assemblies framed with min 3-1/2 in. wide wood or steel studs and constructed as specified in the individual U300, U400 or V400 Series Wall and Partition Designs in the Fire Resistance Directory.

Type MPP+ moldable putty pads for use with max 4-11/16 by 4-11/16 by 2 1/8 in. deep flush device UL Listed Metallic Outlet Boxes installed with steel or plastic cover plates for use in 1 hr or 2 hr fire rated gypsum board wall assemblies framed with min 5-1/2 in. wide wood or steel studs and constructed as specified in the individual U300, U400 or V400 Series Wall and Partition Designs in the Fire Resistance Directory. Metallic outlet boxes to be provided with steel attachment brackets which offset box min 1/4 in. from stud. Putty pad to be affixed to the back and all four sides of the box. Boxes may be installed back-to-back within the stud cavity. When back-to-back boxes are interconnected, a ball of putty is to be installed to plug the open end of each electrical metallic tube or conduit within the outlet boxes.

Type MPP+ moldable putty pads for use with max 4 by 4 by 2-1/8 in. deep flush device UL Listed Metallic Outlet Boxes installed with plastic cover plates for use in 1 or 2 hr fire rated gypsum board wall assemblies framed with min 3-1/2 in. wide wood or steel studs and constructed as specified in the individual U300, U400 or V400 Series Wall and Partition Designs in the Fire Resistance Directory.

Type MPP+ moldable putty pads for use with max 14 by 4 by 2-1/2 in. deep flush device UL Listed Metallic Outlet Boxes installed with steel cover plates for use in 1 or 2 hr fire rated gypsum board wall assemblies framed with min 3-1/2 in. wide steel studs and constructed as specified in the individual U400 or V400 Series Wall and Partition Designs in the fire Resistance Directory.

Type MPP+ moldable putty pads for use with max 14 by 4-1/2 by 2-1/2 in. deep UL Listed Nonmetallic Outlet Boxes manufactured by Carlon Electrical Products, made of PVC and bearing a 2 hr rating under the "Outlet Boxes and Fittings Classified for Fire Resistance" category in the Fire Resistance Directory. Boxes installed with steel cover plates, for use in 1 or 2 hr rated gypsum board wall assemblies framed with min 3-1/2 in. wide wood studs and constructed as specified in the individual U300 Series Wall and Partition Designs in the Fire Resistance Directory.

Type MPP+ moldable putty pads for use with max 4 by 3-1/4 by 3-3/4 in. deep UL Listed Nonmetallic Outlet Boxes manufactured by Thomas & Betts Corp., made of polycarbonate, Type 234 or made of phenolic, Type 1052 and bearing a 2 hr rating under the "Outlet Boxes and Fittings Classified for Fire Resistance" category in the Fire Resistance Directory. Boxes installed with steel cover plates. For use in 1 hr fire rated gypsum board wall assemblies framed with min 3-1/2 in. wide wood studs and constructed as specified in the individual U300 series Wall and Partition Designs in the Fire Resistance Directory.

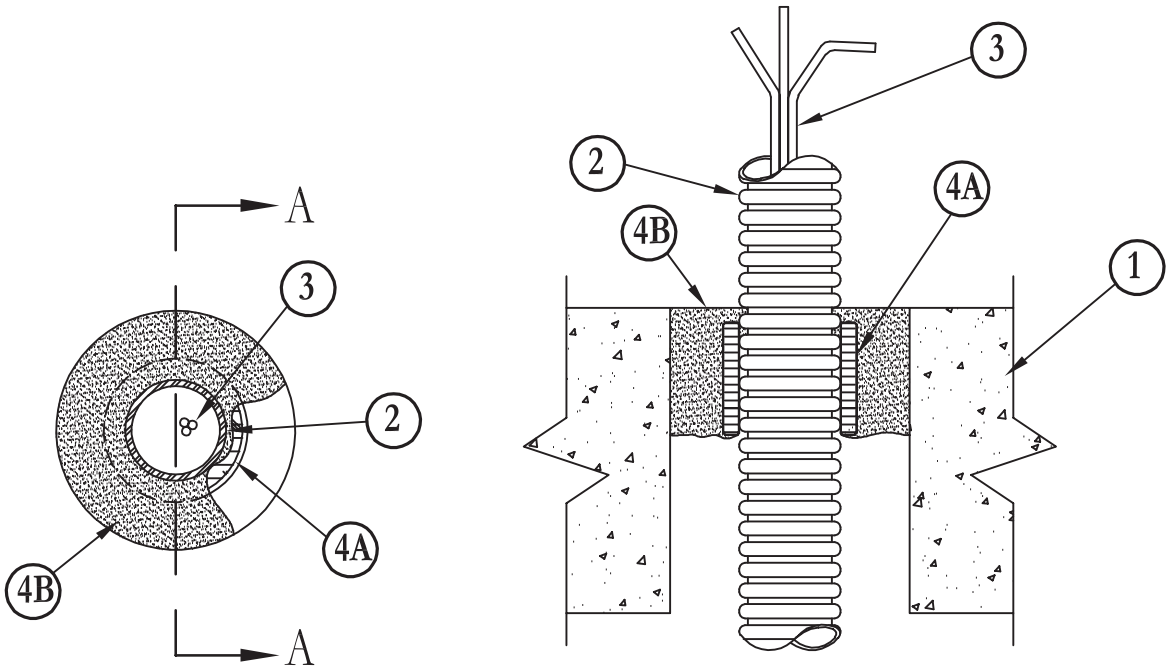
Type MPP+ moldable putty pads for use with max 4 by 3-3/4 by 3 in. deep UL Listed Nonmetallic Outlet Boxes manufactured by Carlon Electrical Products, made of PVC and bearing a 2 hr rating under the "Outlet Boxes and Fittings Classified for Fire Resistance" category in the Fire Resistance Directory. Boxes installed with plastic cover plates, for use in 1 hr rated gypsum board wall assemblies framed with min 3-1/2 in. wide wood studs and constructed as specified in the individual U300 Series Wall and Partition Designs in the Fire Resistance Directory.

Type MPP+ moldable putty pads for use with max 4 by 3-1/4 by 3-3/4 in. deep UL Listed Nonmetallic Outlet Boxes manufactured by Thomas & Betts Corp., made of phenolic, Type 2002-738-C and bearing a 2 hr rating under the "Outlet Boxes and Fittings Classified for Fire Resistance" category in the Fire Resistance Directory. Boxes installed with steel cover plates. For use in 2 hr fire rated gypsum board wall assemblies framed with min 3-1/2 in. wide steel studs and constructed as specified in the individual U400 or V400 Series Wall and Partition Designs in the Fire Resistance Directory.

Moldable putty pads are to be installed to completely cover the exterior surfaces of the outlet box (except for the side of the outlet box against the stud unless otherwise noted) including nailing tabs and to completely seal against the stud within the stud cavity. Multiple moldable putty pads may be installed on an outlet box to attain the required minimum thickness of putty material. Additional putty material used to seal around each conduit and/or cable fitting on the exterior of each box. A min 1/10 in. thickness of putty material is required on the exterior surfaces of flush device boxes in 1 and 2 hr fire rated Wall and Partition Designs. When the moldable putty pad outlet box protective material is used on boxes on both sides of wall as directed, the horizontal separation between outlet boxes on opposite sides of the wall may be less than 24 in. provided that the outlet boxes are not installed back to back, except as noted.

System No. C-AJ-2028

December 14, 1995
(Formerly System No. 448)
F Ratings – 2 Hr
T Ratings – 2 Hr



SECTION A-A

1. **Floor or Wall Assembly** – Min 4-1/2 in. thick lightweight or normal weight (100-150 pcf) concrete. Wall may also be constructed of any UL Classified **Concrete Blocks***. Max diam of opening not to exceed 4 in.

   See **Concrete Blocks** (CAZT) category in the Fire Resistance Directory for names of manufacturers.

2. **Electrical Nonmetallic Tubing++** – Nom 1-1/4 in. diam (or smaller) corrugated wall ENT constructed of polyethylene (PE) or nom 2 in. diam (or smaller) corrugated wall ENT constructed of polyvinyl chloride (PVC). ENT to be installed as a complete system with all terminations in junction boxes, outlet boxes or other approved enclosures as specified in the National Electrical Code. A max of one ENT is allowed in the opening. The ends of the ENT shall be sealed with a min 1/4 in. thickness of moldable putty fill material (Item 4B) unless it is determined that the enclosure in which it terminates is relatively air tight and is normally closed. ENT to be rigidly supported on each side of the floor or wall assembly.

   See **Electrical Nonmetallic Tubing** (FKHU) category in Electrical Construction Materials Directory for names of manufacturers.

3. **Fiber Optic Cables** – Multiple fiber optical communication cables jacketed with PE or PVC and having a max outside diam of 3/4 in. Max cross-sectional area of fiber optic cables in ENT shall not exceed 40 percent.

4. **Firestop System** – The details of the firestop system shall be as follows:

   A. **Fill, Void or Cavity Materials*** – **Wrap Strip** – Nom 1/4 in. thick intumescent elastomeric material faced on one side with aluminum foil, supplied in nom 2 in. wide by 24 in. long strips. Nom 2 in. wide strips tightly-wrapped around ENT (foil side exposed), secured in place with two min 0.062 in. diam (16 gauge) steel tie wires and slid into through opening such that the top edge is recessed 1/4 in. from top surface of the floor. When nom 1-1/4 in. diam (or smaller) ENT is used, a single layer of wrap strip is required. When nom 1-1/2 or 2 in. diam ENT is used, two layers of wrap strip are required. In wall assemblies, wrap strip layer(s) on ENT to be installed in same manner used for floor assemblies but shall be installed symmetrically on both sides of the wall assembly.

      3M COMPANY – FS-195+

   B. **Fill, Void or Cavity Materials*** – **Putty** – Moldable putty material applied to fill annular space between wrap strip layer(s) and perimeter of through opening to a min depth of 2 in. with an additional 1/4 in. thickness applied over edge(s) of wrap strip layer(s) flush with top surface of floor and both surfaces of wall.

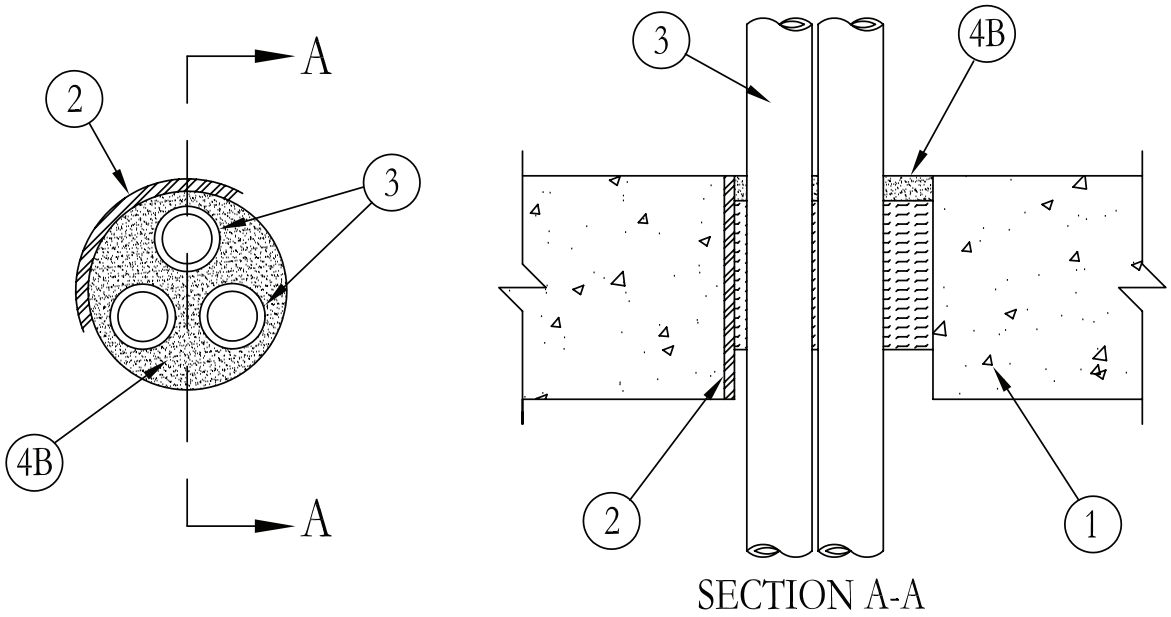
      3M COMPANY – MP+ Stix

++Bearing the UL Listing Mark
*Bearing the UL Classification Marking

Note: This system was tested with a pressure differential of 50 Pa between the exposed and unexposed surfaces with the higher pressure on the exposed side.

System No. C-AJ-2378

May 19, 2005
F Rating – 2 Hr
T Rating – 0 Hr
W Rating – Class I (See Item 4)



SECTION A-A

1. **Floor or Wall Assembly** – Min 4-1/2 in. (114 mm) thick reinforced lightweight or normal weight (100-150 pcf or 1600-2400 kg/m^3) concrete. Floor assembly may also be constructed of any min 6 in. (152 mm) thick UL Classified hollow-core **Precast Concrete Units***. Wall may also be constructed of any UL Classified **Concrete Blocks***. Max diam of opening 5 in. (127 mm).

   See **Concrete Blocks** (CAZT) and **Precast Concrete Units** (CFTV) categories in Fire Resistance Directory for names of manufacturers.

2. **Steel Sleeve** (Optional) – Nom 5 in. (127 mm) diam (or smaller) Schedule 10 (or heavier) steel sleeve cast or grouted into floor or wall assembly. Steel sleeve may be installed flush or may project max 2 in. (51 mm) beyond the floor or wall surfaces.

3. **Through Penetrants** – One or more nonmetallic pipes, conduits or tubes installed concentrically or eccentrically within opening. Annular space between penetrants and periphery of opening or sleeve shall be min of 1/4 in. to max 2 in. (6 mm to max 51 mm).The space between penetrants shall be min of 1/4 in. to max 2 in. (6 mm to max 51 mm). Penetrants to be rigidly supported on both sides of floor or wall assembly. The following types and sizes of penetrants may be used:

   A. **Polyvinyl Chloride (PVC) Pipe** – Nom 1-1/2 in. (38 mm) diam (or smaller) Schedule 40 solid core PVC pipe for use in closed (process or supply) or vented (drain, waste or vent) piping systems.

   B. **Rigid Nonmetallic Conduit+** – Nom 1-1/2 in. (38 mm) diam (or smaller) Schedule 40 PVC conduit installed in accordance with Article 347 of the National Electrical Code (NFPA No. 70).

   C. **Chlorinated Polyvinyl Chloride (CPVC) Pipe** – Nom 1-1/2 in. (38 mm) diam (or smaller) SDR13.5 CPVC pipe for use in closed (process or supply) piping systems.

   D. **Crosslinked Polyethylene (PEX) Tubing** – Nom 1 in. (25 mm) diam (or smaller) SDR 9 PEX tubing for use in closed (process or supply) or vented (drain, waste or vent) piping systems.

4. **Firestop System** – The details of the firestop system shall be as follows:

   A. **Packing Material** – Min 3 in. (76 mm) thickness of min 4 pcf (64 kg/m^3) mineral wool batt insulation firmly packed into opening as a permanent form. Packing material to be recessed from top surface of floor or top edge of sleeve or from both surfaces of wall or both ends of sleeve as required to accommodate the required thickness of fill material. In floors constructed of hollow-core concrete, packing material to be recessed from top and bottom surfaces of floor or sleeve as required to accommodate the required thickness of fill material.

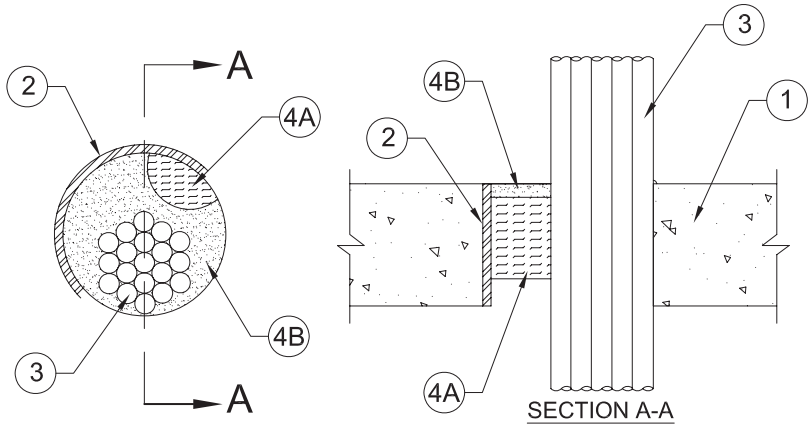
   B. **Fill, Void or Cavity Materials*** – **Caulk or Sealant** – Min 1/2 in. (13 mm) thickness of caulk applied within the annulus, flush with top surface of floor or top edge of sleeve or with both surfaces of wall or both ends of sleeves. In floors constructed of hollow-core concrete, min 1/2 in. (13 mm) thickness of caulk applied within the annulus, flush with top and bottom surfaces of floor or sleeve. Min 1/4 in. (6 mm) diam bead of caulk applied to the penetrant/concrete or penetrant/sleeve interface at the point contact location on the top surface of floor or both surfaces of wall or hollow-core concrete.

      3M COMPANY – IC 15WB+, CP 25WB+ caulk or FB-3000 WT sealant.
      (Note: W Rating applies only when FB-3000 WT sealant is used. CP 25WB+ not suitable for use with CPVC pipes.)

*Bearing the UL Classification Marking

System No. C-AJ-3200

March 15, 2007
F Rating – 2 Hr
T Rating – 1/4 Hr



1. **Floor or Wall Assembly** – Min 4-1/2 in. (114 mm) thick reinforced lightweight or normal weight (100-150 pcf or 1600 - 2400 kg/m^3) concrete. Floor assembly may also be constructed of any min 6 in. thick UL Classified hollow-core **Precast Concrete Units***. Wall may also be constructed of any UL Classified **Concrete Blocks***. Max diam of opening 6 in. (152 mm).

   See **Concrete Blocks** (CAZT) and **Precast Concrete Units** (CFTV) categories in Fire Resistance Directory for names of manufacturers.

2. **Steel Sleeve** – (Optional) - Nom 6 in. (152 mm) diam (or smaller) Schedule 10 (or heavier) steel sleeve cast or grouted into floor or wall assembly. Steel sleeve may be installed flush or may project max 2 in. (51 mm) beyond the floor or wall surfaces. As an alternate, nom 6 in. (152 mm) diam (or smaller) sleeve fabricated from nom 0.019 in. (0.48 mm) thick galv steel cast or grouted into floor or wall assembly flush with floor or wall surfaces.

3. **Cables** – Aggregate cross-sectional area of cables in opening to be max 49 percent of the cross-sectional area inside the sleeve or opening. Annular space between cables and periphery of opening or sleeve shall be min of 0 in. (0 mm) (point contact) to max 2 in. (51 mm). Cables to be rigidly supported on both sides of floor or wall assembly. Any combination of the following types and sizes of cable may be used;

   A. Max 200 pair No. 22 AWG (or smaller) copper conductor with polyvinyl chloride (PVC) insulation and jacketing material.
   B. Max 1/C No. 750 kcmil (or smaller) copper conductor cable with cross-linked polyethylene (XLPE) jacket.
   C. Max 7/C No. 12 AWG (or smaller) copper conductor power and control cables with XLPE or PVC insulation with XLPE or PVC jacket.
   D. Max 3/C No. 3/0 AWG (or smaller) copper or aluminum conductor SER cables with PVC insulation and jacket.
   E. Max 3/C No. 2/0 AWG (or smaller) copper conductor PVC jacketed aluminum clad or steel clad TECK 90 cable.
   F. Max 110/125 fiber optic (F.O.) cable with PVC insulation and jacket.
   G. Max 3/C with ground No. 8 AWG (or smaller) copper conductor NM cable with PVC insulation and jacket.
   H. RG/U coaxial cable with fluorinated ethylene (FE) or PVC insulation and jacket.
   I. Max 4 pair No. 24 AWG (or smaller) copper conductor data cable with Hylar jacket and insulation.
   J. Max three conductor No. 12 AWG (or smaller) MC (BX) copper cable with polyvinyl chloride insulation and jacket materials.
   K. **Through Penetrating Product*** – Any cables, **Armored Cable**+ or **Metal Clad Cable**+ currently Classified under the **Through Penetrating Product** category.

      See **Through Penetrating Product** (XHLY) category in the Fire Resistance Directory for names of manufacturers.

4. **Firestop System** – The details of the firestop system shall be as follows:

   A. **Packing Material** – Min 3 in. (76 mm) thickness of min 4 pcf (64 kg/m^3) mineral wool batt insulation firmly packed into opening as a permanent form. Packing material to be recessed from top surface of floor or top edge of sleeve or from both surfaces of wall or both ends of sleeve as required to accommodate the required thickness of fill material. In floors constructed of hollow-core concrete, packing material to be recessed from top and bottom surfaces of floor or sleeve as required to accommodate the required thickness of fill material.

   A1. **Forming Material*** – As an alternate to the packing material in Item 4A, nom 4 in. (102 mm) wide strips of min 1/2 in (13 mm) thick compressible mat to be stacked to a thickness greater than the width of the annular space and compression-fitted, edge-first, to fill the annular space to a min 4 in. (102 mm) depth. Top of forming material to be recessed from top surface of floor or top edge of sleeve or from both surfaces of wall as necessary to accommodate the required thickness of caulk fill material. In floors constructed of hollow-core concrete, packing material to be recessed from top and bottom surfaces of floor or sleeve as required to accommodate the required thickness of fill material.

      3M COMPANY – Fire Barrier Packing Material

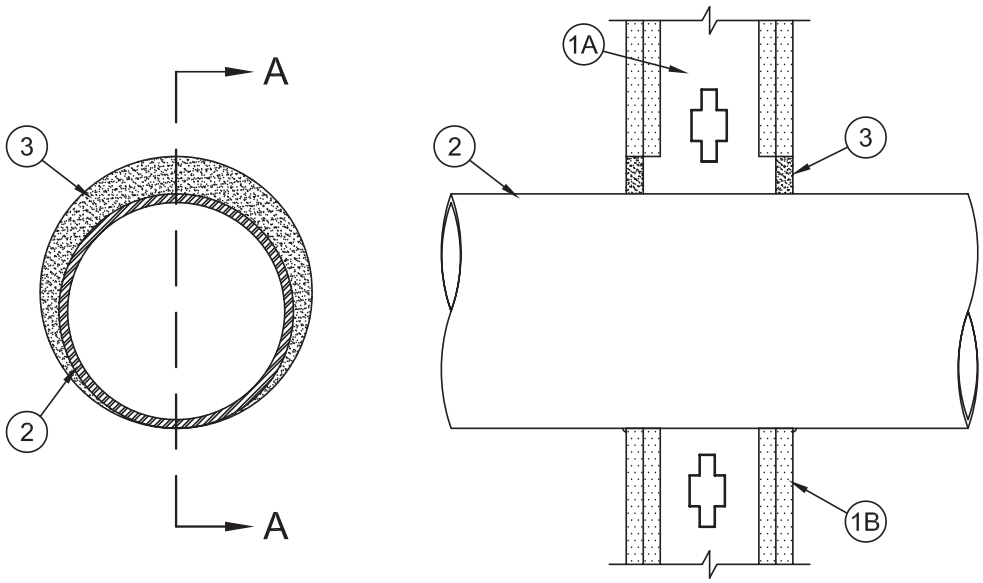
   B. **Fill, Void or Cavity Materials*** – **Caulk or Sealant** – Min 1/2 in. (13 mm) thickness of caulk applied within the annulus, flush with top surface of floor or top edge of sleeve or with both surfaces of wall or both ends of sleeves. In floors constructed of hollow-core concrete, min 1/2 in. (13 mm) thickness of caulk applied within the annulus, flush with top and bottom surfaces of floor or sleeves. Min 1/4 in. (6 mm) diam bead of caulk applied to the penetrant/concrete or penetrant/sleeve interface at the point contact location on the top surface of floor or both surfaces of wall or hollow-core concrete.

      3M COMPANY – IC 15WB+, CP 25WB+ caulk or FB-3000 WT sealant.

* Bearing the UL Classification Marking
\+ Bearing the UL Listing Mark

System No. W-L-1296

February 14, 2008
F Ratings – 1 and 2 Hr (See Item 1)
T Ratings – 0 and 1/4 Hr (See Item 1)



SECTION A-A

1. **Wall Assembly** – The 1 or 2 hr fire rated gypsum board/stud wall assembly shall be constructed of the materials and in the manner described in the individual U300, U400 or V400 Series Wall and Partition Design in the UL Fire Resistance Directory and shall include the following construction features:
   A. **Studs** – Wall framing may consist of either wood studs or steel channel studs. Wood studs to consist of nom 2 by 4 in. (51 by 102 mm) lumber spaced 16 in. (406 mm) OC. Steel studs to be min 3-1/2 in. (89 mm) wide spaced max 24 in. (610 mm) OC.
   B. **Gypsum Board*** – The gypsum board type, thickness, number of layers, fastener type and sheet orientation shall be as specified in the individual U300, U400 or V400 Series Design in the UL Fire Resistance Directory. Max diam of opening is 10-5/8 in. (270 mm).
   C. **Steel Sleeve** – (Optional, Not Shown) - Cylindrical sleeve fabricated from min 0.019 in. thick (0.48 mm) galv sheet steel and having a min 2 in. (51 mm) lap along the longitudinal seam. Length of steel sleeve to be equal to thickness of wall. Sleeve installed by coiling the sheet steel to a diam smaller than the through opening, inserting the coil through the openings and releasing the coil to let it uncoil against the circular cutouts in the gypsum wallboard layers.

   The hourly F Rating of the firestop system is equal to the hourly fire rating of the wall assembly in which it is installed. The hourly T Rating is 0 and 1/4 Hr for 1 and 2 Hr rated assemblies, respectively.
2. **Through Penetrants** – One metallic pipe, conduit, tubing or flexible metal pipe installed concentrically or eccentrically within opening. Annular space between penetrant and periphery of opening to be min 0 in. (0 mm point contact) to max 2 in. (51 mm). Penetrant to be rigidly supported on both sides of wall. The following types and sizes of penetrants may be used:
   A. **Steel Pipe** – Nom 8 in. (203 mm) diam (or smaller) Schedule 5 (or heavier) steel pipe.
   B. **Iron Pipe** – Nom 8 in. (203 mm) diam (or smaller) cast or ductile iron pipe.
   C. **Conduit** – Nom 4 in. (102 mm) diam (or smaller) steel electrical metallic tubing (EMT) or nom 6 in. (152 mm) rigid steel conduit.
   D. **Copper Tubing** – Nom 4 in. (102 mm) diam (or smaller) Type L (or heavier) copper tubing.
   E. **Copper Pipe** – Nom 4 in. (102 mm) diam (or smaller) Regular (or heavier) copper pipe.
   F. **Through Penetrating Product*** – **Flexible Metal Piping** – The following types of steel flexible metal gas piping may be used:
      1. Nom 2 in. (51 mm) diam (or smaller) steel flexible metal gas piping. Plastic covering on piping may or may not be removed on both sides of floor or wall assembly.

         OMEGA FLEX INC
      2. Nom 1 in. (25 mm) diam (or smaller) steel flexible metal gas piping. Plastic covering on piping may or may not be removed on both sides of floor or wall assembly.

         GASTITE, DIV OF TITEFLEX
      3. Nom 1 in. (25 mm) diam (or smaller) steel flexible metal gas piping. Plastic covering on piping may or may not be removed on both sides of floor or wall assembly.

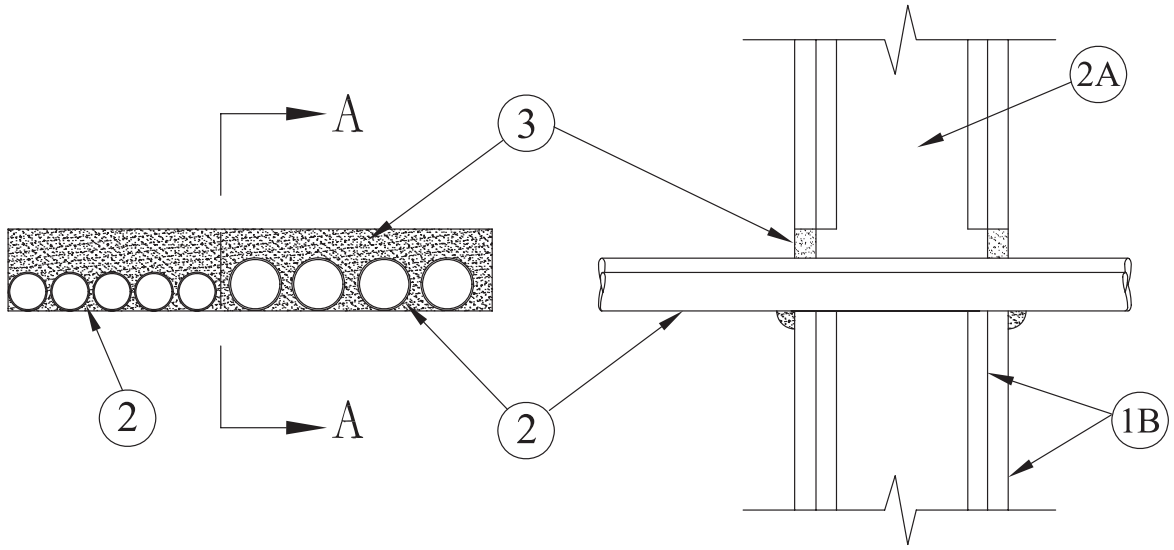
         WARD MFG INC
3. **Fill, Void or Cavity Material*** – **Caulk or Sealant** – Min 5/8 in. (16 mm) thickness of caulk applied within annulus, flush with both surfaces of wall. Min 1/4 in. (6 mm) diam bead of caulk applied to gypsum board/penetrant interface at point contact location on both sides of wall.

   3M COMPANY – IC 15WB+, CP 25WB+ caulk or FB-3000 WT sealant

*Bearing the UL Classification Mark

System No. W-L-1228

May 19, 2005
F Rating – 1 and 2 Hr (See Item 1)
T Rating – 0, 1/2 and 1 Hr (See Item 3)
L Rating At Ambient – Less Than 1 CFM/sq ft
L Rating At 400 F – 2 CFM/sq ft



SECTION A-A

1. **Wall Assembly** – The 1 or 2 hr fire rated gypsum board/stud wall assembly shall be constructed of the materials and in the manner described in the individual U400 or V400 Series Wall and Partition Design in the UL Fire Resistance Directory and shall include the following construction features:

   A. **Studs** – Wall framing shall consist of min 3-5/8 in. (92 mm) wide steel channel studs spaced max 24 in. (610 mm) OC.

   B. **Gypsum Board*** – Thickness, type, number of layers and fasteners shall be as specified in the individual U400 series Wall and Partition Design in the UL Fire Resistance Directory. Max area of opening is 67-1/2 sq. in. (435 sq cm) with max dimension of 22-1/2 in. (572 mm).

   The hourly F Rating of the firestop system is equal to the hourly fire rating of the wall assembly in which it is installed.

2. **Through Penetrant** – One or more nom 2 in. (51 mm) diam (or smaller) rigid steel conduit or electrical metallic tubing (EMT) installed either concentrically or eccentrically within the firestop system. The annular space between conduits or tubing and periphery of opening shall be min 0 in. (point contact) to max 1-1/4 in. (0 mm to max 32 mm). The space between conduits or tubing shall be min 1/4 in. to max 1 in. (6 mm to max 25 mm). Conduit or tubing to be rigidly supported on both sides of wall assembly.

3. **Fill, Void or Cavity Material*** – **Caulk or Sealant** – Min 5/8 in. (16 mm) thickness of fill material applied within the annulus, flush with both surfaces of wall. Min 1/2 in. (13 mm) diam bead of caulk applied to the penetrant/gypsum board interface at the point contact location on both sides of wall.

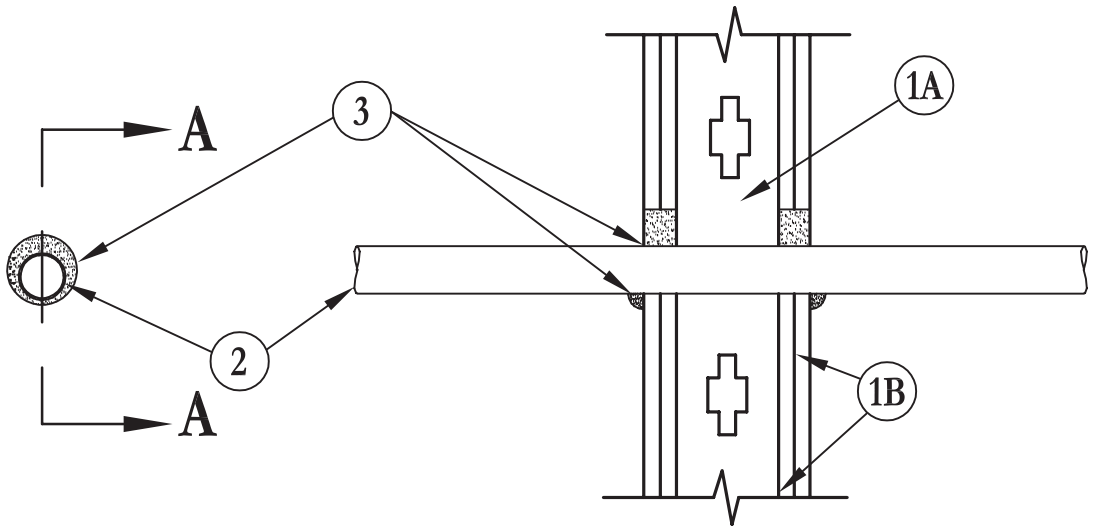
   The hourly T Rating of the firestop system is 0 Hr when used in 1 Hr rated assemblies. The T Rating for 2 Hr rated assemblies is 1/2 and 1 Hr for FireDam 150+ and CP 25WB+, respectively.

   3M COMPANY – IC 15WB+, CP 25WB+, FireDam 150+ caulk or FB-3000 WT sealant.

*Bearing the UL Classification Mark

System No. W-L-2088

May 23, 2005
F Ratings – 1 and 2 Hr (See Item 1)
T Ratings – 0, 1 and 2 Hr (See Item 2)



SECTION A-A

1. **Wall Assembly** – The 1 or 2 hr fire rated gypsum board/stud wall assembly shall be constructed of the materials and in the manner specified in the individual U300, U400 or V400 Series Wall and Partition Designs in the UL Fire Resistance Directory and shall include the following construction features:

   A. **Studs** – Wall framing may consist of either wood studs or steel channel studs. Wood studs to consist of nom 2 in. by 4 in. (51 mm by 102 mm) lumber spaced 16 in. (406 mm) OC. Steel studs to be min 3-1/2 in. (89 mm) wide and spaced max 24 in. (610 mm) OC.

   B. **Gypsum Board*** – Thickness, type, number of layers and fasteners as required in the individual Wall and Partition Design. Diam of opening shall be 7/8 in. (22 mm) larger than the outside diam of nonmetallic pipe or conduit (Item 2).

   The hourly F Rating of the firestop system is equal to the hourly fire rating of the wall assembly in which it is installed.

2. **Through Penetrants** – One nonmetallic pipe or conduit to be installed either concentrically or eccentrically within the firestop system. The annular space for max 1-1/4 in. (32 mm) diam pipe or conduit shall be min 0 in. (point contact) to max 7/8 in. (0 mm to max 22 mm). The annular space for pipe or conduit larger than nom 1-1/4 in. (32 mm). diam shall be min 1/2 in. to max 1 in. (13 mm to max 25 mm). Pipe or conduit to be rigidly supported on both sides of wall assembly. The following types and sizes of nonmetallic pipes or conduits may be used:

   A. **Polyvinyl Chloride (PVC) Pipe** – Nom 2 in. (51 mm) diam (or smaller) Schedule 40 solid core or cellular core PVC pipe for use in closed (process or supply) or vented (drain, waste or vent) piping system.

   B. **Polyvinyl Chloride (PVC) Pipe** – Nom 3 in. (76 mm) diam (or smaller) Schedule 40 solid core PVC pipe for use in closed (process or supply) piping system.

   C. **Chlorinated Polyvinyl Chloride (CPVC) Pipe** – Nom 3 in. (76 mm) diam (or smaller) SDR 11 CPVC pipe for use in closed (process or supply) piping systems.

   D. **Rigid Nonmetallic Conduit**++ – Nom 3 in. (76 mm) diam (or smaller) Schedule 40 PVC conduit installed in accordance with Article 347 of the National Electrical Code (NFPA No 70).

   E. **Electrical Nonmetallic Tubing (ENT)**++ – Nom 1 in. (25 mm) diam (or smaller) ENT formed of PVC, installed in accordance with Article 331 of the National Electrical Code (NFPA No. 70).

   See **Rigid Nonmetallic Conduit** (DZKT) and **Electrical Nonmetallic Tubing** (FKHU) categories in the UL Electrical Construction Equipment Directory for names of manufacturers.

   F. **Acrylonitrile Butadiene Styrene (ABS) Pipe** – Nom. 2 in. (51 mm) diam (or smaller) Schedule 40 solid core or cellular core ABS pipe for use in closed (process or supply) or vented (drain, waste or vent) piping systems.

   The hourly T Rating is dependent on the hourly rating of the wall assembly, the pipe or conduit size and whether the pipe is intended for use as a closed or vented system, as shown in the following table.

Nom Pipe Diam In. (mm)	Wall Assembly Rating Hr	Closed (c) or Vented (v)	T Rating Hr
1/2 to 3 (13 to 76)	1	c	1
1/2 to 1-1/4 (13 to 32)	1	v	1
1/2 to 1-1/4 (13 to 32)	2	c	2
1/2 to 1-1/4 (13 to 32)	2	v	1
2 (51)	1	v	0
2 (51)	2	v	0

System No. W-L-2088 *continued*

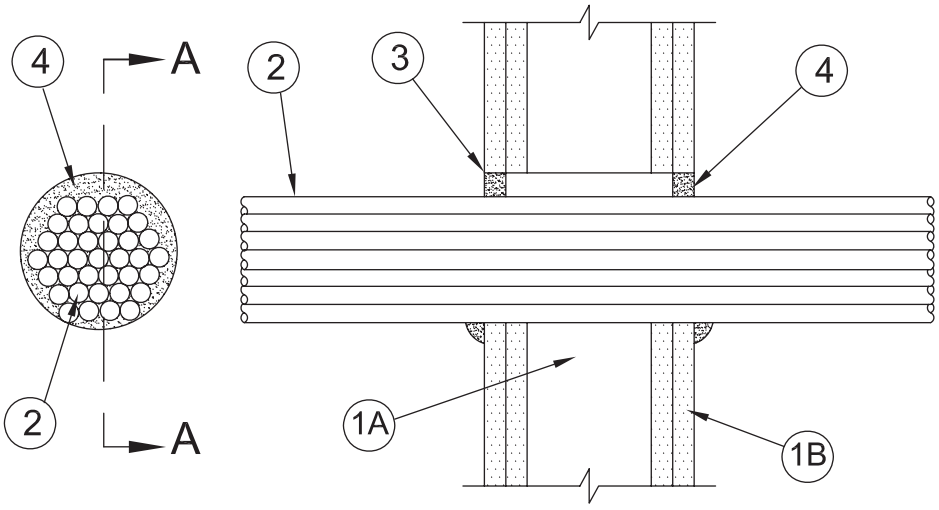
3. **Fill, Void or Cavity Materials*** – **Caulk, Sealant or Putty** – Min thickness of 5/8 in. and 1-1/4 in. (16 mm and 32 mm) of caulk or putty for 1 and 2 hr rated wall assemblies, respectively, applied within annulus between pipe or conduit and periphery of the opening, flush with both surfaces of wall assembly. At the point contact location between pipe or conduit and gypsum board, a min 1/2 in. (13 mm) diam bead of caulk or putty shall be applied at the pipe or conduit/wallboard interface on both surfaces of wall assembly.

   3M COMPANY – CP 25WB+, IC 15WB+ caulk, FB-3000 WT sealant or MP+ Stix putty
   (Note: CP 25WB+ not suitable for use with CPVC pipes.)

+++Bearing the UL Listing Mark.
*Bearing the UL Classification Marking

System No. W-L-3195

October 01, 2008
F Ratings – 1 and 2 Hr (See Item 1)
T Ratings – 0 and 1/2 Hr (See Item 1)



SECTION A-A

1. **Wall Assembly** – The 1 or 2 hr fire rated gypsum board/stud wall assembly shall be constructed of the materials and in the manner described in the individual U300, U400 or V400 Series Wall and Partition Design in the UL Fire Resistance Directory and shall include the following construction features:
   A. **Studs** – Wall framing may consist of either wood studs or steel channel studs. Wood studs to consist of nom 2 by 4 in. (51 by 102 mm) lumber spaced 16 in. (406 mm) OC. Steel studs to be min 3-1/2 in. (89 mm) wide spaced max 24 in. (610 mm) OC.
   B. **Gypsum Board*** – The gypsum board type, thickness, number of layers, fastener type and sheet orientation shall be as specified in the individual Design in the UL Fire Resistance Directory. Max diam of opening is 5 in. (127 mm).

   The hourly F Rating of the firestop system is equal to the hourly fire rating of the wall assembly in which it is installed. The hourly T Rating is 0 and 1/2 Hr for 1 and 2 Hr fire rated assemblies, respectively.
2. **Steel Sleeve** – (Optional) - Cylindrical sleeve fabricated from min 0.018 in. (0.46 mm) thick (No. 28 gauge) galv sheet steel and having a min 1 in. (25 mm) lap along the longitudinal seam. Length of sleeve to be equal to or max 2 in. (51 mm) greater than the thickness of wall. Ends of sleeve to be flush with or extend a max 1 in. (25 mm) beyond each surface of wall.
3. **Cable** – Max 4 in. (102 mm) diam cable bundle installed eccentrically or concentrically within opening. Annular space between cable bundle and periphery of opening or sleeve to be min 0 in. (0 mm, point contact) to max 1 in. (25 mm). Cable bundle to be rigidly supported on both sides of wall. The following types and sizes of cables may be used:
   A. Max 200 pair No. 22 AWG (or smaller) copper conductor with polyvinyl chloride (PVC) insulation and jacketing material.
   B. Max 1/C No. 350 kcmil (or smaller) copper conductor cable with cross-linked polyethylene (XLPE) or PVC jacket.
   C. Max 7/C No. 12 AWG (or smaller) copper conductor power and control cables with XLPE or PVC insulation with XLPE or PVC jacket.
   D. Max 3/C No. 4/0 AWG (or smaller) copper or aluminum conductor SER cables with XLPE or PVC insulation and jacket.
   E. Max 4/C No. 2/0 AWG (or smaller) copper conductor, aluminum clad or steel clad TECK 90 cable with or without PVC jacketed.
   F. Max 110/125 fiber optic (F.O.) cable with PVC insulation and jacket.
   G. Max 3/C with ground No. 8 AWG (or smaller) copper conductor NM cable with PVC insulation and jacket.
   H. Max RG/U coaxial cable with fluorinated ethylene insulation and jacket.
   I. Max 4 pair No. 24 AWG (or smaller) copper conductor data cable with Hylar jacket and insulation.
   J. **Through Penetrating Product*** – Any cables, **Armored Cable**+ or **Metal Clad Cable**+ currently Classified under the **Through Penetrating Product** category.

      See **Through Penetrating Product** (XHLY) category in the Fire Resistance Directory for names of manufacturers.
4. **Fill, Void or Cavity Material*** – **Caulk or Sealant** – Min 5/8 in. (16 mm) thickness of caulk applied within annulus, flush with both surfaces of wall. Min 1/4 in. (6 mm) diam bead of caulk applied to gypsum board/cable bundle interface at point contact location on both sides of wall.

   3M COMPANY – IC 15WB+, CP 25WB+ caulk or FB-3000 WT sealant

*Bearing the UL Classification Mark

3M™ Fire Barrier Water Tight Sealant 3000WT

Product Data Sheet

FIRE BARRIER
UP TO 4 HOUR Fire Protection

SMOKE SEAL
L RATED Meets Air Leakage Requirements

WATER BARRIER
MEETS CLASS 1W Rating UL Water Leakage

SOUND BARRIER
STC 53 In SRC 53-rated Wall Assembly

CLASSIFIED UL

FILL, VOID OR CAVITY MATERIAL
FOR USE IN JOINT SYSTEMS AND
THROUGH-PENETRATION FIRESTOP SYSTEMS
SEE UL FIRE RESISTANCE DIRECTORY
8R57

LISTED
Intertek
FIRESTOP SYSTEMS
SEE INTERTEK DIRECTORY

ULC LISTED
FILL, VOID OR CAVITY MATERIALS
8R57

1. Product Description

3M™ Fire Barrier Water Tight Sealant 3000 WT is a high-performance, ready-to-use, single component, neutral cure, non-slumping intumescent silicone sealant. Product cures upon exposure to atmospheric humidity to form a flexible firestop seal that also acts as a barrier to water leakage and airborne sound transmission. 3M™ Fire Barrier Water Tight Sealant 3000 WT helps control the spread of fire, smoke and noxious gasses before, during and after exposure to a fire when installed in accordance with a listed through penetration or fire-resistive joint assembly. 3M™ Fire Barrier Water Tight Sealant 3000 WT meets UL Water Leakage Test, W Rating – Class 1 requirements for systems tested and listed in accordance with ANSI/UL 1479 and is tested in accordance with ASTM G 21 standard practice for determining resistance of synthetic polymeric materials to fungi.

3M™ Fire Barrier Water Tight Sealant 3000 WT firestops penetrations passing through fire-rated floor, floor/ceiling or wall assemblies, static construction joints, blank openings and other fire-rated interior building construction. The intumescent property of 3M™ Fire Barrier Water Tight Sealant 3000 WT allows it to expand and help maintain a firestop penetration seal for up to 4 hours as penetrants are exposed to fire.

High-performance silicone sealant provides a barrier against fire, water and sound

Available in: Light Gray with Black Flecks

Product Features

- Firestop tested up to 4 hours in accordance with ASTM E 814 (UL 1479) & CAN/ULC S115
- Fire Resistance tested for static construction joint systems in accordance with ASTM E 1966 (UL 2079)
- Meets UL Water Leakage Test, W Rating — Class 1 requirements
- Meets optional L-Rating Requirements (smoke seal)
- Minimizes noise transfer — STC-rating of 53 when tested in STC 54-rated wall assembly
- Sag-resistant, re-enterable and repairable
- Halogen-free
- Excellent adhesion, weatherability and caulk rate
- Meets UL 1479 aging requirements

Meets the intent of LEED® VOC environmental quality requirements—helps reduce the quantity of indoor air contaminants that may be odorous, irritating and harmful to the comfort and well-being of the installers and occupants. <250g/L VOC contents (less H_2O and exempt solvents).

2. Applications

3M™ Fire Barrier Water Tight Sealant 3000 WT is a high-performance intumescent firestop ideal for sealing single or multiple through penetrations in fire-rated construction. 3M™ Fire Barrier Water Tight Sealant 3000 WT is typically used in mechanical, electrical and plumbing applications to firestop openings created by the following penetrations in fire-rated floors, floor/ceilings or walls: metallic pipe, non-metallic pipe (e.g. plastic), conduit, power and communication cable, cable trays, busways, combos, insulated pipe and HVAC duct penetrations. This product is also used to firestop blank openings and bottom-of-wall static construction joints.

3. Specifications

3M™ Fire Barrier Water Tight Sealant 3000 WT shall be a high-performance, ready-to-use, single component, neutral cure, non-slumping, intumescent silicone sealant capable of expanding a minimum of six times its cured volume when exposed to temperatures above 662°F (350°C). The sealant shall be listed by independent test agencies such as UL, Intertek or FM. 3M™ Fire Barrier Water Tight Sealant 3000 WT shall be tested to and pass the criteria of ASTM E 814 (UL 1479) Standard Test Method for Fire Tests of Penetration Firestop Systems, ASTM E 1966 (UL 2079) Standard Test Method for Fire Resistive Joint Systems and CAN/ULC S115 Standard Method of Fire Tests of Firestop Systems. 3M™ Fire Barrier Water Tight Sealant 3000 WT meets the requirements of the IBC, IRC, IFC, IPC, IMC, NFPA 5000, NEC (NFPA 70) and NFPA 101.

Typically Specified MasterFormat (2004)
Section 07 84 00 – Firestopping

Related Sections
Section 07 27 00 – Air Barriers
Section 07 84 16 – Annular Space Protection
Section 07 84 43 – Fire-Resistant Joint Sealants
Section 07 86 00 – Smoke Seals
Section 07 87 00 – Smoke Containment Barriers
Section 07 92 19 – Acoustical Joint Sealants
Section 21 00 00 – Fire Suppression
Section 22 00 00 – Plumbing
Section 23 00 00 – Heating, Ventilating, and Air Conditioning (HVAC)
Section 26 00 00 – Electrical

4. Performance & Typical Physical Properties

Color:	Light Gray with Black Flecks
Application Temperature Range: (ASTM C 1299)	-20°F to 122°F (-29°C to 50°C)
Service Temperature Range:	14°F to 230°F (-10°C to 110°C)
STC (ASTM E 90 and ASTM E 413)**:**	53 when tested in STC 54 rated wall assembly
Fungi Testing:	Meets ASTM G 21 requirements
Surface Burning (ASTM E 84 Mod)**:**	Flame Spread 0, Smoke Development 0

Working Time:	20–40 minutes
Expansion Volume:	> 6 times at 662°F (350°C)
Specific Gravity:	1.25
VOC Less H_2O and Exempt Solvents:	< 31g/L

Cure: Full cure depends upon ambient conditions and volume of sealant. Cure rate is approximately 1/8 inch (3mm) per day under typical conditions of 75°F (23°C) and 50% R.H.

Meets the intent of LEED® VOC environmental quality requirements.

Unit Volume: 10.1 fl. oz tube (298.7cc, 18.2 in.^{3}), 20 fl. oz. sausage (591.5cc, 36.1 in.^{3}), 4.5 gal. pail (.017m^3, 1039.5 in.^{3})

5. Packaging, Storage, Shelf Life

Packaging: Volume: 10.1 fl. oz. cartridge (tube), 20 fl. oz. sausage and 4.5 gallon pail

Storage: 3M™ Fire Barrier Water Tight Sealant 3000 WT should be stored indoors in dry conditions between 40°F and 90°F (4°C and 32°C). Avoid repeated freeze / thaw exposures of the 3M™ Fire Barrier Water Tight Sealant 3000 WT while still in the packaging.

Shelf Life: 3M™ Fire Barrier Water Tight Sealant 3000 WT shelf life is 12 months in original unopened containers from date of packaging when stored above 68°F (2°C).

Lot numbering: First to sixth digit = Date of Production (MMDDYY), Seventh indicator = dash symbol (-), Eighth digit = shift number

6. Installation Techniques

Consult a 3M Authorized Fire Protection Products Distributor / Dealer or Sales Representative for Applicable UL, Intertek or other third-party drawings and system details.

Preparatory Work: The surface of the opening and any penetrating items should be clean and free of dirt and debris to allow for the proper adhesion of 3M™ Fire Barrier Water Tight Sealant 3000 WT. Do not use alcohol to clean surfaces in penetration or joint opening, instead use a commercial solvent such as mineral spirits, xylene, toluene or methyl ethyl ketone (MEK). Ensure that the surface of the substrates are not wet and are frost free. Sealant can be installed with a standard caulking gun, pneumatic pumping equipment or it can be easily applied with a putty knife or trowel.

Installation Details: Install the applicable depth of backing material, if required, as detailed within the applicable UL, Intertek or other third-party listed system. Cut the end of the 3M™ Fire Barrier Water Tight Sealant 3000 WT tube spout to achieve the desired bead width. After cutting tip, puncture inner foil seal. Install the applicable depth of 3M™ Fire Barrier Water Tight Sealant 3000 WT into the opening flush with the surface of the substrate, or as detailed within the applicable listed system, at the required depth for the assembly and rating that is required. Tool within 5 minutes, if required. Clean all tools immediately after use with a commercial solvent such as mineral spirits, xylene, toluene or methyl ethyl ketone (MEK).

Limitations: Do not apply 3M™ Fire Barrier Sealant 3M™ Fire Barrier Water Tight Sealant 3000 WT when surfaces are wet (Note: once applied, sealant may be exposed to intermittent water – exhibits excellent weatherability when fully cured) or frost-coated, where seals may be exposed to rain or in unvented spaces where sealant is not exposed to atmospheric moisture. In confined cure conditions there may be discoloration of brass, copper or other sensitive metals. Do not apply 3M™ Fire Barrier Water Tight Sealant 3000 WT to polycarbonates or to building materials that bleed oil, plasticizers or solvent (e.g. impregnated wood, oil-based sealants, or green or partially vulcanized rubber).

7. Maintenance

No maintenance is expected to be required when installed in accordance with the applicable UL, Intertek or other third-party listed system. Once installed, if any section of the 3M™ Fire Barrier Water Tight Sealant 3000 WT is damaged, the following procedure will apply: the damaged section should be removed and reinstalled in accordance with the applicable listed system, with a minimum 1/2 in. (26mm) overlap onto the adjacent material.

8. Availability

3M™ Fire Barrier Water Tight Sealant 3000 WT is available from 3M Authorized Fire Protection Products Distributors and Dealers. 3M™ Fire Barrier Water Tight Sealant 3000 WT is available in 10.1 fl. oz. cartridges (12/case), 20.0 oz. sausages (12/case) and 4.5 gallon pails (1/case). For additional technical and purchasing information regarding this and other 3M Fire Protection Products, please call: 1-800-328-1687 or visit www.3M.com/firestop.

9. Safe Handling Information

Consult product's Material Safety Data Sheet (MSDS) prior to handling and disposal.

Building and Commercial Services Division
3M Center, Building 223-2N-21
St. Paul, MN 55144-1000 USA
1-800-328-1687
www.3M.com/firestop

3M™ Fire Barrier Water Tight Sealants 1000 NS and 1003 SL

Product Data Sheet

FIRE BARRIER: UP TO 3 HOUR Fire Protection

SMOKE SEAL: L RATED Meets Air Leakage Requirements

SOUND BARRIER: STC 56 In SRC 56-rated Wall Assembly

ELASTOMERIC: ±25% Movement Capability

WATER BARRIER: MEETS CLASS 1W Rating UL Water Leakage

CLASSIFIED UL

FILL, VOID OR CAVITY MATERIAL
FOR USE IN JOINT SYSTEMS AND
THROUGH-PENETRATION FIRESTOP SYSTEMS
SEE UL FIRE RESISTANCE DIRECTORY
8R57

LISTED Intertek
FIRESTOP SYSTEMS
SEE INTERTEK DIRECTORY

ULC LISTED
FILL, VOID OR CAVITY
MATERIALS
8R57

1. Product Description

3M™ Fire Barrier Water Tight Sealants 1000 NS and 1003 SL are ready-to-use, single component, neutral cure, silicone sealants that cure upon exposure to atmospheric humidity to form a flexible firestop seal. 3M™ Fire Barrier Water Tight Sealants help control the spread of fire, smoke and noxious gasses before, during and after exposure to a fire when installed in accordance with a listed through penetration or fire-resistive joint assembly.

3M™ Fire Barrier Water Tight Sealant 1000 NS is a non-slump firestop used primarily on vertical surfaces while 3M™ Fire Barrier Water Tight Sealant 1003 SL is a self-leveling firestop ideal for floor applications. These firestop sealants also meets UL Water Leakage Test, W Rating — Class 1 requirements for systems tested and listed in accordance with ANSI/UL 1479. Both products are elastomeric, are ready-to use and exhibit excellent weatherability.

High-performance silicone sealant provides a barrier against fire, water and sound

1000 NS and 1003 SL ■ Light Gray

Product Features

- Firestop tested up to 3 hours in accordance with ASTM E 814 (UL 1479) & CAN/ULC-S115
- Joint System Fire Resistance tested in accordance with ASTM E 1966 (UL 2079) & CAN/ULC-S115
- Meets UL Water Leakage Test, W Rating — Class 1 requirements
- Compression/extension capability of ± 31%
- Excellent adhesion
- Re-enterable/repairable
- Excellent weatherability upon cure
- Paintable with primer
- Helps minimize sound transfer*
- Halogen-free, low VOC**
- Excellent caulk rate — applied with conventional caulking equipment

Minimizes noise transfer — STC-Rating of 56 when tested in STC 56-rated wall assembly.
***Complies with the intent of LEED® NC-EQ Credit 4.1 for Low-Emitting Materials: Adhesives and Sealants, contains <250 g/L VOC contents (less H_2O and exempt solvents per SCAQMD Rule 1168).*

2. Applications

3M™ Fire Barrier Water Tight Sealant 1000NS and 3M™ Fire Barrier Water Tight Sealant 1003SL are used to firestop blank openings, dynamic and static construction joints and the following penetrating items that pass through fire-rated floor or wall assemblies: metallic pipes, non-metallic pipes, cables, cable tray, insulated pipes, combos and other miscellaneous mechanical penetrations. For vertical firestop applications use 3M™ Fire Barrier Water Tight Sealant 1000 NS (non-slump) and for horizontal applications use 3M™ Fire Barrier Water Tight Sealant 1003 SL (self-leveling).

3. Specifications

3M™ Fire Barrier Water Tight Sealant 1000 NS and 1003 SL are ready-to-use, single component, neutral cure, non- slumping (1000 NS) or self-leveling (1003 SL), silicone sealants. The seal- ants shall be listed by independent test agencies such as UL, ULC, Intertek or FM. 3M™ Fire Barrier Water Tight Sealants 1000 NS and 1003 SL shall be tested to and pass the criteria of ASTM E 814 (UL 1479) Standard Test Method for Fire Tests of Penetration Firestop Systems, ASTM E 1966 (UL 2079) Standard Test Method for Fire Resistive Joint Systems, CAN/ULC-S115 Standard Method of Fire Tests of Firestop Systems. These sealants shall meet UL W-Rating Class 1 requirements for watertightness. 3M™ Fire Barrier Water Tight Sealant 1000 NS and 1003 SL shall meet the requirements of NEC (NFPA 70), IBC, IFC, IRC, NBCC, NFPA 101 and NFPA 5000.

Typically Specified MasterFormat (2004)
Section 07 84 00 – Firestopping

Related Sections
Section 07 27 00 – Air Barriers
Section 07 84 16 – Annular Space Protection
Section 07 84 43 – Fire-Resistant Joint Sealants
Section 07 86 00 – Smoke Seals
Section 07 87 00 – Smoke Containment Barriers
Section 07 92 13 – Elastomeric Joint Sealants
Section 07 92 19 – Acoustical Joint Sealants
Section 21 00 00 – Fire Suppression
Section 22 00 00 – Plumbing
Section 23 00 00 – Heating, Ventilating and Air Conditioning (HVAC)
Section 26 00 00 – Electrical

4. Performance & Typical Physical Properties

Color:	Light Gray
Elongation at Break (ASTM D 412)**:**	600%
Service Temperature Range:	-60°F to 300°F (-51°C to 149°C)
STC (ASTM E 90 and ASTM E 413)**:**	56 when tested in STC 56 rated wall assembly
Surface Burning (ASTM E 84 Mod)**:**	Flame Spread 0, Smoke Development 0

Hardness (ASTM C 66 Shore A)**:**	20–25 (1000 NS) 10–15 (1003 SL)
Tensile Strength:	85 psi (0.59 MPa)
VOC Less H_2O and Exempt Solvents:	< 250g/L

Cure: Under typical cure rate conditions of 77°F (25°C) and 50% R.H., sealant becomes tack-free in about ten minutes, dry-to-touch in 30 to 60 minutes and obtains full-cure adhesion in 14–21 days. Full cure depends upon abient conditions and volume of sealant. Typical cure rate is approximately 1/8 inch (3mm) per day.

Unit Volume: 10.1 fl. oz. tube (298.7cc, 18.2 $in.^3$), 20 fl. oz. sausage (591.5cc, 36.1 $in.^3$), 4.5 gal. pail (.017m^3, 1039.5 $in.^3$)

Meets the intent of LEED® VOC environmental quality requirements.

5. Packaging, Storage, Shelf Life

Packaging: Product packaged in cartridge or pail is enclosed in HDPE plastic containers, sausage is packaged in aluminum foil wrap.

Storage: 3M™ Fire Barrier Water Tight Sealants should be stored indoors in dry conditions between 40°F and 90°F (4°C and 32°C). Avoid repeated freeze/thaw exposures of the 3M™ Fire Barrier Water Tight Sealants while still in the packaging.

Shelf Life: 3M™ Fire Barrier Water Tight Sealant 1000 NS and 1003 SL shelf life is 18 months in original unopened containers from date of packaging when stored between 40°F and 90°F (4°C and 32°C). Normal stock rotation is recommended.

Lot numbering: First to sixth digit = Date of Production (MMDDYY), Seventh indicator = dash symbol (-), Eighth digit = shift number

6. Installation Techniques

Consult a 3M Authorized Fire Protection Products Distributor / Dealer or Sales Representative for Applicable UL, cUL, ULC, Intertek or other third-party drawings and system details.

Preparatory Work: The surface of the opening and any penetrating items should be clean and free of dirt and debris to allow for the proper adhesion of 3M™ Fire Barrier Water Tight Sealant. Do not use alcohol to clean surfaces in penetration or joint opening, instead use a commercial solvent such as mineral spirits, xylene, toluene or methyl ethyl ketone (MEK). Ensure that the surface of the substrates are not wet and are frost free. Sealant can be installed with a standard caulking gun, pneumatic pumping equipment or it can be easily applied with a putty knife or trowel.

Installation Details: Install the applicable depth of backing material, if required, as detailed within the applicable UL, cUL, ULC, Intertek or other third-party listed system. Cut the end of the 3M™ Fire Barrier Water Tight Sealant tube spout to achieve the desired beadwidth. Install the applicable depth of 3M™ Fire Barrier Water Tight Sealant into the opening flush with the surface of the substrate,or as detailed within the applicable listed system, at the required depth for the assembly and rating that is specified. Tool within 5 minutes. Clean all tools immediately after use with a commercial solvent such as mineral spirits, xylene, toluene or methyl ethyl ketone (MEK).

Limitations: Do not apply 3M™ Fire Barrier Water Tight Sealants 1000 NS or 1003 SL (Note: once applied,sealant may be exposed to intermittent water — exhibits excellent weatherability when fully cured) or frost-coated, in unvented spaces where sealant is not exposed to atmospheric moisture, in areas where abrasion or physical abuse of the sealant are likely and/or where painting of sealant is required. Do not apply 3M™ Fire Barrier Water Tight Sealants 1000 NS or 1003 SL to polycarbonates or to building materials that bleed oil, plasticizers or solvent (e.g. impregnated wood, oil-based sealants, or green or partially vulcanized rubber).

Note: In confined cure conditions there may be discoloration of brass, copper or other sensitive metals.

7. Maintenance

No maintenance should be required when installed in accordance with the applicable UL, Intertek, FM or other third- party listed system. Once installed,if any section of the 3M™ Fire Barrier Water Tight Sealant is damaged, the following procedure will apply: remove and reinstall the damaged section in accordance with the applicable listed system, with a minimum 1/2 in. (12.7mm) overlap onto the adjacent material.

8. Availability

3M™ Fire Barrier Water Tight Sealant 1000 NS and 1003 SL are available from 3M Authorized Fire Protection Products Distributors and Dealers in 10.1 fl. oz. cartridges (12/case), 20.0 oz. sausages (12/case) and 4.5 gallon pails (1/case); light gray-colored sealant. For additional technical and purchasing information regarding 3M Fire Protection Products, please call: 1-800-328-1687 or visit www.3M.com/firestop.

9. Safe Handling Information

Consult product Material Safety Data Sheet (MSDS) prior to handling and disposal.

3M Building and Commercial Services Division
3M Center, Building 223-2N-21
St. Paul, MN 55144-1000 USA
1-800-328-1687
www.3M.com/firestop

3M™ Fire Barrier Sealant IC 15WB+

Product Data Sheet

FIRE BARRIER
UP TO 3 HOUR Fire Protection

SMOKE SEAL
L RATED Meets Optional L Requirements

SOUND BARRIER
STC 54 In STC 54-rated wall assembly

CLASSIFIED UL

FILL, VOID, OR CAVITY
FOR USE IN JOINT SYSTEMS,
THROUGH-PENETRATION FIRESTOP SYSTEMS
AND PERIMETER CONTAINMENT SYSTEMS
SEE UL FIRE RESISTANCE DIRECTORY
90G9

ULC LISTED
FILL, VOID OR CAVITY MATERIALS
90G9

LISTED C Intertek US
FIRESTOP SYSTEMS
SEE INTERTEK DIRECTORY

1. Product Description

3M™ Fire Barrier Sealant IC 15WB+ is a cost-effective, one-part, gun-grade, latex-based, intumescent firestop sealant that dries to form a monolithic firestop seal that also acts as a barrier to airborne sound transmission. 3M™ Fire Barrier Sealant IC 15WB+ firestops through penetrations passing through fire-rated floor, floor/ceiling or wall assemblies, as well as other fire-rated interior building partitions and assemblies (e.g. static construction joints or blank openings). In addition, the unique intumescent property of this material allows 3M™ Fire Barrier Sealant IC 15WB+ to expand and help maintain a firestop penetration seal for up to 3 hours as penetrants are exposed to fire. 3M™ Fire Barrier Sealant IC 15WB+ bonds to most construction substrates, including: gypsum wallboard, concrete, metals, wood, plastic (including CPVC) and cable jacketing. No mixing is required.

FBC SYSTEM COMPATIBLE

Cost-effective firestop sealant available in tube, pail or sausage.

Product Color: Yellow.

Product Features

- Firestop tested up to 3 hours in accordance with ASTM E 814 (UL 1479), ASTM E 1966 (UL 2079) & CAN/ULC-S115
- CPVC compatible
- Expanded fire protection systems
- Helps minimize sound transfer*
- Sag-resistant
- Halogen-free
- Excellent adhesion
- Re-enterable/repairable
- Excellent caulk rate
- Paintable
- Water clean up

Complies with the intent of LEED® NC-EQ Credit 4.1 for Low-Emitting Materials: Adhesives and Sealants, contains <250 g/L VOC contents (less H_2O and exempt solvents per SCAQMD Rule 1168).

**Minimizes noise transfer—STC-Rating of 54 when tested in STC 54-rated wall assembly.*

2. Applications

3M™ Fire Barrier Sealant IC 15WB+ is a general-purpose intumescent firestop ideal for sealing single or multiple through penetrations in fire-rated construction. 3M™ Fire Barrier Sealant IC 15WB+ is typically used in mechanical, electrical and plumbing applications to firestop openings created by the following penetrations in fire-rated floors, floor/ceilings or walls: metallic pipe, plastic pipe, conduit, power and communication cable, cable trays, busways, combos, insulated pipe and HVAC duct penetrations. 3M™ Fire Barrier Sealant IC 15WB+ is also used to firestop blank openings and static construction joints.

3. Specifications

3M™ Fire Barrier Sealant IC 15WB+ shall be a one component, ready-to-use, gun-grade, latex-based, intumescent firestop sealant capable of expanding a minimum of 3 times at 1000°F. The material shall be thixotropic and be applicable to overhead, vertical and horizontal firestops. The sealant shall be listed by independent test agencies such as UL, ULC, Intertek or FM. 3M™ Fire Barrier Sealant IC 15WB+ shall be tested to and pass the criteria of ASTM E 814 (UL 1479) Standard Test Method for Fire Tests of Penetration Firestop Systems, ASTM E 1966 (UL 2079) Standard Test Method for Fire Resistive Joint Systems and CAN/ULC-S115 Standard Method of Fire Tests of Firestop Systems. 3M™ Fire Barrier Sealant IC 15WB+ meets the requirements of the IBC, IRC, NBCC, IFC, IPC, IMC, NFPA 5000, NEC (NFPA 70) and NFPA 101.

Typically Specified MasterFormat (2004)
Section 07 84 00 – Firestopping

Related Sections
Section 07 27 00 – Air Barriers
Section 07 84 16 – Annular Space Protection
Section 07 84 43 – Fire-Resistant Joint Sealants
Section 07 86 00 – Smoke Seals
Section 07 87 00 – Smoke Containment Barriers
Section 07 92 13 – Elastomeric Joint Sealants
Section 07 92 19 – Acoustical Joint Sealants
Section 21 00 00 – Fire Suppression
Section 22 00 00 – Plumbing
Section 23 00 00 – Heating, Ventilating, and Air Conditioning (HVAC)
Section 26 00 00 – Electrical

4. Performance & Typical Physical Properties

Color:	Yellow
Application Temperature Range: (ASTM C 1299)	40° to 122°F (4° to 50°C)
Service Temperature Range:	-20° to 180°F (-28° to 82°C)
STC Acoustic Barrier: (ASTM E 90 and ASTM E 413)	54 when tested in STC 54 rated wall assembly

Surface Burning (ASTM E 84)**:** Flame Spread 5, Smoke Development 50

Hardness (ASTM D 2240 Shore A)**:**	70
Tensile Strength:	85 psi (0.59 MPa)
Volume Shrinkage (ASTM C 1241)**:**	28%
VOC Less H_2O and Exempt Solvents:	<2 g/L

Dry: Under typical conditions of 75°F (23°C) and 50% R.H., sealant becomes tack-free in about ten minutes and dry-to-touch in 30 to 60 minutes. Full dry depends upon ambient conditions and volume of sealant. Typical dry rate is approximately 1/8 inch (3 mm) per day.

Unit Volume: 10.1 fl. oz tube (298.7 ml, 18.2 $in.^3$), 20 fl. oz. sausage (591.5 ml, 36.1 $in.^3$), 27 fl. oz tube (798.5 ml, 48.7 $in.^3$), 4.5 gal. pail (17.03 L, 1039.5 $in.^3$)

5. Packaging, Storage, Shelf Life

Packaging Product packaged in cartridge or pail is enclosed in HDPE plastic containers, sausage is packaged in aluminum foil wrap.

Storage 3M™ Fire Barrier Sealant IC 15WB+ should be stored indoors in dry conditions between 40°F and 90°F (4°C and 32°C) in the original unopened package. Avoid repeated freeze / thaw exposures of the 3M™ Fire Barrier Sealant IC 15WB+ prior to installation.

Shelf Life 3M™ Fire Barrier Sealant IC 15WB+ shelf life is 12 months in original unopened containers from date of packaging when stored above 68°F (2°C).

Lot numbering (e.g. 8183AS): First digit = Last digit of year manufactured, Second to fourth digit = Julian Date, Letters = Random to distinguish between lot numbers

6. Installation Techniques

Consult a 3M Authorized Fire Protection Products Distributor / Dealer or Sales Representative for applicable UL, cUL, ULC, Intertek, FM or other third-party drawings and system details.

Preparatory Work The surface of the opening and any penetrating items should be cleaned to allow for the proper adhesion of the 3M™ Fire Barrier Sealant IC 15WB+. Ensure that the surface of the substrates are not wet and are frost free. Sealant can be installed with a standard caulking gun, pneumatic pumping equipment or it can be easily applied with a putty knife or trowel.

Installation Details Install the applicable depth of backing material, if required, as detailed within the applicable UL, cUL, ULC, Intertek, FM or other third-party listed system. Cut the end of the 3M™ Fire Barrier Sealant IC 15WB+ tube spout to achieve the desired bead width when applying. Install the applicable depth of 3M™ Fire Barrier Sealant IC 15WB+ into the opening flush with the surface of the substrate, or as detailed within the applicable listed system, at the depth for the assembly and rating that is required. Tool within 5 minutes. Clean all tools immediately after use with water.

Limitations Do not apply 3M™ Fire Barrier Sealant IC 15WB+ when surrounding temperature is than less 40°F (4°C) and in conditions where seals may be exposed to rain or water spray within 18 hours of application. Do not apply 3M™ Fire Barrier Sealant IC 15WB+ to building materials that bleed oil, plasticizers or solvent (e.g. impregnated wood, oil-based sealants, or green or partially vulcanized rubber). Do not apply 3M™ Fire Barrier Sealant IC 15WB+ to wet or frost-coated surfaces or to areas that are continuously damp or immersed in water.

7. Maintenance

No maintenance is expected to be required when installed in accordance with the applicable UL, cUL, ULC, Intertek, FM or other third-party listed system. Once installed, if any section of the 3M™ Fire Barrier Sealant IC 15WB+ is damaged, the following procedure will apply: remove and reinstall the damaged section in accordance with the applicable listed system, with a minimum 1/2 in. (12.7 mm) overlap onto the adjacent material.

8. Availability

3M™ Fire Barrier Sealant IC 15WB+ is available from 3M Authorized Fire Protection Products Distributors and Dealers. 3M™ Fire Barrier Sealant IC 15WB+ is available in 10.1 fl. oz. cartridges (3M ID 98-0400-5509-1, 12/case), 20.0 fl. oz. sausages (3M ID 98-0400-5512-5, 10/case), and 4.5 gallon pails (3M ID 98-0400-5510-9, 1/case). For additional technical and purchasing information regarding this and other 3M Fire Protection Products, please call: 1-800-328-1687 or visit www.3m.com/firestop.

9. Safe Handling Information

Consult country-of-use Material Safety Data Sheet (MSDS) prior to handling and disposal.

Building and Commercial Services Division
3M Center, Building 223-2N-21
St. Paul, MN 55144-1000 USA
1-800-328-1687
www.3M.com/firestop

Please Recycle. Printed in USA.

98-0400-5077-9 REV B

3M™ Fire Barrier Sealant CP 25WB+

Product Data Sheet

1. Product Description

3M™ Fire Barrier Sealant CP 25WB+ is a high-performance, ready-to-use, gun-grade, latex-based, intumescent sealant that dries to form a monolithic firestop seal that also acts as a barrier to airborne sound transmission. 3M™ Fire Barrier Sealant CP 25WB+ helps control the spread of fire, smoke and noxious gasses before, during and after exposure to a fire when installed in accordance with a listed through penetration or fire-resistive joint assembly system.

3M™ Fire Barrier Sealant CP 25WB+ firestops blank openings and penetrations passing through fire-rated floor, floor/ceiling or wall assemblies and other fire-rated interior building construction. The unique intumescent property of this material allows 3M™ Fire Barrier Sealant CP 25WB+ to expand and help maintain a firestop penetration seal for up to 4 hours as penetrants are exposed to fire. 3M™ Fire Barrier Sealant CP 25WB+ exhibits excellent adhesion to a full range of construction substrates and penetrants. No mixing is required.

High-performance firestop sealant that also helps minimize sound transfer

Product Color: Red

Product Features

- Firestop tested up to 4 hours in accordance with ASTM E 814 (UL 1479) & CAN/ULC S115
- Fire Resistance tested for static construction joint systems in accordance with ASTM E 1966 (UL 2079)
- Re-enterable / repairable
- Meets UL 1479 aging requirements
- Helps minimize sound transfer*
- Applied with conventional caulking equipment (excellent caulk rate)
- Extensive listed systems
- Sag-resistant
- Halogen-free
- Excellent adhesion
- Paintable
- Water clean up

Meets the intent of LEED® VOC regulations — helps reduce the quantity of indoor air contaminants that may be odorous, irritating and harmful to the comfort and well-being of the installers and occupants. <250 g/L VOC contents (less H_2O and exempt solvents).

**Minimizes noise transfer — STC-Rating of 54 when tested in STC 54-rated wall assembly.*

FIRE BARRIER
UP TO 4 HOUR Fire Protection

SMOKE SEAL
L RATED Meets Optional L Requirements

SOUND BARRIER
STC 54 In STC 54-rated wall assembly

CLASSIFIED UL

FILL, VOID OR CAVITY MATERIAL
FOR USE IN THROUGH-PENETRATION FIRESTOP SYSTEMS
SEE UL FIRE RESISTANCE DIRECTORY
90G9

ULC LISTED

FILL, VOID OR CAVITY MATERIALS
90G9

FM APPROVED

SUBJECT TO THE CONDITIONS OF APPROVAL AS A WALL & FLOOR PENETRATION FIRESTOP WHEN INSTALLED AS DESCRIBED IN THE CURRENT EDITION OF THE FMRC APPROVAL GUIDE

LISTED
OMEGA POINT LABORATORIES US
Intertek
FIRESTOP SYSTEMS
SEE INTERTEK DIRECTORY

LISTED
C US
Intertek
FIRESTOP SYSTEMS
SEE INTERTEK DIRECTORY

2. Applications

High-performance 3M™ Fire Barrier Sealant CP 25WB+ is ideal for sealing single or multiple through penetrations in fire-rated construction. 3M™ Fire Barrier Sealant CP 25WB+ is typically used in mechanical, electrical and plumbing applications to firestop openings created by the following penetrations in fire-rated floors, floor/ceilings or walls: metallic pipe, plastic pipe (excluding CPVC), conduit, power and communication cable, cable trays, busways, combos, insulated pipe and HVAC duct penetrations 3M™ Fire Barrier Sealant CP 25WB+ is also used to firestop blank openings and static construction joints.

3. Specifications

3M™ Fire Barrier Sealant CP 25WB+ shall be a one component, ready-to-use, gun-grade, latex-based, intumescent firestop sealant capable of expanding a minimum of three times its dried volume when exposed to temperatures above 1000°F (538°C). The material shall be thixotropic and shall be applicable to overhead, vertical and horizontal firestops. The sealant shall be listed by independent test agencies such as UL, Intertek or FM. 3M™ Fire Barrier Sealant CP 25WB+ shall be tested to and pass the criteria of ASTM E 814 (UL 1479) Standard Test Method for Fire Tests of Penetration Firestop Systems, ASTM E 1966 (UL 2079) Standard Test Method for Fire Resistive Joint Systems and CAN/ULC S115 Standard Method of Fire Tests of Firestop Systems. 3M™ Fire Barrier Sealant CP 25WB+ meets the requirements of the IBC, IRC, IFC, IPC, IMC, NFPA 5000, NEC (NFPA 70) and NFPA 101.

Typically Specified Division
Division 7
Section 07 84 00 – Firestopping

Related Sections
Section 07 84 16 – Annular Space Protection
Section 07 84 43 – Fire-Resistant Joint Sealants
Section 07 86 00 – Smoke Seals
Section 07 87 00 – Smoke Containment Barriers
Section 07 27 00 – Air Barriers
Section 21 00 00 – Fire Suppression
Section 22 00 00 – Plumbing
Section 26 00 00 – Electrical

4. Physical Properties

Color:	Red
Application Temperature Range (ASTM C 1299)**:**	40° to 122°F (4° to 50°C)
Service Temperature Range:	-20° to 180°F (-28° to 82°C)
STC (ASTM E 90 and ASTM E 413)**:**	54 when tested in STC 54-rated wall assembly
Surface Burning (ASTM E 84)**:**	Flame Spread 0, Smoke Development 0

Hardness (ASTM D 2240 Shore A)**:**	45
Tensile Strength:	85 psi (0.59 MPa)
Volume Shrinkage (ASTM C 1241)**:**	28%
VOC Less H_2O and Exempt Solvents:	< 1g/L

Dry: Under typical conditions of 75°F (23°C) and 50% relative humidity, sealant becomes tack-free in about ten minutes and dry-to-touch in 30–60 minutes. Full dry depends upon ambient conditions and volume of sealant. Typical dry rate is approximately 1/8-inch (3mm) per day.

Unit Volume: 10.1 fl. oz. tube (298.7mL, 18.2 in.^{3}), 20 fl. oz. sausage (591.5mL, 36.1 in.^{3}), 27 fl. oz tube (798.5mL, 48.7 in.^{3}), 2 gallon pail (7.57L, 462 in.^{3}), 5 gallon pail (18.9L, 1155 in.^{3})

5. Packaging, Storage, Shelf Life

Packaging: Product packaged in cartridge or pail is enclosed in HDPE plastic containers, sausage is packaged in aluminum foil wrap.

Storage: 3M™ Fire Barrier Sealant CP 25WB+ should be stored indoors in dry conditions between 40°F and 90°F (4°C and 32°C) in the original unopened package. Avoid repeated freeze / thaw exposures of the 3M™ Fire Barrier Sealant CP 25WB+ prior to installation.

Shelf Life: 3M™ Fire Barrier Sealant CP 25WB+ shelf life is 12 months in original unopened containers from date of packaging when stored above 68°F (20°C).

Lot numbering (e.g. 8183AS): First digit = Last digit of year manufactured, Second to fourth digit = Julian Date, Letters = Random to distinguish between lot numbers

6. Installation Techniques

Consult a 3M Authorized Fire Protection Products Distributor / Dealer or Sales Representative for Applicable UL, Intertek or other third-party drawings and system details.

Preparatory Work: The surface of the opening and any penetrating items should be cleaned to allow for the proper adhesion of the 3M™ Fire Barrier Sealant CP 25WB+. Ensure that the surface of the substrates are not wet and are frost free. Sealant can be installed with a standard caulking gun, pneumatic pumping equipment or it can be easily applied with a putty knife or trowel.

Installation Details: Install the applicable depth of backing material, if required, as detailed within the applicable UL, Intertek, FM or other third-party listed system. Cut the end of the 3M™ Fire Barrier Sealant CP 25WB+ tube spout to achieve the desired bead width when applying. Install the applicable depth of 3M™ Fire Barrier Sealant CP 25WB+ into the opening flush with the surface of the substrate, or as detailed within the applicable listed system, at the depth for the assembly and rating that is required. Tool within five minutes. Clean all tools immediately after use with water.

Limitations: Do not apply 3M™ Fire Barrier Sealant CP 25WB+ when surrounding temperature is less than 40°F (4°C) and in conditions where seals may be exposed to rain or water spray within 18 hours of application. Do not apply 3M™ Fire Barrier Sealant CP 25WB+ to building materials that bleed oil, plasticizers or solvent (e.g. impregnated wood, oil-based sealants, or green or partially vulcanized rubber). Do not apply 3M™ Fire Barrier Sealant CP 25WB+ to wet or frost-coated surfaces or to areas that are continuously damp or immersed in water.

NOTICE: This product is not acceptable for use with chlorinated polyvinylchloride (CPVC) pipes.

7. Maintenance

No maintenance should be required when installed in accordance with the applicable UL, Intertek, FM or other third-party listed system. Once installed, if any section of the 3M™ Fire Barrier Sealant CP 25WB+ is damaged, the following procedure will apply: remove and reinstall the damaged section in accordance with the applicable listed system, with a minimum 1/2 in. (12.7mm) overlap onto the adjacent material.

8. Availability

3M™ Fire Barrier Sealant CP 25WB+ is available from 3M Authorized Fire Protection Products Distributors and Dealers. 3M™ Fire Barrier Sealant CP 25WB+ is available in 10.1 fl. oz. cartridges (12/case), 20.0 fl. oz. sausages (10/case), 27.0 fl. oz. cartridges (6/case), 2 gallon pails (1/case) and 5 gallon pails (1/case). For additional technical and purchasing information regarding this and other 3M™ Fire Protection Products, please call: 1-800-328-1687 or visit www.3M.com/firestop.

9. Safe Handling Information

Consult product Material Safety Data Sheet (MSDS) prior to handling and disposal.

3M

3M Industrial Adhesives and Tapes Division
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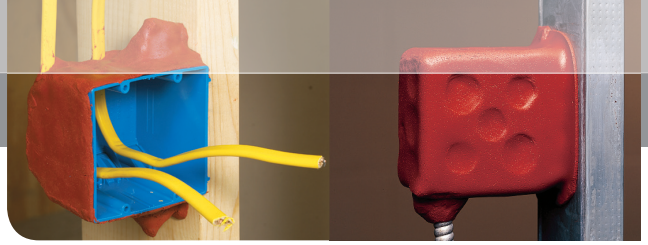
1-800-362-3550
www.3M.com/IATD



3M™ Fire Barrier Moldable Putty Pads MPP+

Product Data Sheet

FIRE BARRIER: UP TO 4 HOUR Fire Protection

SMOKE SEAL: L RATED Meets Optional L Requirements

WALL OPENING: UP TO 2 HOUR Fire Protection

SOUND BARRIER: STC 52 In STC 53-Rated Wall Assembly

FM APPROVED

SUBJECT TO THE CONDITIONS OF APPROVAL AS A WALL & FLOOR PENETRATION FIRESTOP WHEN INSTALLED AS DESCRIBED IN THE CURRENT EDITION OF THE FMRC APROVAL GUIDE

ULC LISTED

FILL, VOID OR CAVITY MATERIALS 90G9

CLASSIFIED UL

WALL OPENING PROTECTIVE MATERIAL FIRE RESISTANCE CLASSIFICATION SEE UL FIRE RESISTANCE DIRECTORY 90G9

CLASSIFIED UL

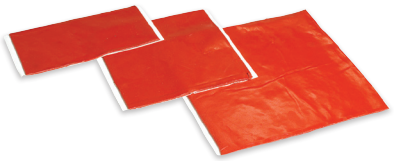
FILL, VOID, OR CAVITY FOR USE IN THROUGH-PENETRATION FIRESTOP SYSTEMS SEE UL FIRE RESISTANCE DIRECTORY 90G9

1. Product Description

3M™ Fire Barrier Moldable Putty Pads MPP+ are a one-part, ready-to-use, intumescent wall-opening protective. When properly applied to the back of electrical outlet boxes, 3M™ Fire Barrier Moldable Putty Pads MPP+ help control the spread of fire, smoke and noxious gases through fire-restive walls and partitions. Installed in accordance with the UL wall-opening protective listing (UL Category CLIV), the product helps achieve up to 2-hour ratings in a variety of wall constructions. 3M™ Fire Barrier Moldable Putty Pads MPP+ can effectively provide protection for back-to-back electrical boxes.

3M™ Fire Barrier Moldable Putty Pads MPP+ are also used as a firestop material in through-penetration firestop systems. 3M™ Fire Barrier Moldable Putty Pads MPP+ help to maintain a firestop penetration seal for up to 4 hours. 3M™ Fire Barrier Moldable Putty Pads MPP+ exhibit excellent adhesion to a full range of construction substrates and penetrants. The pads are easily molded by hand (no mixing required). In addition to its fire-resistant properties, the 1/10th in. (2.54mm) thick pads have airborne sound reduction characteristics which helps minimize sound transmission through assemblies requiring an STC rating.

Color: Dark Red



4 in. x 8 in. (101.6mm x 203.3mm), 7 in. x 7 in. (177.8mm x 177.8mm) and 9.5 in. x 9.5 in. (241.2mm x 241.3mm) pad sizes available.

Product Features

- Firestop tested up to 4 hours in accordance with ASTM E 814 (UL 1479) & CAN/ULC-S115
- Wall opening protective tested up to 2 hours in accordance with UL 263
- Provides draft and cold smoke seal
- Pliable and conformable—molds easily into required shape
- Helps reduce noise transfer*
- Excellent adhesion
- Re-enterable/repairable
- Halogen-free and solvent-free
- Excellent aging properties
- Low VOC
- Will not dry out or crumble
- Red color widely recognized as a fire protective product

Meets the intent of LEED® VOC regulations—helps reduce the quantity of indoor air contaminants that may be odorous, irritating and harmful to the comfort and well-being of the installers and occupants.

**Minimizes noise transfer—STC-Rating of 52 when tested in STC 53-rated wall assembly.*

2. Applications

4 in. x 8 in. (101.6mm x 203mm) 3M™ Fire Barrier Moldable Putty Pads MPP+ 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. It is also used to seal gaps between cables in multiple penetrations (including fiber optic inner duct) and to firestop cable bundles, insulated pipe, electrical conduit and metal pipe. Larger sized pads, 7 in. x 7 in. and 9.5 in x 9.5 in. (177.8mm x 177.8mm and 241.2mm x 241.2mm) are widely used to firestop metallic and non-metallic electrical outlet boxes up to 14 in. x 4.5 in. by 2-1/2 in. (355.6mm x 114.3mm x 63.5mm) deep. For larger applications, pads can be molded together by hand.

3. Specifications

3M™ Fire Barrier Moldable Putty Pads MPP+ shall be a one component, ready-to-use, intumescent elastomer capable of expanding a minimum of 3 times at 1000°F. The material shall be thixotropic and shall be applicable to overhead, vertical and horizontal firestops. Under normal conditions, 3M™ Fire Barrier Moldable Putty Pads MPP+ shall be noncorrosive to metal and compatible with synthetic cable jackets. The putty shall be listed by independent test agencies such as UL, Intertek or FM. 3M™ Fire Barrier Moldable Putty Pads MPP+ shall be tested to and pass the criteria of ASTM E 814 (UL 1479) Standard Test Method for Fire Tests of Penetration Firestop Systems and CAN/ULC S115 Standard Method of Fire Tests of Firestop Systems. 3M™ Fire Barrier Moldable Putty Pads MPP+ meets the requirements of the IBC, NFPA 5000, NEC (NFPA 70), NFPA 101 and NCB (Canada) Building Codes.

Typically Specified MasterFormat (2004)

Section 07 84 00 – Firestopping

Related Sections

Section 07 84 16 – Annular Space Protection
Section 07 86 00 – Smoke Seals
Section 07 87 00 – Smoke Containment Barriers
Section 07 27 00 – Thermal and Moisture Protection Firestopping
Section 21 00 00 – Fire Suppression
Section 26 00 00 – Electrical

4. Performance & Typical Physical Properties

Color:	Dark Red
Nominal Density:	10–12 lbs./gal. (1.2–1.45kg/L)
Nominal Thickness:	1/10 in. (2.54mm)
Surface Burning (ASTM E 84)**:**	Flame Spread 0, Smoke Development 0
Heat Expansion:	Begins at 350°F (177°C) Significant at 400°F (204°C) Free Expansion is Nominal 3 times
STC (ASTM E 90 and ASTM E 413)**:** **Tested in STC 53 rated wall assembly**	52 when tested on back-to-back electrical boxes
VOC Less H_2O and Exempt Solvents:	< 250g/L

Dimensions: 4 in. x 8 in. x 1/10 in. (101.6mm x 203.2mm x 2.5mm)
Unit Volume: 2.52 in.^{3} (41.4cm^3)
Unit Weight: 2.7 oz (76g)

Dimensions: 7 in. x 7 in. x 1/10 in. (177.8mm x 177.8mm x 2.5mm)
Unit Volume: 4.63 in.^{3} (76.0cm^3)
Unit Weight: 4.1 oz (116g)

Dimensions: 9.5 in. x 9.5 in. x 1/10 in. (241.3mm x 241.3mm x 2.5mm)
Unit Volume: 6.1 in.^{3} (139.8cm^3)
Unit Weight: 7.6 oz (215g)

5. Packaging, Storage, Shelf Life

Packaging: Corrugated cardboard box with liner between individual pads.

Storage: 3M™ Fire Barrier Moldable Putty Pads MPP+ should be stored indoors in dry conditions.

Shelf Life: 3M™ Fire Barrier Moldable Putty Pads MPP+ shelf life is indefinite in original unopened containers. Product will not dry or crumble in opened containers. Normal stock and stock rotation practices are recommended.

6. Installation Techniques

Consult a 3M Authorized Fire Protection Products Distributor / Dealer or Sales Representative for Applicable UL, Intertek or other third-party drawings and system details.

Preparatory Work: The surface of the electrical box, or opening and any penetrating items should be cleaned (i.e. free of dust, grease, oil, loose materials, rust or other substances) to allow for the proper adhesion of the 3M™ Fire Barrier Moldable Putty+ Pad. Ensure that the surface of the substrates are not wet and are frost-free.

Installation Details: Electrical boxes must be firestopped under the following conditions: boxes larger than 16 sq. in. (103 sq. cm), if horizontal spacing between boxes is less than 24 in. (609.6mm), when multiple boxes are located in one stud cavity or if the aggregate of all boxes exceeds 100 sq. in. per 100 sq. ft. (645 sq. cm. per 9.29 sq. m) — refer to listed system details and applicable local building code requirements. For electrical box installations, a minimum of 1/10 in. (2.5mm) thick putty application is required. 3M™ Fire Barrier Moldable Putty Pads MPP+ are to be installed to completely cover the exterior of the outlet box (except for the side against the stud). To firestop penetrations, install the applicable depth of backing material (if required), remove the desired amount of putty from the pad, form (if necessary) and install as detailed within the listed system. Make sure that putty is in complete contact with the substrate and penetrating item(s).

Note: Partial pads can be pieced together and the seams between partial pads should overlap a minimum of 1/8 in. with the seams worked with the fingertips to create adhesion at the seam.

Limitations: Over application (i.e., using excessive amount of material) of product to vertical surfaces may cause sagging, follow system details. Product is not impaired by freezing but should be warmed to 32°F (0°C) before applying.

7. Maintenance

No maintenance is expected when installed in accordance with the applicable UL, Intertek, FM or other third-party listed system. Once installed, if any section of the 3M™ Fire Barrier Moldable Putty Pad MPP+ is damaged, the following procedure will apply: remove damaged putty, clean the affected area and install the proper thickness of putty, ensuring it bonds to the substrate and adjacent putty (product from damaged area can be reused if it is free from contaminants). Putty can be molded together at new/existing putty overlap.

8. Availability

3M™ Fire Barrier Moldable Putty Pads MPP+ are available from 3M Authorized Fire Protection Products Distributors and Dealers. 3M™ Fire Barrier Moldable Putty Pads MPP+ are available in the following sizes: (10 pads/pack, 10 packs/case) 4 in. x 8 in. x 1/10 in. (101.6mm x 203.2mm x 2.5mm), (20 pads/case) 7 in. x 7 in. 1/10 in. (177.8mm x 177.8mm x 2.5mm), (20 pads/case) 9.5 in. x 9.5 in. 1/10 in. (241.3mm x 241.3mm x 2.5mm); red-colored firestop material. For additional technical and purchasing information regarding this and other 3M Fire Protection Products, please call: 1-800-328-1687 or visit www.3M.com/firestop.

9. Safe Handling Information

Consult product's Material Safety Data Sheet (MSDS) from country-of-use prior to handling and disposal.

3M

Industrial Adhesives and Tapes Division
3M Center, Building 225-3S-06
St. Paul, MN 55144-1000
800-328-1687
877-369-2923 (Fax)
www.3M.com/firestop

Fire Barrier FS-195+ Wrap/Strip

Product Data

FILL, VOID OR CAVITY MATERIALS
CLASSIFIED BY
UNDERWRITERS LABORATORIES. INC®
FOR USE IN THROUGH-PENETRATION FIRESTOP SYSTEMS (XHEZ).
SEE CURRENT UL FIRE RESISTANCE DIRECTORY.

1. Product Description

3M Fire Barrier FS-195+ Wrap/ Strip is one-part, organic/inorganic, fire resistive elastomeric sheet with aluminum foil on one side. It is available in convenient strips which are quickly and easily installed. FS-195+ is designed to firestop penetrations in fire-rated walls and floors and floor-ceiling assemblies.

The unique, intumescent property of this material (expands when heated) means that as penetrating items such as, plastic pipe, cable jackets and pipe insulation are consumed by fire, FS-195+ Wrap/Strip expands to maintain a tight seal preventing the spread of fire, deadly smoke, and other by-products of combustion.

FS-195+ is UL classified in firestop systems for plastic and metal pipe/ conduit, insulated metal pipe, bus duct, glass pipe and insulated cable. See the UL Fire Resistance Directory.

Product features are:

- Intumescent: Expands when heated to seal around items consumed by fire.
- Smoke seal: Retards spread of toxic by-products of combustion.
- Superior, documented aging properties. Proven stability and performance for life of building.
- Improved flexibility: Easy, cost-effective installation.
- Low flame spread and smoke development.
- Normal disposal procedures.
- Versatile: Can be cut to fit irregular shapes.
- Re-enterable: No special tools required.
- Non-flame supporting.
- Low odor.
- Red-brown color: Consistent, enforceable.

2. Applications

3M Fire Barrier FS-195+ Wrap/Strip provides a rapid and cost-effective means of sealing wall and floor penetrations where fire resistance is required.

Because of its unique intumescent action, FS-195+ can be used to seal a variety of penetration types including: telephone cable, metal pipe, plastic pipe and conduit, insulated metal pipe and blank penetrations.

When used by itself or in conjunction with other 3M Fire Barrier Products such as CS-195+ Composite Sheet, CP 25WB+ Caulk, Moldable Putty+ or RC-1 Restricting Collar, fire rated penetration seals can be provided for cable trays, bus duct and cable bundles.

3. Physical Properties

Strip Size: (¼" X 2" x 24")

Detail:
Wrap/Strip thickness
0.22" - 0.32"

Aluminum foil Thickness
.002" ± 0.0005"

4. Specifications

A. Product

The penetration seal must be capable of passing ASTM E814 (ANSI/UL 1479) Standard Method of Fire Tests for Through Penetration Fire Stops up to the desired fire resistance.

B. Engineering/ Architectural

All penetrations in fire-rated walls or floors shall be fitted and sealed with 3M Brand Fire Barrier Products in accordance with the manufacturer's installation instructions.

5. Performance Tests

A. Physical & Electrical Properties

Thermal Conductivity

• FS195+ sheet as supplied: 2.392 BTU/hr/ft^2/°F• in @ 110°F
2.406 BTU/hr/ft^2/°F• in @ 165°F

Intumescent Activation:

Expansion sequence begins	300°F (150°C)
Significant expansion	350°F (175°C)
Multi-directional free expansion	5 to 15 times (8 times average)
Weight loss (TGA)	20% @ 662°F/350°C 31% @ 932°F/500°C

Hardness: 70 to 90 Shore A

Tensile Strength (psi)/Elongation (%): (ASTM D-412)104 psi/514%

Color: Red - Brown / Black Char

B. Weatherability

				After Exposure	
				Elastic	Nominal
Test Condition	Temperature	Humidity	Time	Properties	Expansion
Oven	194°F/90°C	-	90 Days	Very Good	6

C. Fire Performance Tests

Test	Results
Summary of Fire Tests Results per ASTM E 814 (UL1479)	Up to 4 hours rating for penetrations in wall and floors. See UL Building Materials Directory.
Flame Spread Index (ASTM E 84)	5
Smoke Development Index (ASTM E 84)	50
Oxygen Index (ASTM D 2863)	50

6. Installation Techniques

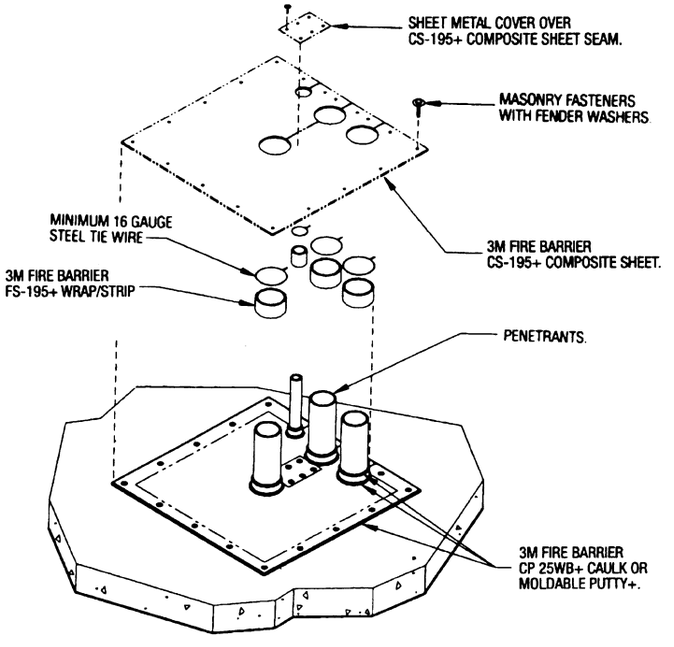
Exact instructions for specific applications are available upon request from 3M or your local 3M Fire Protection Products Distributor. The following summarizes a representative application:

A. Penetration Firestop for Large Openings With Pipe Using CS-195+ Composite Sheet and FS-195+ Wrap/Strip. See Underwriters Laboratories Fire Resistance Directory for current system numbers.

1. Seal around pipes. Wrap two inch wide 3M Fire Barrier FS-195+Wrap/ Strip around each pipe, foil side facing out. Position so wrap/strip extend one inch above the floor surface and one inch into the floor. Secure with steel wire.

2. Cover Sheet. Opening is covered with Composite Sheet cut to fit snugly around pipes and wrap/strip and to overlap the opening by a minimum of two inches. The sheet's galvanized steel layer should face outward (exposed).

3. Seal entire penetration. 3M Fire Barrier CP 25WB+ Caulk or Moldable Putty+ is used to seal the penetration. A ¼" diameter bead of caulk or putty is applied around the opening before or after installing the cover sheet. After the cover sheet is in place, caulk or putty is applied between the wrap/strip and the composite sheet and between the wrap/strip and the pipe. A thin film of caulk or putty is used to cover the entire wrap/strip area. All openings in the composite cover sheet are filled with CP 25WB+ Caulk or Moldable Putty+ to complete the seal.



B. Penetration Firestop for insulated metal pipe in gypsum wallboard assemblies. Refer to current UL Fire Resistance Directory for system numbers.

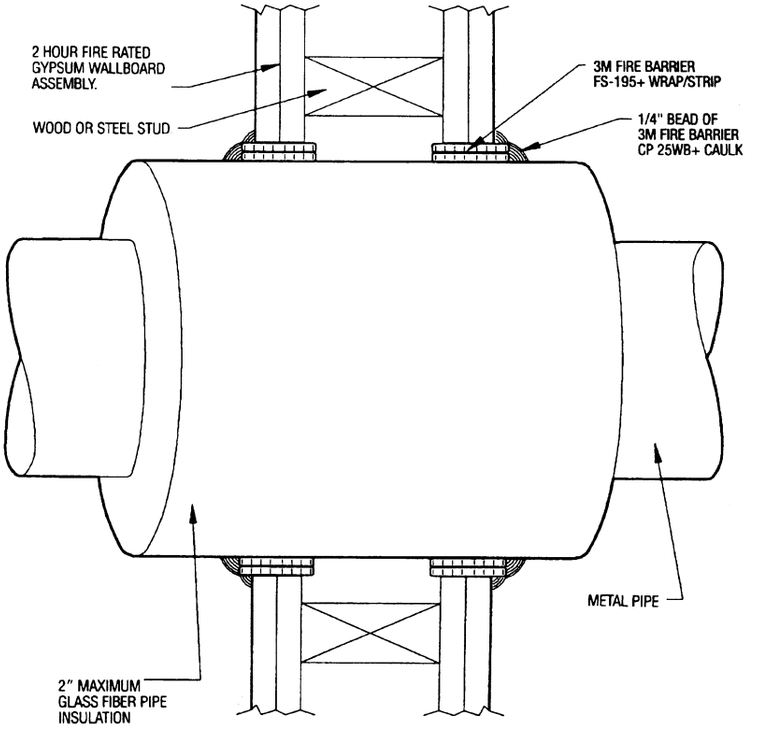
1. Install the firestop symmetrically on both sides of the wall assembly.

2. Minimum annular space requirement is 1/2 in. Maximum annular space requirement is 3/4 in.

3. Two layers of 3M Fire Barrier FS-195+ Wrap/Strip are required.

4. Tightly wrap the FS-195+ Wrap/ Strip, foil side out, around the pipe insulation with the seam butted. Stagger the butted seams. Secure the FS-195+ Wrap/Strip with a steel tie wire or aluminum foil tape and slide the FS-195+ Wrap/Strip into the annular space. The FS-195+ Wrap/Strip should be positioned so approximately 3/4 in. protrudes from the wall surface.

5. Seal the FS-195+ Wrap/Strip with 3M Fire Barrier CP 25WB+ with a 1/4 in. bead at the FS-195+ Wrap/Strip/ wall interface and the FS-195+ Wrap/Strip/insulation interface.



C. Penetration Firestop for Plastic Pipe up to 10" max. dia. in Fire-Rated Floors and Walls. Refer to current UL Fire Resistance Directory for system numbers.

1. As an alternative to the 3M Fire Barrier RC-1 Restricting Collar and FS-195+ Wrap/Strip assembly the 3M Fire Barrier Plastic Pipe Device (PPD), UL File No. R9269, may be substituted.

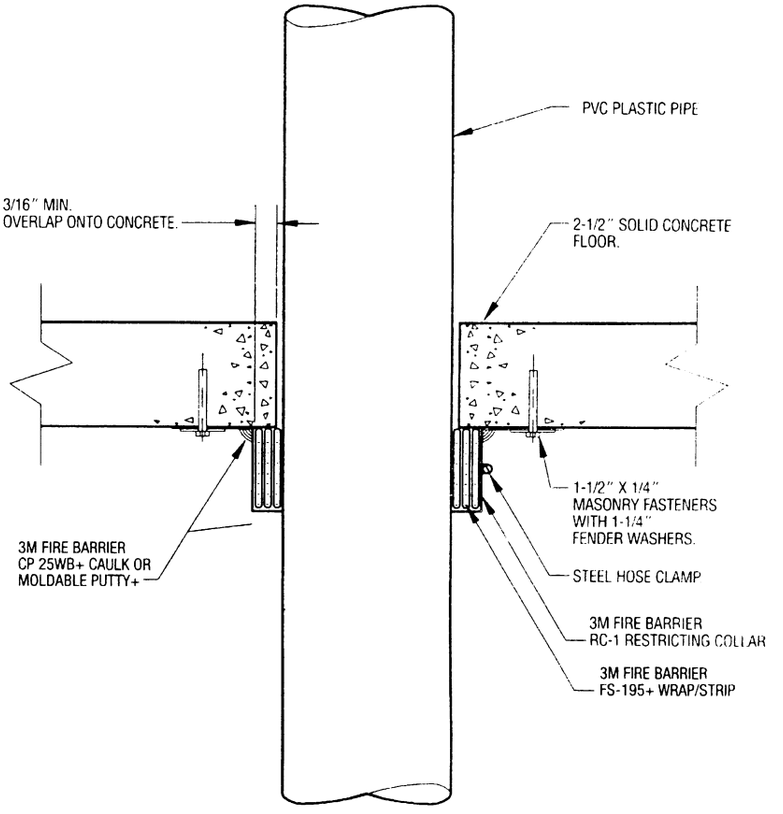
2. Tightly wrap the proper number of FS-195+ Wrap/Strips around the plastic pipe foil side out. Secure with tape or tie wire. Make sure FS-195+ Wrap/Strip or PPD butts securely against the concrete with a 3/16 inch minimum overlap over the edge of the penetrating opening. When using more than one wrap, stagger the butted seams.

3. Apply RC-1 Restricting Collar. Remove enough RC-1 Restricting Collar to make one wrap around the applied FS-195+ Wrap/Strip with a minimum 1 inch overlap. Bend the mounting tabs away from the pipe at right angles, flush with the bottom floor surface. **Warning:** Edges of the RC-1 Restricting Collar are sharp. Handle with care.

4. Tightly secure the RC-1 Restricting Collar around the pipe with a steel hose clamp centered on the RC-1 Restricting Collar assembly. Two bands of 16 gauge steel tie wire placed 1/2 inch from the ends of the RC-1 Restricting Collar assembly may be used instead of the hose clamp.

5. Secure the collar to the slab with ¼ inch x 1½ inch masonry fasteners. Use 1¼ inch diameter fender washers on the mounting tabs. Fender washers are not needed when using the PPD. For 3 inch and smaller pipe secure a minimum of 3 mounting tabs. For 4 inch pipe secure a minimum of 4 mounting tabs. Secure all mounting tabs on the PPD.

6. Seal the system with a 1/4 inch bead of 3M Fire Barrier CP 25WB+ Caulk or Moldable Putty+ at the concrete and collar assembly interface.



7. Maintenance

3M Fire Barrier FS-195+ Wrap/Strip remains stable for an indefinite period of time under normal storage conditions.

8. Availability

3M Fire Barrier FS-195+ Wrap/Strip is available in strips 2" x 24" packaged 10 per box. Available from 3M Fire Protection Products Distributors.

Other 3M Fire Protection Products: CP 25WB+ Caulk- 10 1/2 oz. Tube and 5 Gallon Pails. CS 195+ Composite Sheet - 16" x 28", 36" x 36", 24" x 36", 36" x 41". Restricting Collar. Moldable Putty+ Stix and pads. Plastic Pipe Devices-1.5",2",3",4".

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 OF 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 3M product.

Limitation of Liability. Except where prohibited by law, 3M will not be liable for any loss or damages arising from the use of this 3M product, whether direct, indirect, special, incidental or consequential, regardless of the legal theory asserted, including warranty, contract, negligence or strict liability.

3M

Specified Construction Products Department

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St. Paul, MN 55144-1000
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Safety Data Sheet

Document Group:	19-2499-2	**Version Number:**	9.00
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SECTION 1: Identification

1.1. Product identifier
3M Fire Barrier Watertight Sealant 3000 WT

Product Identification Numbers
98-0400-5503-4, 98-0400-5504-2, 98-0400-5553-9, 98-0400-5586-9

1.2. Recommended use and restrictions on use

Recommended use
Caulk, Fire barrier caulking.

1.3. Supplier's details

MANUFACTURER:	3M
DIVISION:	Industrial Adhesives and Tapes Division
ADDRESS:	3M Center, St. Paul, MN 55144-1000, USA
Telephone:	1-888-3M HELPS (1-888-364-3577)

1.4. Emergency telephone number
1-800-364-3577 or (651) 737-6501 (24 hours)

SECTION 2: Hazard identification

2.1. Hazard classification
Serious Eye Damage/Irritation: Category 2A.
Skin Corrosion/Irritation: Category 2.
Skin Sensitizer: Category 1B.
Specific Target Organ Toxicity (single exposure): Category 1.
Specific Target Organ Toxicity (repeated exposure): Category 1.

2.2. Label elements
Signal word
Danger

Symbols
Exclamation mark | Health Hazard |

Pictograms

Hazard Statements
Causes serious eye irritation.
Causes skin irritation.
May cause an allergic skin reaction.

Causes damage to organs:
blood or blood-forming organs |

Causes damage to organs through prolonged or repeated exposure:
blood or blood-forming organs |

May cause damage to organs through prolonged or repeated exposure:
kidney/urinary tract |

Precautionary Statements
General:
Keep out of reach of children.

Prevention:
Do not breathe dust/fume/gas/mist/vapors/spray.
Wear protective gloves and eye/face protection.
Do not eat, drink or smoke when using this product.
Wash thoroughly after handling.
Contaminated work clothing must not be allowed out of the workplace.

Response:
IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
If eye irritation persists: Get medical advice/attention.
IF ON SKIN: Wash with plenty of soap and water.
If skin irritation or rash occurs: Get medical advice/attention.
Take off contaminated clothing and wash it before reuse.
IF exposed: Call a POISON CENTER or doctor/physician.

Storage:
Store locked up.

Disposal:
Dispose of contents/container in accordance with applicable local/regional/national/international regulations.

2.3. Hazards not otherwise classified
None.

SECTION 3: Composition/information on ingredients

Ingredient	C.A.S. No.	% by Wt
Melamine	108-78-1	30 - 60 Trade Secret *
Siloxanes and Silicones, Di-Me, Hydroxy-Terminated	70131-67-8	15 - 40 Trade Secret *
Graphite	7782-42-5	10 - 30 Trade Secret *

Poly(Dimethylsiloxane)	63148-62-9	10 - 30 Trade Secret *
Methyl Tris(Butylideneaminooxy)Silane	22984-54-9	3 - 7 Trade Secret *
Synthetic Amorphous Silica, Fumed, Crystalline Free	112945-52-5	0 - 5 Trade Secret *
Silica	7631-86-9	0 - 5 Trade Secret *
(3-Aminopropyl)Triethoxysilane	919-30-2	0.5 - 1.5 Trade Secret *
3-Iodo-2-Propynyl Butylcarbamate	55406-53-6	< 0.1 Trade Secret *

*The specific chemical identity and/or exact percentage (concentration) of this composition has been withheld as a trade secret.

SECTION 4: First aid measures

4.1. Description of first aid measures

Inhalation:
Remove person to fresh air. If you feel unwell, get medical attention.

Skin Contact:
Immediately wash with soap and water. Remove contaminated clothing and wash before reuse. If signs/symptoms develop, get medical attention.

Eye Contact:
Immediately flush with large amounts of water. Remove contact lenses if easy to do. Continue rinsing. Get medical attention.

If Swallowed:
Rinse mouth. If you feel unwell, get medical attention.

4.2. Most important symptoms and effects, both acute and delayed
See Section 11.1. Information on toxicological effects.

4.3. Indication of any immediate medical attention and special treatment required
Not applicable

SECTION 5: Fire-fighting measures

5.1. Suitable extinguishing media
Material will not burn. Non-combustible. Use a fire fighting agent suitable for surrounding fire.

5.2. Special hazards arising from the substance or mixture
None inherent in this product.

5.3. Special protective actions for fire-fighters
No special protective actions for fire-fighters are anticipated.

SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures
Evacuate area. Ventilate the area with fresh air. For large spill, or spills in confined spaces, provide mechanical ventilation to disperse or exhaust vapors, in accordance with good industrial hygiene practice. Warning! A motor could be an ignition source and could cause flammable gases or vapors in the spill area to burn or explode. Refer to other sections of this SDS for information regarding physical and health hazards, respiratory protection, ventilation, and personal protective equipment.

6.2. Environmental precautions

Avoid release to the environment. For larger spills, cover drains and build dikes to prevent entry into sewer systems or bodies of water.

6.3. Methods and material for containment and cleaning up
Collect as much of the spilled material as possible. Place in a closed container approved for transportation by appropriate authorities. Clean up residue. Seal the container. Dispose of collected material as soon as possible.

SECTION 7: Handling and storage

7.1. Precautions for safe handling
Avoid breathing of vapors created during cure cycle. Keep out of reach of children. Do not breathe dust/fume/gas/mist/vapors/spray. Do not get in eyes, on skin, or on clothing. Do not eat, drink or smoke when using this product. Wash thoroughly after handling. Contaminated work clothing should not be allowed out of the workplace. Avoid release to the environment. Wash contaminated clothing before reuse. Avoid contact with oxidizing agents (eg. chlorine, chromic acid etc.)

7.2. Conditions for safe storage including any incompatibilities
Store away from oxidizing agents.

SECTION 8: Exposure controls/personal protection

8.1. Control parameters

Occupational exposure limits

Ingredient	C.A.S. No.	Agency	Limit type	Additional Comments
Melamine	108-78-1	AIHA	TWA(inhalable particulates):10 mg/m3;TWA(respirable particles):5 mg/m3	
SILICA, AMORPHOUS	112945-52-5	OSHA	TWA concentration:0.8 mg/m3;TWA:20 millions of particles/cu. ft.	
Silica	7631-86-9	CMRG	TWA(as respirable dust):3 mg/m3	
SILICA, AMORPHOUS	7631-86-9	OSHA	TWA concentration:0.8 mg/m3;TWA:20 millions of particles/cu. ft.	
Graphite	7782-42-5	ACGIH	TWA(respirable fraction):2 mg/m3	
Graphite	7782-42-5	OSHA	TWA:15 millions of particles/cu. ft.	
GRAPHITE SYNTHETIC	7782-42-5	OSHA	TWA(as total dust):15 mg/m3;TWA(respirable fraction):5 mg/m3	

ACGIH : American Conference of Governmental Industrial Hygienists
AIHA : American Industrial Hygiene Association
CMRG : Chemical Manufacturer's Recommended Guidelines
OSHA : United States Department of Labor - Occupational Safety and Health Administration
TWA: Time-Weighted-Average
STEL: Short Term Exposure Limit
CEIL: Ceiling

8.2. Exposure controls

8.2.1. Engineering controls

Provide ventilated enclosure for heat curing. Curing enclosures must be exhausted to outdoors or to a suitable emission control device. Use general dilution ventilation and/or local exhaust ventilation to control airborne exposures to below relevant Exposure Limits and/or control dust/fume/gas/mist/vapors/spray. If ventilation is not adequate, use respiratory protection equipment.

8.2.2. Personal protective equipment (PPE)

Eye/face protection

Select and use eye/face protection to prevent contact based on the results of an exposure assessment. The following eye/face protection(s) are recommended:
Indirect Vented Goggles

Skin/hand protection
Select and use gloves and/or protective clothing approved to relevant local standards to prevent skin contact based on the results of an exposure assessment. Selection should be based on use factors such as exposure levels, concentration of the substance or mixture, frequency and duration, physical challenges such as temperature extremes, and other use conditions. Consult with your glove and/or protective clothing manufacturer for selection of appropriate compatible gloves/protective clothing. Note: Nitrile gloves may be worn over polymer laminate gloves to improve dexterity.
Gloves made from the following material(s) are recommended: Polymer laminate

If this product is used in a manner that presents a higher potential for exposure (eg. spraying, high splash potential etc.), then use of protective coveralls may be necessary. Select and use body protection to prevent contact based on the results of an exposure assessment. The following protective clothing material(s) are recommended: Apron - polymer laminate

Respiratory protection

An exposure assessment may be needed to decide if a respirator is required. If a respirator is needed, use respirators as part of a full respiratory protection program. Based on the results of the exposure assessment, select from the following respirator type(s) to reduce inhalation exposure:
Half facepiece air-purifying respirator suitable for organic vapors and particulates

For questions about suitability for a specific application, consult with your respirator manufacturer.

SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

General Physical Form:	Solid
Specific Physical Form:	Paste
Odor, Color, Grade:	Light gray with black flecks, thixotropic paste
Odor threshold	*No Data Available*
Melting point	*Not Applicable*
Boiling Point	*No Data Available*
Flash Point	No flash point
Evaporation rate	*No Data Available*
Flammability (solid, gas)	Not Classified
Flammable Limits(LEL)	*No Data Available*
Flammable Limits(UEL)	*No Data Available*
Vapor Pressure	Nil
Vapor Density	Nil
Specific Gravity	1.25 [*Ref Std:* WATER=1]
Solubility in Water	Nil
Solubility- non-water	*No Data Available*
Partition coefficient: n-octanol/ water	*No Data Available*
Autoignition temperature	*Not Applicable*

Decomposition temperature	*No Data Available*
Viscosity	*No Data Available*
Volatile Organic Compounds	30 g/l
Percent volatile	*No Data Available*
VOC Less H2O & Exempt Solvents	30 g/l

SECTION 10: Stability and reactivity

10.1. Reactivity
This material may be reactive with certain agents under certain conditions - see the remaining headings in this section.

10.2. Chemical stability
Stable.

10.3. Possibility of hazardous reactions
Hazardous polymerization will not occur.

10.4. Conditions to avoid
Not determined

10.5. Incompatible materials
Strong oxidizing agents

10.6. Hazardous decomposition products

Substance	Condition
Formaldehyde	Not Specified
Carbon monoxide	Not Specified
Carbon dioxide	Not Specified
Oxides of Nitrogen	Not Specified

SECTION 11: Toxicological information

The information below may not be consistent with the material classification in Section 2 if specific ingredient classifications are mandated by a competent authority. In addition, toxicological data on ingredients may not be reflected in the material classification and/or the signs and symptoms of exposure, because an ingredient may be present below the threshold for labeling, an ingredient may not be available for exposure, or the data may not be relevant to the material as a whole.

11.1. Information on Toxicological effects

Signs and Symptoms of Exposure

Based on test data and/or information on the components, this material may produce the following health effects:

Inhalation:
May cause target organ effects after inhalation.

Skin Contact:
Skin Irritation: Signs/symptoms may include localized redness, swelling, itching, dryness, cracking, blistering, and pain.
Allergic Skin Reaction (non-photo induced): Signs/symptoms may include redness, swelling, blistering, and itching.

Eye Contact:

Severe Eye Irritation: Signs/symptoms may include significant redness, swelling, pain, tearing, cloudy appearance of the cornea, and impaired vision.

Ingestion:
Gastrointestinal Irritation: Signs/symptoms may include abdominal pain, stomach upset, nausea, vomiting and diarrhea.

May cause target organ effects after ingestion.

Target Organ Effects:

Single exposure may cause:
Blood Effects: Signs/symptoms may include generalized weakness and fatigue, skin pallor, changes in blood clotting time, internal bleeding, and/or hemoglobinemia.

Prolonged or repeated exposure may cause:
Blood Effects: Signs/symptoms may include generalized weakness and fatigue, skin pallor, changes in blood clotting time, internal bleeding, and/or hemoglobinemia.

Kidney/Bladder Effects: Signs/symptoms may include changes in urine production, abdominal or lower back pain, increased protein in urine, increased blood urea nitrogen (BUN), blood in urine, and painful urination.

Toxicological Data
If a component is disclosed in section 3 but does not appear in a table below, either no data are available for that endpoint or the data are not sufficient for classification.

Acute Toxicity

Name	Route	Species	Value
Overall product	Dermal		No data available; calculated ATE > 5,000 mg/kg
Overall product	Ingestion		No data available; calculated ATE > 5,000 mg/kg
Melamine	Dermal	Rabbit	LD50 > 1,000 mg/kg
Melamine	Ingestion	Rat	LD50 3,161 mg/kg
Siloxanes and Silicones, Di-Me, Hydroxy-Terminated	Dermal	Rabbit	LD50 > 16,000 mg/kg
Siloxanes and Silicones, Di-Me, Hydroxy-Terminated	Ingestion	Rat	LD50 > 64,000 mg/kg
Poly(Dimethylsiloxane)	Dermal	Rabbit	LD50 > 19,400 mg/kg
Graphite	Ingestion	Rat	LD50 > 2,000 mg/kg
Poly(Dimethylsiloxane)	Ingestion	Rat	LD50 > 17,000 mg/kg
Methyl Tris(Butylideneaminooxy)Silane	Ingestion	Rat	LD50 2,260 mg/kg
Silica	Dermal	Rabbit	LD50 > 5,000 mg/kg
Synthetic Amorphous Silica, Fumed, Crystalline Free	Dermal	Rabbit	LD50 > 5,000 mg/kg
Silica	Inhalation-Dust/Mist (4 hours)	Rat	LC50 > 0.691 mg/l
Silica	Ingestion	Rat	LD50 > 5,110 mg/kg
Synthetic Amorphous Silica, Fumed, Crystalline Free	Inhalation-Dust/Mist (4 hours)	Rat	LC50 > 0.691 mg/l
Synthetic Amorphous Silica, Fumed, Crystalline Free	Ingestion	Rat	LD50 > 5,110 mg/kg
(3-Aminopropyl)Triethoxysilane	Dermal	Rabbit	LD50 4,290 mg/kg
(3-Aminopropyl)Triethoxysilane	Ingestion	Rat	LD50 1,570 mg/kg
3-Iodo-2-Propynyl Butylcarbamate	Dermal	Rabbit	LD50 > 2,000 mg/kg
3-Iodo-2-Propynyl Butylcarbamate	Inhalation-Dust/Mist (4 hours)	Rat	LC50 0.67 mg/l
3-Iodo-2-Propynyl Butylcarbamate	Ingestion	Rat	LD50 1,056 mg/kg

ATE = acute toxicity estimate

Skin Corrosion/Irritation

Name	Species	Value
Melamine	Guinea pig	No significant irritation
Graphite	Rabbit	No significant irritation

Poly(Dimethylsiloxane)	Rabbit	No significant irritation
Silica	Rabbit	No significant irritation
Synthetic Amorphous Silica, Fumed, Crystalline Free	Rabbit	No significant irritation
(3-Aminopropyl)Triethoxysilane	Rabbit	Corrosive
3-Iodo-2-Propynyl Butylcarbamate	Rabbit	Minimal irritation

Serious Eye Damage/Irritation

Name	Species	Value
Melamine	Rabbit	No significant irritation
Graphite	Rabbit	No significant irritation
Poly(Dimethylsiloxane)	Rabbit	No significant irritation
Silica	Rabbit	No significant irritation
Synthetic Amorphous Silica, Fumed, Crystalline Free	Rabbit	No significant irritation
(3-Aminopropyl)Triethoxysilane	Rabbit	Corrosive
3-Iodo-2-Propynyl Butylcarbamate	Rabbit	Corrosive

Skin Sensitization

Name	Species	Value
Melamine	Guinea pig	Not sensitizing
Silica	Human and animal	Not sensitizing
Synthetic Amorphous Silica, Fumed, Crystalline Free	Human and animal	Not sensitizing
(3-Aminopropyl)Triethoxysilane	Guinea pig	Sensitizing
3-Iodo-2-Propynyl Butylcarbamate	Multiple animal species	Sensitizing

Respiratory Sensitization

Name	Species	Value

Germ Cell Mutagenicity

Name	Route	Value
Melamine	In Vitro	Not mutagenic
Melamine	In vivo	Not mutagenic
Siloxanes and Silicones, Di-Me, Hydroxy-Terminated	In Vitro	Not mutagenic
Graphite	In Vitro	Some positive data exist, but the data are not sufficient for classification
Silica	In Vitro	Not mutagenic
Synthetic Amorphous Silica, Fumed, Crystalline Free	In Vitro	Not mutagenic

Carcinogenicity

Name	Route	Species	Value
Melamine	Ingestion	Rat	Some positive data exist, but the data are not sufficient for classification
Silica	Not Specified	Mouse	Some positive data exist, but the data are not sufficient for classification
Synthetic Amorphous Silica, Fumed, Crystalline Free	Not Specified	Mouse	Some positive data exist, but the data are not sufficient for classification

Reproductive Toxicity

Reproductive and/or Developmental Effects

Name	Route	Value	Species	Test Result	Exposure Duration
Melamine	Ingestion	Not toxic to development	Rat	NOAEL 1,060 mg/kg/day	during organogenesis
Silica	Ingestion	Not toxic to female reproduction	Rat	NOAEL 509 mg/kg/day	1 generation

Silica	Ingestion	Not toxic to male reproduction	Rat	NOAEL 497 mg/kg/day	1 generation
Silica	Ingestion	Not toxic to development	Rat	NOAEL 1,350 mg/kg/day	during organogenesis
Synthetic Amorphous Silica, Fumed, Crystalline Free	Ingestion	Not toxic to female reproduction	Rat	NOAEL 509 mg/kg/day	1 generation
Synthetic Amorphous Silica, Fumed, Crystalline Free	Ingestion	Not toxic to male reproduction	Rat	NOAEL 497 mg/kg/day	1 generation
Synthetic Amorphous Silica, Fumed, Crystalline Free	Ingestion	Not toxic to development	Rat	NOAEL 1,350 mg/kg/day	during organogenesis

Target Organ(s)

Specific Target Organ Toxicity - single exposure

Name	Route	Target Organ(s)	Value	Species	Test Result	Exposure Duration

Specific Target Organ Toxicity - repeated exposure

Name	Route	Target Organ(s)	Value	Species	Test Result	Exposure Duration
Melamine	Ingestion	kidney and/or bladder	May cause damage to organs though prolonged or repeated exposure	Rat	LOAEL 63 mg/kg/day	13 weeks
Graphite	Inhalation	pneumoconiosis	Some positive data exist, but the data are not sufficient for classification	Human	NOAEL Not available	occupational exposure
Silica	Inhalation	respiratory system | silicosis	All data are negative	Human	NOAEL Not available	occupational exposure
Synthetic Amorphous Silica, Fumed, Crystalline Free	Inhalation	respiratory system | silicosis	All data are negative	Human	NOAEL Not available	occupational exposure
3-Iodo-2-Propynyl Butylcarbamate	Inhalation	respiratory system	Causes damage to organs through prolonged or repeated exposure	Rat	NOAEL .00116 mg/l	90 days

Aspiration Hazard

Name	Value

Please contact the address or phone number listed on the first page of the SDS for additional toxicological information on this material and/or its components.

SECTION 12: Ecological information

Ecotoxicological information

Please contact the address or phone number listed on the first page of the SDS for additional ecotoxicological information on this material and/or its components.

Chemical fate information

Please contact the address or phone number listed on the first page of the SDS for additional chemical fate information on this material and/or its components.

SECTION 13: Disposal considerations

13.1. Disposal methods

Dispose of contents/ container in accordance with the local/regional/national/international regulations.

Dispose of waste product in a permitted industrial waste facility. Empty drums/barrels/containers used for transporting and

handling hazardous chemicals (chemical substances/mixtures/preparations classified as Hazardous as per applicable regulations) shall be considered, stored, treated & disposed of as hazardous wastes unless otherwise defined by applicable waste regulations. Consult with the respective regulating authorities to determine the available treatment and disposal facilities.

EPA Hazardous Waste Number (RCRA): Not regulated

SECTION 14: Transport Information

For Transport Information, please visit **http://3M.com/Transportinfo** or call 1-800-364-3577 or 651-737-6501.

SECTION 15: Regulatory information

15.1. US Federal Regulations

Contact 3M for more information.

311/312 Hazard Categories:

Fire Hazard - No Pressure Hazard - No Reactivity Hazard - No Immediate Hazard - Yes Delayed Hazard - Yes

15.2. State Regulations

Contact 3M for more information.

15.3. Chemical Inventories

The components of this material are in compliance with the provisions of Australia National Industrial Chemical Notification and Assessment Scheme (NICNAS). Certain restrictions may apply. Contact the selling division for additional information.

The components of this product are in compliance with the new substance notification requirements of CEPA.

The components of this material are in compliance with the China "Measures on Environmental Management of New Chemical Substance". Certain restrictions may apply. Contact the selling division for additional information.

The components of this material are in compliance with the provisions of the Korean Toxic Chemical Control Law. Certain restrictions may apply. Contact the selling division for additional information.

The components of this material are in compliance with the provisions of Philippines RA 6969 requirements. Certain restrictions may apply. Contact the selling division for additional information.

The components of this product are in compliance with the chemical notification requirements of TSCA.

Contact 3M for more information.

15.4. International Regulations

Contact 3M for more information.

This SDS has been prepared to meet the U.S. OSHA Hazard Communication Standard, 29 CFR 1910.1200.

SECTION 16: Other information

NFPA Hazard Classification
Health: 2 **Flammability:** 0 **Instability:** 0 **Special Hazards:** None

National Fire Protection Association (NFPA) hazard ratings are designed for use by emergency response personnel to address the hazards that are presented by short-term, acute exposure to a material under conditions of fire, spill, or similar emergencies. Hazard ratings are primarily based on the inherent physical and toxic properties of the material but also include the toxic properties of combustion or decomposition products that are known to be generated in significant quantities.

HMIS Hazard Classification
Health: *2 **Flammability:** 0 **Physical Hazard:** 0 **Personal Protection:** X - See PPE section.

Hazardous Material Identification System (HMIS® III) hazard ratings are designed to inform employees of chemical hazards in the workplace. These ratings are based on the inherent properties of the material under expected conditions of normal use and are not intended for use in emergency situations. HMIS® III ratings are to be used with a fully implemented HMIS® III program. HMIS® is a registered mark of the American Coatings Association (ACA).

Document Group:	19-2499-2	**Version Number:**	9.00
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3M USA SDSs are available at www.3M.com

Safety Data Sheet

Document Group:	08-8510-3	**Version Number:**	19.00
Issue Date:	07/28/14	**Supercedes Date:**	08/13/13

SECTION 1: Identification

1.1. Product identifier
3M™ Fire Barrier Water Tight Sealant 1000 NS and 1003 SL

Product Identification Numbers
98-0400-5276-7, 98-0400-5278-3, 98-0400-5279-1, 98-0400-5281-7, 98-0400-5554-7, 98-0400-5555-4

1.2. Recommended use and restrictions on use

Recommended use
Fire Protection, This product is a watertight sealant that will help control the spread of fire, smoke and noxious gases.

1.3. Supplier's details

MANUFACTURER:	3M
DIVISION:	Industrial Adhesives and Tapes Division
ADDRESS:	3M Center, St. Paul, MN 55144-1000, USA
Telephone:	1-888-3M HELPS (1-888-364-3577)

1.4. Emergency telephone number
1-800-364-3577 or (651) 737-6501 (24 hours)

SECTION 2: Hazard identification

2.1. Hazard classification
Serious Eye Damage/Irritation: Category 2A.
Skin Sensitizer: Category 1.
Reproductive Toxicity: Category 2.
Specific Target Organ Toxicity (repeated exposure): Category 2.

2.2. Label elements
Signal word
Warning

Symbols
Exclamation mark | Health Hazard |

Pictograms

Hazard Statements
Causes serious eye irritation.
May cause an allergic skin reaction.
Suspected of damaging fertility or the unborn child.

May cause damage to organs through prolonged or repeated exposure:
blood or blood-forming organs |
cardiovascular system |

Precautionary Statements

Prevention:
Obtain special instructions before use.
Do not handle until all safety precautions have been read and understood.
Do not breathe dust/fume/gas/mist/vapors/spray.
Wear protective gloves and eye/face protection.
Wash thoroughly after handling.
Contaminated work clothing must not be allowed out of the workplace.

Response:
IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
If eye irritation persists: Get medical advice/attention.
IF ON SKIN: Wash with plenty of soap and water.
If skin irritation or rash occurs: Get medical advice/attention.
Wash contaminated clothing before reuse.
IF exposed or concerned: Get medical advice/attention.

Storage:
Store locked up.

Disposal:
Dispose of contents/container in accordance with applicable local/regional/national/international regulations.

2.3. Hazards not otherwise classified
Persons previously sensitized to amines may develop a cross-sensitization reaction to certain other amines. This product may release methyl ethyl ketoxime (CAS 96-29-7) during curing and/or when exposed to water or humid air.

SECTION 3: Composition/information on ingredients

Ingredient	C.A.S. No.	% by Wt
Calcium Carbonate	1317-65-3	15 - 40 Trade Secret *
Siloxanes and Silcones, Di-Me, Hydroxy-Terminated	70131-67-8	15 - 40 Trade Secret *
Poly(Dimethylsiloxane)	63148-62-9	15 - 40 Trade Secret *
Ketoxime Silane	22984-54-9	3 - 7 Trade Secret *
Amorphous Silica	7631-86-9	0.5 - 5 Trade Secret *
(Trimethoxysilylpropyl)Ethylenediamine	1760-24-3	0.5 - 1.0 Trade Secret *
Octamethylcyclotetrasiloxane	556-67-2	<= 0.1 Trade Secret *
Quartz silica	14808-60-7	<= 0.1 Trade Secret *

*The specific chemical identity and/or exact percentage (concentration) of this composition has been withheld as a trade secret.

SECTION 4: First aid measures

4.1. Description of first aid measures

Inhalation:
Remove person to fresh air. If you feel unwell, get medical attention.

Skin Contact:
Immediately wash with soap and water. Remove contaminated clothing and wash before reuse. If signs/symptoms develop, get medical attention.

Eye Contact:
Immediately flush with large amounts of water. Remove contact lenses if easy to do. Continue rinsing. Get medical attention.

If Swallowed:
Rinse mouth. If you feel unwell, get medical attention.

4.2. Most important symptoms and effects, both acute and delayed
See Section 11.1. Information on toxicological effects.

4.3. Indication of any immediate medical attention and special treatment required
Not applicable

SECTION 5: Fire-fighting measures

5.1. Suitable extinguishing media
In case of fire: Use a fire fighting agent suitable for ordinary combustible material such as water or foam to extinguish.

5.2. Special hazards arising from the substance or mixture
None inherent in this product.

Hazardous Decomposition or By-Products

Substance	Condition
Formaldehyde	During Combustion
Carbon dioxide	During Combustion
Oxides of Nitrogen	During Combustion

5.3. Special protective actions for fire-fighters
No special protective actions for fire-fighters are anticipated.

SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures
Evacuate area. Ventilate the area with fresh air. Refer to other sections of this SDS for information regarding physical and health hazards, respiratory protection, ventilation, and personal protective equipment.

6.2. Environmental precautions
Avoid release to the environment.

6.3. Methods and material for containment and cleaning up
Collect as much of the spilled material as possible. Place in a closed container approved for transportation by appropriate authorities. Clean up residue. Seal the container. Dispose of collected material as soon as possible.

SECTION 7: Handling and storage

7.1. Precautions for safe handling
Keep out of reach of children. Do not handle until all safety precautions have been read and understood. Do not breathe dust/fume/gas/mist/vapors/spray. Do not get in eyes, on skin, or on clothing. Do not eat, drink or smoke when using this product. Wash thoroughly after handling. Contaminated work clothing should not be allowed out of the workplace. Avoid release to the environment. Wash contaminated clothing before reuse. Avoid contact with oxidizing agents (eg. chlorine, chromic acid etc.) Use personal protective equipment (gloves, respirators, etc.) as required.

7.2. Conditions for safe storage including any incompatibilities
Store away from acids. Store away from strong bases. Store away from oxidizing agents.

SECTION 8: Exposure controls/personal protection

8.1. Control parameters

Occupational exposure limits

Ingredient	C.A.S. No.	Agency	Limit type	Additional Comments
Calcium Carbonate	1317-65-3	OSHA	TWA(as total dust):15 mg/m3;TWA(respirable fraction):5 mg/m3	
Quartz silica	14808-60-7	ACGIH	TWA(respirable fraction):0.025 mg/m3	A2: Suspected human carcin.
Quartz silica	14808-60-7	OSHA	TWA concentration(as total dust):0.3 mg/m3;TWA concentration(respirable):0.1 mg/m3(2.4 millions of particles/cu. ft.)	
Octamethylcyclotetrasiloxane	556-67-2	CMRG	TWA:10 ppm	
Amorphous Silica	7631-86-9	CMRG	TWA(as respirable dust):3 mg/m3	
SILICA, AMORPHOUS	7631-86-9	OSHA	TWA concentration:0.8 mg/m3;TWA:20 millions of particles/cu. ft.	

ACGIH : American Conference of Governmental Industrial Hygienists
AIHA : American Industrial Hygiene Association
CMRG : Chemical Manufacturer's Recommended Guidelines
OSHA : United States Department of Labor - Occupational Safety and Health Administration
TWA: Time-Weighted-Average
STEL: Short Term Exposure Limit
CEIL: Ceiling

8.2. Exposure controls

8.2.1. Engineering controls
Use general dilution ventilation and/or local exhaust ventilation to control airborne exposures to below relevant Exposure Limits and/or control dust/fume/gas/mist/vapors/spray. If ventilation is not adequate, use respiratory protection equipment.

8.2.2. Personal protective equipment (PPE)

Eye/face protection

Select and use eye/face protection to prevent contact based on the results of an exposure assessment. The following eye/face protection(s) are recommended:
Indirect Vented Goggles

Skin/hand protection
Select and use gloves and/or protective clothing approved to relevant local standards to prevent skin contact based on the results of an exposure assessment. Selection should be based on use factors such as exposure levels, concentration of the substance or mixture, frequency and duration, physical challenges such as temperature extremes, and other use conditions. Consult with your glove and/or protective clothing manufacturer for selection of appropriate compatible gloves/protective clothing. Note: Nitrile gloves may be worn over polymer laminate gloves to improve dexterity.
Gloves made from the following material(s) are recommended: Polymer laminate

If this product is used in a manner that presents a higher potential for exposure (eg. spraying, high splash potential etc.), then use of protective coveralls may be necessary. Select and use body protection to prevent contact based on the results of an exposure assessment. The following protective clothing material(s) are recommended: Apron - polymer laminate

Respiratory protection

An exposure assessment may be needed to decide if a respirator is required. If a respirator is needed, use respirators as part of a full respiratory protection program. Based on the results of the exposure assessment, select from the following respirator type(s) to reduce inhalation exposure:
Half facepiece or full facepiece air-purifying respirator suitable for organic vapors and particulates

For questions about suitability for a specific application, consult with your respirator manufacturer.

SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

General Physical Form:	Solid
Specific Physical Form:	Paste
Odor, Color, Grade:	Low odor, light gray, thixotropic caulk
Odor threshold	*No Data Available*
Melting point	*No Data Available*
Flash Point	> 212 ºF [*Test Method:* Closed Cup]
Flammability (solid, gas)	Not Classified
Flammable Limits(LEL)	*Not Applicable*
Flammable Limits(UEL)	*Not Applicable*
Vapor Pressure	< 5 mmHg [@ 25 ºC]
Specific Gravity	1.31 - 1.33 [*Ref Std:* WATER=1]
Solubility in Water	Nil
Solubility- non-water	*No Data Available*
Partition coefficient: n-octanol/ water	*No Data Available*
Autoignition temperature	*No Data Available*
Decomposition temperature	*No Data Available*
Volatile Organic Compounds	< 3 %
Percent volatile	<=3.8 % weight
VOC Less H2O & Exempt Solvents	< 35 g/l

SECTION 10: Stability and reactivity

10.1. Reactivity
This material is considered to be non reactive under normal use conditions.

10.2. Chemical stability
Stable.

10.3. Possibility of hazardous reactions
Hazardous polymerization will not occur.

10.4. Conditions to avoid
Not determined

10.5. Incompatible materials
Strong acids
Strong bases
Strong oxidizing agents

10.6. Hazardous decomposition products

Substance	Condition
None known.	

Refer to section 5.2 for hazardous decomposition products during combustion.

SECTION 11: Toxicological information

The information below may not be consistent with the material classification in Section 2 if specific ingredient classifications are mandated by a competent authority. In addition, toxicological data on ingredients may not be reflected in the material classification and/or the signs and symptoms of exposure, because an ingredient may be present below the threshold for labeling, an ingredient may not be available for exposure, or the data may not be relevant to the material as a whole.

11.1. Information on Toxicological effects

Signs and Symptoms of Exposure

Based on test data and/or information on the components, this material may produce the following health effects:

Inhalation:
No health effects are expected.

Skin Contact:
Contact with the skin during product use is not expected to result in significant irritation. Allergic Skin Reaction (non-photo induced): Signs/symptoms may include redness, swelling, blistering, and itching.

Eye Contact:
Severe Eye Irritation: Signs/symptoms may include significant redness, swelling, pain, tearing, cloudy appearance of the cornea, and impaired vision.

Ingestion:
Gastrointestinal Irritation: Signs/symptoms may include abdominal pain, stomach upset, nausea, vomiting and diarrhea.

May cause target organ effects after ingestion.

Target Organ Effects:

Prolonged or repeated exposure may cause:

Cardiac Effects: Signs/symptoms may include irregular heartbeat (arrhythmia), changes in heart rate, damage to heart muscle, heart attack, and may be fatal.

Hematopoietic Effects: Signs/symptoms may include generalized weakness, fatigue and alterations in numbers of circulating blood cells.

Reproductive/Developmental Toxicity:
Contains a chemical or chemicals which can cause birth defects or other reproductive harm.

Carcinogenicity:

Ingredient	C.A.S. No.	Class Description	Regulation
Quartz silica	14808-60-7	Grp. 1: Carcinogenic to humans	International Agency for Research on Cancer
SILICA, CRYS AIRRESP	14808-60-7	Known human carcinogen	National Toxicology Program Carcinogens

Additional Information:
Persons previously sensitized to amines may develop a cross-sensitization reaction to certain other amines.

Toxicological Data
If a component is disclosed in section 3 but does not appear in a table below, either no data are available for that endpoint or the data are not sufficient for classification.

Acute Toxicity

Name	Route	Species	Value
Overall product	Ingestion		No data available; calculated ATE > 5,000 mg/kg
Calcium Carbonate	Dermal	Rat	LD50 > 2,000 mg/kg
Calcium Carbonate	Inhalation-Dust/Mist (4 hours)	Rat	LC50 3.0 mg/l
Calcium Carbonate	Ingestion	Rat	LD50 6,450 mg/kg
Siloxanes and Silcones, Di-Me, Hydroxy-Terminated	Dermal	Rabbit	LD50 > 16,000 mg/kg
Siloxanes and Silcones, Di-Me, Hydroxy-Terminated	Ingestion	Rat	LD50 > 64,000 mg/kg
Poly(Dimethylsiloxane)	Dermal	Rabbit	LD50 > 19,400 mg/kg
Poly(Dimethylsiloxane)	Ingestion	Rat	LD50 > 17,000 mg/kg
Amorphous Silica	Dermal	Rabbit	LD50 > 5,000 mg/kg
Amorphous Silica	Inhalation-Dust/Mist (4 hours)	Rat	LC50 > 0.691 mg/l
Amorphous Silica	Ingestion	Rat	LD50 > 5,110 mg/kg
Ketoxime Silane	Ingestion	Rat	LD50 2,260 mg/kg
(Trimethoxysilylpropyl)Ethylenediamine	Dermal	Rabbit	LD50 16,480 mg/kg
(Trimethoxysilylpropyl)Ethylenediamine	Ingestion	Rat	LD50 2,400 mg/kg
Quartz silica	Dermal		LD50 estimated to be > 5,000 mg/kg
Quartz silica	Ingestion		LD50 estimated to be > 5,000 mg/kg
Octamethylcyclotetrasiloxane	Dermal	Rat	LD50 > 2,400 mg/kg
Octamethylcyclotetrasiloxane	Inhalation-Dust/Mist (4 hours)	Rat	LC50 36 mg/l
Octamethylcyclotetrasiloxane	Ingestion	Rat	LD50 > 5,000 mg/kg

ATE = acute toxicity estimate

Skin Corrosion/Irritation

Name	Species	Value
Calcium Carbonate	Rabbit	No significant irritation
Poly(Dimethylsiloxane)	Rabbit	No significant irritation
Amorphous Silica	Rabbit	No significant irritation
Octamethylcyclotetrasiloxane	Rabbit	Minimal irritation
Quartz silica		No significant irritation

Serious Eye Damage/Irritation

Name	Species	Value

Calcium Carbonate	Rabbit	No significant irritation
Poly(Dimethylsiloxane)	Rabbit	No significant irritation
Amorphous Silica	Rabbit	No significant irritation
Octamethylcyclotetrasiloxane	Rabbit	No significant irritation

Skin Sensitization

Name	Species	Value
Amorphous Silica	Human and animal	Not sensitizing
Octamethylcyclotetrasiloxane	Human and animal	Not sensitizing

Respiratory Sensitization

Name	Species	Value

Germ Cell Mutagenicity

Name	Route	Value
Siloxanes and Silcones, Di-Me, Hydroxy-Terminated	In Vitro	Not mutagenic
Amorphous Silica	In Vitro	Not mutagenic
Octamethylcyclotetrasiloxane	In Vitro	Some positive data exist, but the data are not sufficient for classification
Quartz silica	In Vitro	Some positive data exist, but the data are not sufficient for classification
Quartz silica	In vivo	Some positive data exist, but the data are not sufficient for classification

Carcinogenicity

Name	Route	Species	Value
Amorphous Silica	Not Specified	Mouse	Some positive data exist, but the data are not sufficient for classification
Quartz silica	Inhalation	Human and animal	Carcinogenic

Reproductive Toxicity

Reproductive and/or Developmental Effects

Name	Route	Value	Species	Test Result	Exposure Duration
Calcium Carbonate	Ingestion	Not toxic to development	Rat	NOAEL 625 mg/kg/day	premating & during gestation
Amorphous Silica	Ingestion	Not toxic to female reproduction	Rat	NOAEL 509 mg/kg/day	1 generation
Amorphous Silica	Ingestion	Not toxic to male reproduction	Rat	NOAEL 497 mg/kg/day	1 generation
Amorphous Silica	Ingestion	Not toxic to development	Rat	NOAEL 1,350 mg/kg/day	during organogenesis
Octamethylcyclotetrasiloxane	Inhalation	Not toxic to male reproduction	Rat	NOAEL 8.5 mg/l	2 generation
Octamethylcyclotetrasiloxane	Ingestion	Toxic to female reproduction	Rabbit	NOAEL 50 mg/kg/day	during organogenesis
Octamethylcyclotetrasiloxane	Inhalation	Toxic to female reproduction	Rat	NOAEL 3.6 mg/l	2 generation

Target Organ(s)

Specific Target Organ Toxicity - single exposure

Name	Route	Target Organ(s)	Value	Species	Test Result	Exposure Duration

Calcium Carbonate	Inhalation	respiratory system	All data are negative	Rat	NOAEL 0.812 mg/l	90 minutes

Specific Target Organ Toxicity - repeated exposure

Name	Route	Target Organ(s)	Value	Species	Test Result	Exposure Duration
Calcium Carbonate	Inhalation	respiratory system	Some positive data exist, but the data are not sufficient for classification	Human	NOAEL Not available	occupational exposure
Amorphous Silica	Inhalation	respiratory system | silicosis	All data are negative	Human	NOAEL Not available	occupational exposure
Octamethylcyclotetrasiloxane	Dermal	hematopoietic system	All data are negative	Rabbit	NOAEL 960 mg/kg/day	3 weeks
Quartz silica	Inhalation	silicosis	Causes damage to organs through prolonged or repeated exposure	Human	NOAEL Not available	occupational exposure
Octamethylcyclotetrasiloxane	Inhalation	liver	Some positive data exist, but the data are not sufficient for classification	Rat	NOAEL 8.5 mg/l	13 weeks
Octamethylcyclotetrasiloxane	Inhalation	endocrine system | immune system | kidney and/or bladder	Some positive data exist, but the data are not sufficient for classification	Rat	NOAEL 8.5 mg/l	2 generation
Octamethylcyclotetrasiloxane	Inhalation	hematopoietic system	All data are negative	Rat	NOAEL 8.5 mg/l	13 weeks
Octamethylcyclotetrasiloxane	Ingestion	liver	Some positive data exist, but the data are not sufficient for classification	Rat	NOAEL 1,600 mg/kg/day	2 weeks

Aspiration Hazard

Name	Value

Please contact the address or phone number listed on the first page of the SDS for additional toxicological information on this material and/or its components.

SECTION 12: Ecological information

Ecotoxicological information

Please contact the address or phone number listed on the first page of the SDS for additional ecotoxicological information on this material and/or its components.

Chemical fate information

Please contact the address or phone number listed on the first page of the SDS for additional chemical fate information on this material and/or its components.

SECTION 13: Disposal considerations

13.1. Disposal methods

Dispose of contents/ container in accordance with the local/regional/national/international regulations.

Dispose of waste product in a permitted industrial waste facility. As a disposal alternative, incinerate in a permitted waste incineration facility. Proper destruction may require the use of additional fuel during incineration processes. Empty drums/barrels/containers used for transporting and handling hazardous chemicals (chemical substances/mixtures/preparations classified as Hazardous as per applicable regulations) shall be considered, stored, treated & disposed of as hazardous wastes unless otherwise defined by applicable waste regulations. Consult with the respective regulating authorities to determine the available treatment and disposal facilities.

EPA Hazardous Waste Number (RCRA): Not regulated

SECTION 14: Transport Information

For Transport Information, please visit **http://3M.com/Transportinfo** or call 1-800-364-3577 or 651-737-6501.

SECTION 15: Regulatory information

15.1. US Federal Regulations

Contact 3M for more information.

311/312 Hazard Categories:

Fire Hazard - No Pressure Hazard - No Reactivity Hazard - No Immediate Hazard - Yes Delayed Hazard - Yes

This material contains a chemical which requires export notification under TSCA Section 12[b]:

Ingredient (Category if applicable)	C.A.S. No	Regulation	Status
Octamethylcyclotetrasiloxane	556-67-2	Toxic Substances Control Act (TSCA) 4 Test Rule Chemicals	Applicable

15.2. State Regulations

Contact 3M for more information.

California Proposition 65

Ingredient	C.A.S. No.	Classification
Methyl Alcohol	67-56-1	Developmental Toxin

WARNING: This product contains a chemical known to the State of California to cause birth defects or other reproductive harm.

15.3. Chemical Inventories

The components of this material are in compliance with the provisions of Australia National Industrial Chemical Notification and Assessment Scheme (NICNAS). Certain restrictions may apply. Contact the selling division for additional information.

The components of this product are in compliance with the new substance notification requirements of CEPA.

The components of this material are in compliance with the China "Measures on Environmental Management of New Chemical Substance". Certain restrictions may apply. Contact the selling division for additional information.

The components of this material are in compliance with the provisions of the Korean Toxic Chemical Control Law. Certain restrictions may apply. Contact the selling division for additional information.

The components of this material are in compliance with the provisions of Philippines RA 6969 requirements. Certain restrictions may apply. Contact the selling division for additional information.

The components of this product are in compliance with the chemical notification requirements of TSCA.

Contact 3M for more information.

15.4. International Regulations

Contact 3M for more information.

This SDS has been prepared to meet the U.S. OSHA Hazard Communication Standard, 29 CFR 1910.1200.

SECTION 16: Other information

NFPA Hazard Classification
Health: 2 **Flammability:** 1 **Instability:** 0 **Special Hazards:** None

National Fire Protection Association (NFPA) hazard ratings are designed for use by emergency response personnel to address the hazards that are presented by short-term, acute exposure to a material under conditions of fire, spill, or similar emergencies. Hazard ratings are primarily based on the inherent physical and toxic properties of the material but also include the toxic properties of combustion or decomposition products that are known to be generated in significant quantities.

HMIS Hazard Classification
Health: 2 **Flammability:** 1 **Physical Hazard:** 0 **Personal Protection:** X - See PPE section.

Hazardous Material Identification System (HMIS® III) hazard ratings are designed to inform employees of chemical hazards in the workplace. These ratings are based on the inherent properties of the material under expected conditions of normal use and are not intended for use in emergency situations. HMIS® III ratings are to be used with a fully implemented HMIS® III program. HMIS® is a registered mark of the American Coatings Association (ACA).

Document Group:	08-8510-3	**Version Number:**	19.00
Issue Date:	07/28/14	**Supercedes Date:**	08/13/13

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3M USA SDSs are available at www.3M.com

Safety Data Sheet

Document Group:	09-5451-1	**Version Number:**	26.00
Issue Date:	06/20/14	**Supercedes Date:**	08/18/13

SECTION 1: Identification

1.1. Product identifier
3M Brand Fire Barrier CP-25WB+

Product Identification Numbers
42-0016-4710-8, 42-0016-4715-7, 42-0016-4716-5, 98-0400-5380-7, 98-0400-5381-5, 98-0400-5382-3, 98-0400-5383-1, 98-0400-5406-0, 98-0400-5456-5, 98-0400-5562-0, 98-0400-5573-7, 98-0400-5610-7, 98-0400-5629-7

1.2. Recommended use and restrictions on use

Recommended use
Fire Protection, Used as Firestop in buildings.

1.3. Supplier's details

MANUFACTURER:	3M
DIVISION:	Industrial Adhesives and Tapes Division
ADDRESS:	3M Center, St. Paul, MN 55144-1000, USA
Telephone:	1-888-3M HELPS (1-888-364-3577)

1.4. Emergency telephone number
1-800-364-3577 or (651) 737-6501 (24 hours)

SECTION 2: Hazard identification

2.1. Hazard classification
Serious Eye Damage/Irritation: Category 2B.

2.2. Label elements
Signal word
Warning

Symbols
Not applicable

Pictograms
Not applicable

Hazard Statements

Causes eye irritation.

Precautionary Statements
General:
Keep out of reach of children.

Prevention:
Wash thoroughly after handling.

Response:
IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
If eye irritation persists: Get medical advice/attention.

2.3. Hazards not otherwise classified
None.

25% of the mixture consists of ingredients of unknown acute dermal toxicity.

SECTION 3: Composition/information on ingredients

Ingredient	C.A.S. No.	% by Wt
Zinc Borate 2335	138265-88-0	10 - 30 Trade Secret *
Polymer (NJTS Reg. No. 04499600-7270)	Trade Secret*	10 - 30 Trade Secret *
Water	7732-18-5	10 - 30 Trade Secret *
Sodium Silicate	1344-09-8	10 - 30 Trade Secret *
Ethylhexyldiphenyl phosphate	1241-94-7	3 - 7 Trade Secret *
Oxide glass chemicals	65997-17-3	1 - 5 Trade Secret *
Iron oxide	1309-37-1	1 - 5 Trade Secret *
Polyethylene Glycol	25322-68-3	1 - 5 Trade Secret *
Triphenyl phosphate	115-86-6	< 1.0 Trade Secret *
Di-2-ethylhexlphenyl phosphate	16368-97-1	< 1.0 Trade Secret *
Polyoxyethylene monooctylphenyl ether	9036-19-5	< 1.0 Trade Secret *
3(2H)-Isothiazolone, 5-chloro-2-methyl-, mixt. with 2-methyl-3(2H)-isothiazolone	55965-84-9	< 0.001 Trade Secret *

NJTS or NJTSRN: New Jersey Trade Secret Registry Number.

*The specific chemical identity and/or exact percentage (concentration) of this composition has been withheld as a trade secret.

SECTION 4: First aid measures

4.1. Description of first aid measures

Inhalation:
Remove person to fresh air. If you feel unwell, get medical attention.

Skin Contact:
Wash with soap and water. If signs/symptoms develop, get medical attention.

Eye Contact:
Flush with large amounts of water. Remove contact lenses if easy to do. Continue rinsing. If signs/symptoms persist, get medical attention.

If Swallowed:
Rinse mouth. If you feel unwell, get medical attention.

4.2. Most important symptoms and effects, both acute and delayed
See Section 11.1. Information on toxicological effects.

4.3. Indication of any immediate medical attention and special treatment required
Not applicable

SECTION 5: Fire-fighting measures

5.1. Suitable extinguishing media
Non-combustible. Use a fire fighting agent suitable for surrounding fire.

5.2. Special hazards arising from the substance or mixture
None inherent in this product.

5.3. Special protective actions for fire-fighters
No special protective actions for fire-fighters are anticipated.

SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures
Evacuate area. Ventilate the area with fresh air. Refer to other sections of this SDS for information regarding physical and health hazards, respiratory protection, ventilation, and personal protective equipment.

6.2. Environmental precautions
Avoid release to the environment.

6.3. Methods and material for containment and cleaning up
Collect as much of the spilled material as possible. Place in a closed container approved for transportation by appropriate authorities. Clean up residue. Seal the container. Dispose of collected material as soon as possible.

SECTION 7: Handling and storage

7.1. Precautions for safe handling
Avoid eye contact. Keep out of reach of children. Avoid breathing dust/fume/gas/mist/vapors/spray. Do not eat, drink or smoke when using this product. Wash thoroughly after handling. Avoid release to the environment.

7.2. Conditions for safe storage including any incompatibilities
Keep cool. Store away from heat. Store away from areas where product may come into contact with food or pharmaceuticals. Store in a dry place.

SECTION 8: Exposure controls/personal protection

8.1. Control parameters

Occupational exposure limits

Ingredient	C.A.S. No.	Agency	Limit type	Additional Comments
Triphenyl phosphate	115-86-6	ACGIH	TWA:3 mg/m3	
Triphenyl phosphate	115-86-6	OSHA	TWA:3 mg/m3	

Iron oxide	1309-37-1	ACGIH	TWA(respirable fraction):5 mg/m3	
Iron oxide	1309-37-1	OSHA	TWA(as fume):10 mg/m3	
ROUGE	1309-37-1	OSHA	TWA(as total dust):15 mg/m3;TWA(respirable fraction):5 mg/m3	
Polyethylene Glycol	25322-68-3	AIHA	TWA(as particulate):10 mg/m3	
Oxide glass chemicals	65997-17-3	Manufacturer determined	TWA(as dust):10 mg/m3	

ACGIH : American Conference of Governmental Industrial Hygienists
AIHA : American Industrial Hygiene Association
CMRG : Chemical Manufacturer's Recommended Guidelines
OSHA : United States Department of Labor - Occupational Safety and Health Administration
TWA: Time-Weighted-Average
STEL: Short Term Exposure Limit
CEIL: Ceiling

8.2. Exposure controls

8.2.1. Engineering controls
Use general dilution ventilation and/or local exhaust ventilation to control airborne exposures to below relevant Exposure Limits and/or control dust/fume/gas/mist/vapors/spray. If ventilation is not adequate, use respiratory protection equipment.

8.2.2. Personal protective equipment (PPE)

Eye/face protection

Select and use eye/face protection to prevent contact based on the results of an exposure assessment. The following eye/face protection(s) are recommended:
Indirect Vented Goggles

Skin/hand protection
Select and use gloves and/or protective clothing approved to relevant local standards to prevent skin contact based on the results of an exposure assessment. Selection should be based on use factors such as exposure levels, concentration of the substance or mixture, frequency and duration, physical challenges such as temperature extremes, and other use conditions. Consult with your glove and/or protective clothing manufacturer for selection of appropriate compatible gloves/protective clothing.
Gloves made from the following material(s) are recommended: Butyl Rubber
Neoprene
Nitrile Rubber

Respiratory protection

An exposure assessment may be needed to decide if a respirator is required. If a respirator is needed, use respirators as part of a full respiratory protection program. Based on the results of the exposure assessment, select from the following respirator type(s) to reduce inhalation exposure:
Half facepiece or full facepiece air-purifying respirator suitable for particulates

For questions about suitability for a specific application, consult with your respirator manufacturer.

SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

General Physical Form:	Solid
Specific Physical Form:	Paste
Odor, Color, Grade:	Red with negligible odor

Odor threshold	*No Data Available*
Melting point	*No Data Available*
Flash Point	No flash point
Flammability (solid, gas)	Not Classified
Flammable Limits(LEL)	*Not Applicable*
Flammable Limits(UEL)	*Not Applicable*
Specific Gravity	1.35 [*Ref Std:* WATER=1]
Solubility in Water	Complete
Solubility- non-water	*No Data Available*
Autoignition temperature	*Not Applicable*
Decomposition temperature	*No Data Available*
Volatile Organic Compounds	< 1 g/l
VOC Less H2O & Exempt Solvents	< 1 g/l

SECTION 10: Stability and reactivity

10.1. Reactivity
This material is considered to be non reactive under normal use conditions.

10.2. Chemical stability
Stable.

10.3. Possibility of hazardous reactions
Hazardous polymerization will not occur.

10.4. Conditions to avoid
None known.

10.5. Incompatible materials
None known.

10.6. Hazardous decomposition products

Substance	Condition
Carbon monoxide	Not Specified
Carbon dioxide	Not Specified
Oxides of Phosphorus	Not Specified

SECTION 11: Toxicological information

The information below may not be consistent with the material classification in Section 2 if specific ingredient

classifications are mandated by a competent authority. In addition, toxicological data on ingredients may not be reflected in the material classification and/or the signs and symptoms of exposure, because an ingredient may be present below the threshold for labeling, an ingredient may not be available for exposure, or the data may not be relevant to the material as a whole.

11.1. Information on Toxicological effects

Signs and Symptoms of Exposure

Based on test data and/or information on the components, this material may produce the following health effects:

Inhalation:
Respiratory Tract Irritation: Signs/symptoms may include cough, sneezing, nasal discharge, headache, hoarseness, and nose and throat pain.

Skin Contact:
Mild Skin Irritation: Signs/symptoms may include localized redness, swelling, itching, and dryness.

Eye Contact:
Moderate Eye Irritation: Signs/symptoms may include redness, swelling, pain, tearing, and blurred or hazy vision.

Ingestion:
May be harmful if swallowed.
Gastrointestinal Irritation: Signs/symptoms may include abdominal pain, stomach upset, nausea, vomiting and diarrhea.

Toxicological Data
If a component is disclosed in section 3 but does not appear in a table below, either no data are available for that endpoint or the data are not sufficient for classification.

Acute Toxicity

Name	Route	Species	Value
Overall product	Dermal		No data available; calculated ATE > 5,000 mg/kg
Overall product	Ingestion		No data available; calculated ATE 2,000 - 5,000 mg/kg
Polymer (NJTS Reg. No. 04499600-7270)	Ingestion	Rat	LD50 > 2,000 mg/kg
Zinc Borate 2335	Dermal	Rabbit	LD50 > 10,000 mg/kg
Zinc Borate 2335	Ingestion	Rat	LD50 > 10,000 mg/kg
Sodium Silicate	Dermal	Rabbit	LD50 > 4,640 mg/kg
Sodium Silicate	Ingestion	Rat	LD50 500 mg/kg
Ethylhexyldiphenyl phosphate	Dermal	Rabbit	LD50 > 7,940 mg/kg
Ethylhexyldiphenyl phosphate	Ingestion	Rat	LD50 > 24,000 mg/kg
Iron oxide	Dermal	Not available	LD50 3,100 mg/kg
Iron oxide	Ingestion	Not available	LD50 3,700 mg/kg
Polyethylene Glycol	Dermal	Rabbit	LD50 > 20,000 mg/kg
Polyethylene Glycol	Ingestion	Rat	LD50 32,770 mg/kg
Oxide glass chemicals	Dermal		LD50 estimated to be > 5,000 mg/kg
Oxide glass chemicals	Ingestion		LD50 estimated to be 2,000 - 5,000 mg/kg
Polyoxyethylene monooctylphenyl ether	Dermal	Rabbit	LD50 > 3,000 mg/kg
Polyoxyethylene monooctylphenyl ether	Ingestion	Rat	LD50 > 500 mg/kg
Triphenyl phosphate	Dermal	Rabbit	LD50 > 7,900 mg/kg
Triphenyl phosphate	Inhalation-Dust/Mist (4 hours)	Rat	LC50 > 50 mg/l
Triphenyl phosphate	Ingestion	Rat	LD50 > 3,000 mg/kg
3(2H)-Isothiazolone, 5-chloro-2-methyl-, mixt. with 2-methyl-3(2H)-isothiazolone	Dermal	Rabbit	LD50 87 mg/kg
3(2H)-Isothiazolone, 5-chloro-2-methyl-, mixt. with 2-methyl-3(2H)-isothiazolone	Inhalation-Dust/Mist (4 hours)	Rat	LC50 0.33 mg/l

3(2H)-Isothiazolone, 5-chloro-2-methyl-, mixt. with 2-methyl-3(2H)-isothiazolone	Ingestion	Rat	LD50 40 mg/kg

ATE = acute toxicity estimate

Skin Corrosion/Irritation

Name	Species	Value
Polymer (NJTS Reg. No. 04499600-7270)	Rabbit	Minimal irritation
Sodium Silicate	Rabbit	Corrosive
Iron oxide	Rabbit	No significant irritation
Polyethylene Glycol	Rabbit	Minimal irritation
Oxide glass chemicals		No significant irritation
3(2H)-Isothiazolone, 5-chloro-2-methyl-, mixt. with 2-methyl-3(2H)-isothiazolone	Rabbit	Corrosive

Serious Eye Damage/Irritation

Name	Species	Value
Polymer (NJTS Reg. No. 04499600-7270)		Mild irritant
Sodium Silicate	Rabbit	Corrosive
Iron oxide	Rabbit	No significant irritation
Polyethylene Glycol	Rabbit	Mild irritant
Oxide glass chemicals		No significant irritation
3(2H)-Isothiazolone, 5-chloro-2-methyl-, mixt. with 2-methyl-3(2H)-isothiazolone	Rabbit	Corrosive

Skin Sensitization

Name	Species	Value
Sodium Silicate	Mouse	Not sensitizing
Iron oxide	Human	Some positive data exist, but the data are not sufficient for classification
Polyethylene Glycol	Guinea pig	Not sensitizing
3(2H)-Isothiazolone, 5-chloro-2-methyl-, mixt. with 2-methyl-3(2H)-isothiazolone	Human and animal	Sensitizing

Photosensitization

Name	Species	Value
3(2H)-Isothiazolone, 5-chloro-2-methyl-, mixt. with 2-methyl-3(2H)-isothiazolone	Human and animal	Not sensitizing

Respiratory Sensitization

Name	Species	Value

Germ Cell Mutagenicity

Name	Route	Value
Sodium Silicate	In Vitro	Not mutagenic
Sodium Silicate	In vivo	Not mutagenic
Iron oxide	In Vitro	Not mutagenic
Polyethylene Glycol	In Vitro	Not mutagenic
Polyethylene Glycol	In vivo	Not mutagenic
Oxide glass chemicals	In Vitro	Some positive data exist, but the data are not sufficient for classification
3(2H)-Isothiazolone, 5-chloro-2-methyl-, mixt. with 2-methyl-3(2H)-isothiazolone	In vivo	Not mutagenic
3(2H)-Isothiazolone, 5-chloro-2-methyl-, mixt. with 2-methyl-3(2H)-isothiazolone	In Vitro	Some positive data exist, but the data are not sufficient for classification

Carcinogenicity

Name	Route	Species	Value
Iron oxide	Inhalation	Human	Some positive data exist, but the data are not

			sufficient for classification
Polyethylene Glycol	Ingestion	Rat	Not carcinogenic
Oxide glass chemicals	Inhalation	Multiple animal species	Some positive data exist, but the data are not sufficient for classification
3(2H)-Isothiazolone, 5-chloro-2-methyl-, mixt. with 2-methyl-3(2H)-isothiazolone	Dermal	Mouse	Not carcinogenic
3(2H)-Isothiazolone, 5-chloro-2-methyl-, mixt. with 2-methyl-3(2H)-isothiazolone	Ingestion	Rat	Not carcinogenic

Reproductive Toxicity

Reproductive and/or Developmental Effects

Name	Route	Value	Species	Test Result	Exposure Duration
Sodium Silicate	Ingestion	Some positive developmental data exist, but the data are not sufficient for classification	Mouse	NOAEL 200 mg/kg/day	during gestation
Polyethylene Glycol	Ingestion	Not toxic to female reproduction	Rat	NOAEL 1,125 mg/kg/day	during gestation
Polyethylene Glycol	Ingestion	Not toxic to male reproduction	Rat	NOAEL 5699 +/- 1341 mg/kg/day	5 days
Polyethylene Glycol	Not Specified	Some positive reproductive/developmental data exist, but the data are not sufficient for classification		NOEL N/A	
Polyethylene Glycol	Ingestion	Some positive developmental data exist, but the data are not sufficient for classification	Mouse	NOAEL 562 mg/animal/day	during gestation
3(2H)-Isothiazolone, 5-chloro-2-methyl-, mixt. with 2-methyl-3(2H)-isothiazolone	Ingestion	Not toxic to female reproduction	Rat	NOAEL 10 mg/kg/day	2 generation
3(2H)-Isothiazolone, 5-chloro-2-methyl-, mixt. with 2-methyl-3(2H)-isothiazolone	Ingestion	Not toxic to male reproduction	Rat	NOAEL 10 mg/kg/day	2 generation
3(2H)-Isothiazolone, 5-chloro-2-methyl-, mixt. with 2-methyl-3(2H)-isothiazolone	Ingestion	Not toxic to development	Rat	NOAEL 15 mg/kg/day	during organogenesis

Target Organ(s)

Specific Target Organ Toxicity - single exposure

Name	Route	Target Organ(s)	Value	Species	Test Result	Exposure Duration
Sodium Silicate	Inhalation	respiratory irritation	May cause respiratory irritation	official classification	NOAEL Not available	
Polyethylene Glycol	Inhalation	respiratory irritation	Some positive data exist, but the data are not sufficient for classification	Rat	NOAEL 1.008 mg/l	2 weeks
3(2H)-Isothiazolone, 5-chloro-2-methyl-, mixt. with 2-methyl-3(2H)-isothiazolone	Inhalation	respiratory irritation	Some positive data exist, but the data are not sufficient for classification	similar health hazards	NOAEL Not available	

Specific Target Organ Toxicity - repeated exposure

Name	Route	Target Organ(s)	Value	Species	Test Result	Exposure Duration
Sodium Silicate	Ingestion	kidney and/or bladder	Some positive data exist, but the data are not sufficient for classification	Dog	LOAEL 2,400 mg/kg/day	4 weeks
Sodium Silicate	Ingestion	endocrine system	Some positive data exist, but the data are not sufficient for classification	Rat	NOAEL 804 mg/kg/day	3 months
Sodium Silicate	Ingestion	blood	All data are negative	Rat	NOAEL 804	3 months

					mg/kg/day	
Sodium Silicate	Ingestion	heart | liver	All data are negative	Rat	NOAEL 1,259 mg/kg/day	8 weeks
Iron oxide	Inhalation	pulmonary fibrosis | pneumoconiosis	Some positive data exist, but the data are not sufficient for classification	Human	NOAEL Not available	occupational exposure
Polyethylene Glycol	Inhalation	respiratory system	Some positive data exist, but the data are not sufficient for classification	Rat	NOAEL 1.008 mg/l	2 weeks
Polyethylene Glycol	Ingestion	kidney and/or bladder	Some positive data exist, but the data are not sufficient for classification	Rat	NOAEL 5,640 mg/kg/day	13 weeks
Polyethylene Glycol	Ingestion	heart | endocrine system | hematopoietic system | liver | nervous system	All data are negative	Rat	NOAEL 5,640 mg/kg/day	13 weeks
Oxide glass chemicals	Inhalation	respiratory system	Some positive data exist, but the data are not sufficient for classification	Human	NOAEL not available	occupational exposure

Aspiration Hazard

Name	Value

Please contact the address or phone number listed on the first page of the SDS for additional toxicological information on this material and/or its components.

SECTION 12: Ecological information

Ecotoxicological information

Test Organism	Test Type	Result
Water flea, Daphnia magna	48 hours Aquatic Toxicity - Acute	27 mg/l
Green algae, Pseudokirchneriella subcapitata	72 hours Aquatic Toxicity - Chronic	2.6 mg/l

Please contact the address or phone number listed on the first page of the SDS for additional ecotoxicological information on this material and/or its components.

Chemical fate information

Please contact the address or phone number listed on the first page of the SDS for additional chemical fate information on this material and/or its components.

SECTION 13: Disposal considerations

13.1. Disposal methods

Dispose of contents/ container in accordance with the local/regional/national/international regulations.

Dispose of waste product in a permitted industrial waste facility. As a disposal alternative, incinerate in a permitted waste incineration facility. Proper destruction may require the use of additional fuel during incineration processes. Empty drums/barrels/containers used for transporting and handling hazardous chemicals (chemical substances/mixtures/preparations classified as Hazardous as per applicable regulations) shall be considered, stored, treated & disposed of as hazardous wastes unless otherwise defined by applicable waste regulations. Consult with the respective regulating authorities to determine the available treatment and disposal facilities.

EPA Hazardous Waste Number (RCRA): Not regulated

SECTION 14: Transport Information

For Transport Information, please visit **http://3M.com/Transportinfo** or call 1-800-364-3577 or 651-737-6501.

SECTION 15: Regulatory information

15.1. US Federal Regulations

Contact 3M for more information.

311/312 Hazard Categories:

Fire Hazard - No Pressure Hazard - No Reactivity Hazard - No Immediate Hazard - Yes Delayed Hazard - No

Section 313 Toxic Chemicals subject to the reporting requirements of that section and 40 CFR part 372 (EPCRA):

Ingredient	C.A.S. No	% by Wt
Zinc Borate 2335 (ZINC COMPOUNDS)	138265-88-0	10 - 30

15.2. State Regulations

15.3. Chemical Inventories

The components of this material are in compliance with the provisions of Australia National Industrial Chemical Notification and Assessment Scheme (NICNAS). Certain restrictions may apply. Contact the selling division for additional information.

The components of this product are in compliance with the new substance notification requirements of CEPA.

The components of this material are in compliance with the China "Measures on Environmental Management of New Chemical Substance". Certain restrictions may apply. Contact the selling division for additional information.

The components of this material are in compliance with the provisions of the Korean Toxic Chemical Control Law. Certain restrictions may apply. Contact the selling division for additional information.

The components of this product are in compliance with the chemical notification requirements of TSCA.

15.4. International Regulations

This SDS has been prepared to meet the U.S. OSHA Hazard Communication Standard, 29 CFR 1910.1200.

SECTION 16: Other information

NFPA Hazard Classification
Health: 1 **Flammability:** 1 **Instability:** 0 **Special Hazards:** None

National Fire Protection Association (NFPA) hazard ratings are designed for use by emergency response personnel to address the hazards that are presented by short-term, acute exposure to a material under conditions of fire, spill, or similar emergencies. Hazard ratings are primarily based on the inherent physical and toxic properties of the material but also include the toxic properties of combustion or decomposition products that are known to be generated in significant quantities.

HMIS Hazard Classification

Health: 2 **Flammability:** 1 **Physical Hazard:** 0 **Personal Protection:** X - See PPE section.

Hazardous Material Identification System (HMIS® III) hazard ratings are designed to inform employees of chemical hazards in the workplace. These ratings are based on the inherent properties of the material under expected conditions of normal use and are not intended for use in emergency situations. HMIS® III ratings are to be used with a fully implemented HMIS® III program. HMIS® is a registered mark of the American Coatings Association (ACA).

Document Group:	09-5451-1	**Version Number:**	26.00
Issue Date:	06/20/14	**Supercedes Date:**	08/18/13

DISCLAIMER: The information in this Safety Data Sheet (SDS) is believed to be correct as of the date issued. 3M MAKES NO WARRANTIES, EXPRESSED OR IMPLIED, INCLUDING, BUT NOT LIMITED TO, ANY IMPLIED WARRANTY OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE OR COURSE OF PERFORMANCE OR USAGE OF TRADE. User is responsible for determining whether the 3M product is fit for a particular purpose and suitable for user's method of use or application. Given the variety of factors that can affect the use and application of a 3M product, some of which are uniquely within the user's knowledge and control, it is essential that the user evaluate the 3M product to determine whether it is fit for a particular purpose and suitable for user's method of use or application.

3M provides information in electronic form as a service to its customers. Due to the remote possibility that electronic transfer may have resulted in errors, omissions or alterations in this information, 3M makes no representations as to its completeness or accuracy. In addition, information obtained from a database may not be as current as the information in the SDS available directly from 3M

3M USA SDSs are available at www.3M.com

Safety Data Sheet

This Safety Data Sheet (SDS) is provided as a courtesy in response to a customer request. This product is not regulated under, and a SDS is not required for this product by the OSHA Hazard Communication Standard (29 CFR 1910.1200) because, when used as recommended or under ordinary conditions, it should not present a health and safety hazard. However, use or processing of the product not in accordance with the product's recommendations or not under ordinary conditions may affect the performance of the product and may present potential health and safety hazards.

Document Group:	18-6856-1	**Version Number:**	7.00
Issue Date:	05/07/14	**Supercedes Date:**	02/15/11

SECTION 1: Identification

1.1. Product identifier
3M(TM) Fire Barrier Composite Sheet CS-195+

Product Identification Numbers
42-0016-4756-1, 42-0016-4757-9, 42-0016-4758-7, 42-0016-4759-5, 42-0016-4771-0, 42-0016-4772-8, 42-0016-4773-6, 42-0016-4774-4, 98-0400-2407-1, 98-0400-2408-9, 98-0400-2409-7, 98-0400-2601-9, 98-0400-2947-6

1.2. Recommended use and restrictions on use

Recommended use
Fire stopping penetrations in floors & walls to prevent flame and smoke passage.

1.3. Supplier's details

MANUFACTURER:	3M
DIVISION:	Industrial Adhesives and Tapes Division
ADDRESS:	3M Center, St. Paul, MN 55144-1000, USA
Telephone:	1-888-3M HELPS (1-888-364-3577)

1.4. Emergency telephone number
1-800-364-3577 or (651) 737-6501 (24 hours)

SECTION 2: Hazard identification

2.1. Hazard classification
This product is exempt from hazard classification according to OSHA Hazard Communication Standard, 29 CFR 1910.1200.

2.2. Label elements
Signal word
Not applicable.

Symbols

Not applicable.

Pictograms
Not applicable.

2.3. Hazards not otherwise classified
None.

SECTION 3: Composition/information on ingredients

Ingredient	C.A.S. No.	% by Wt
Intumescent material and metal sheet	None	60 - 100

SECTION 4: First aid measures

4.1. Description of first aid measures

Inhalation:
No need for first aid is anticipated.

Skin Contact:
No need for first aid is anticipated.

Eye Contact:
No need for first aid is anticipated.

If Swallowed:
No need for first aid is anticipated.

4.2. Most important symptoms and effects, both acute and delayed
See Section 11.1. Information on toxicological effects.

4.3. Indication of any immediate medical attention and special treatment required
Not applicable

SECTION 5: Fire-fighting measures

5.1. Suitable extinguishing media
In case of fire: Use a fire fighting agent suitable for ordinary combustible material such as water or foam to extinguish.

5.2. Special hazards arising from the substance or mixture
None inherent in this product.

Hazardous Decomposition or By-Products

Substance	Condition
Carbon monoxide	During Combustion
Carbon dioxide	During Combustion
Oxides of Nitrogen	During Combustion
Oxides of Sulfur	During Combustion

5.3. Special protective actions for fire-fighters
No unusual fire or explosion hazards are anticipated.

SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures
Not applicable.

6.2. Environmental precautions
Not applicable.

6.3. Methods and material for containment and cleaning up
Not applicable.

SECTION 7: Handling and storage

7.1. Precautions for safe handling
This product is considered to be an article which does not release or otherwise result in exposure to a hazardous chemical under normal use conditions.

7.2. Conditions for safe storage including any incompatibilities
No special storage requirements.

SECTION 8: Exposure controls/personal protection

8.1. Control parameters

Occupational exposure limits
No occupational exposure limit values exist for any of the components listed in Section 3 of this SDS.

8.2. Exposure controls

8.2.1. Engineering controls
Not applicable.

8.2.2. Personal protective equipment (PPE)

Eye/face protection

Eye protection not required.

Skin/hand protection
No chemical protective gloves are required.

Respiratory protection

Respiratory protection is not required.

SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

General Physical Form:	Solid
Odor, Color, Grade:	Material is dark brown to brick red laminated with metal sheet/scrim, neglible odor

Odor threshold	*Not Applicable*
pH	*Not Applicable*
Melting point	*Not Applicable*
Boiling Point	*Not Applicable*
Flash Point	*Not Applicable*
Flammability (solid, gas)	Not Classified
Flammable Limits(LEL)	*Not Applicable*
Flammable Limits(UEL)	*Not Applicable*
Specific Gravity	1.56 g/cm3
Solubility In Water	*No Data Available*
Solubility- non-water	*Not Applicable*
Partition coefficient: n-octanol/ water	*No Data Available*
Autoignition temperature	*No Data Available*
Decomposition temperature	*Not Applicable*
Viscosity	*Not Applicable*
Volatile Organic Compounds	< 1 % weight
VOC Less H2O & Exempt Solvents	< 1 g/l

SECTION 10: Stability and reactivity

10.1. Reactivity
This material is considered to be non reactive under normal use conditions.

10.2. Chemical stability
Stable.

10.3. Possibility of hazardous reactions
Hazardous polymerization will not occur.

10.4. Conditions to avoid
None known.

10.5. Incompatible materials
None known.

10.6. Hazardous decomposition products

Substance	**Condition**
None known.	

Refer to section 5.2 for hazardous decomposition products during combustion.

Under recommended usage conditions, hazardous decomposition products are not expected. Hazardous decomposition products may occur as a result of oxidation, heating, or reaction with another material.

SECTION 11: Toxicological information

The information below may not be consistent with the material classification in Section 2 if specific ingredient classifications are mandated by a competent authority. In addition, toxicological data on ingredients may not be reflected in the material classification and/or the signs and symptoms of exposure, because an ingredient may be present below the threshold for labeling, an ingredient may not be available for exposure, or the data may not be relevant to the material as a whole.

11.1. Information on Toxicological effects

Signs and Symptoms of Exposure

Based on test data and/or information on the components, this material may produce the following health effects:

Inhalation:
No health effects are expected.

Skin Contact:
No health effects are expected.

Eye Contact:
No health effects are expected.

Ingestion:
No health effects are expected.

Additional Information:
This product, when used under reasonable conditions and in accordance with the 3M directions for use, should not present a health hazard. However, use or processing of the product in a manner not in accordance with the product's directions for use may affect the performance of the product and may present potential health and safety hazards.

Toxicological Data
If a component is disclosed in section 3 but does not appear in a table below, either no data are available for that endpoint or the data are not sufficient for classification.

Acute Toxicity

Name	Route	Species	Value
Overall product	Ingestion		No data available; calculated ATE > 5,000 mg/kg
Intumescent material and metal sheet	Dermal	Rabbit	LD50 > 4,640 mg/kg
Intumescent material and metal sheet	Ingestion	Rat	LD50 500 mg/kg

ATE = acute toxicity estimate

Skin Corrosion/Irritation

Name	Species	Value
Intumescent material and metal sheet	Rabbit	Corrosive

Serious Eye Damage/Irritation

Name	Species	Value
Intumescent material and metal sheet	Rabbit	Corrosive

Skin Sensitization

Name	Species	Value
Intumescent material and metal sheet	Mouse	Not sensitizing

Respiratory Sensitization

Name	Species	Value

Germ Cell Mutagenicity

Name	Route	Value
Intumescent material and metal sheet	In Vitro	Not mutagenic
Intumescent material and metal sheet	In vivo	Not mutagenic

Carcinogenicity

Name	Route	Species	Value

Reproductive Toxicity

Reproductive and/or Developmental Effects

Name	Route	Value	Species	Test Result	Exposure Duration
Intumescent material and metal sheet	Ingestion	Some positive developmental data exist, but the data are not sufficient for classification	Mouse	NOAEL 200 mg/kg/day	during gestation

Target Organ(s)

Specific Target Organ Toxicity - single exposure

Name	Route	Target Organ(s)	Value	Species	Test Result	Exposure Duration
Intumescent material and metal sheet	Inhalation	respiratory irritation	May cause respiratory irritation	official classification	NOAEL Not available	

Specific Target Organ Toxicity - repeated exposure

Name	Route	Target Organ(s)	Value	Species	Test Result	Exposure Duration
Intumescent material and metal sheet	Ingestion	kidney and/or bladder	Some positive data exist, but the data are not sufficient for classification	Dog	LOAEL 2,400 mg/kg/day	4 weeks
Intumescent material and metal sheet	Ingestion	endocrine system	Some positive data exist, but the data are not sufficient for classification	Rat	NOAEL 804 mg/kg/day	3 months
Intumescent material and metal sheet	Ingestion	blood	All data are negative	Rat	NOAEL 804 mg/kg/day	3 months
Intumescent material and metal sheet	Ingestion	heart | liver	All data are negative	Rat	NOAEL 1,259 mg/kg/day	8 weeks

Aspiration Hazard

Name	Value

Please contact the address or phone number listed on the first page of the SDS for additional toxicological information on this material and/or its components.

SECTION 12: Ecological information

Ecotoxicological information

Please contact the address or phone number listed on the first page of the SDS for additional ecotoxicological information on this material and/or its components.

Chemical fate information

Please contact the address or phone number listed on the first page of the SDS for additional chemical fate information on this material

and/or its components.

SECTION 13: Disposal considerations

13.1. Disposal methods
Dispose of contents/ container in accordance with the local/regional/national/international regulations.

Prior to disposal, consult all applicable authorities and regulations to insure proper classification. Dispose of waste product in a permitted industrial waste facility. As a disposal alternative, incinerate in a permitted waste incineration facility. If no other disposal options are available, waste product may be placed in a landfill properly designed for industrial waste.

EPA Hazardous Waste Number (RCRA): Not regulated

SECTION 14: Transport Information

For Transport Information, please visit **http://3M.com/Transportinfo** or call 1-800-364-3577 or 651-737-6501.

SECTION 15: Regulatory information

15.1. US Federal Regulations
Contact 3M for more information.

311/312 Hazard Categories:

Fire Hazard - No Pressure Hazard - No Reactivity Hazard - Yes Immediate Hazard - No Delayed Hazard - No

15.2. State Regulations
Contact 3M for more information.

15.3. Chemical Inventories
The components of this product are in compliance with the new substance notification requirements of CEPA.

The components of this material are in compliance with the provisions of the Korean Toxic Chemical Control Law. Certain restrictions may apply. Contact the selling division for additional information.

The components of this material are in compliance with the provisions of Philippines RA 6969 requirements. Certain restrictions may apply. Contact the selling division for additional information.

The components of this product are in compliance with the chemical notification requirements of TSCA.

Contact 3M for more information.

15.4. International Regulations
Contact 3M for more information.

This SDS has been prepared to meet the U.S. OSHA Hazard Communication Standard, 29 CFR 1910.1200.

SECTION 16: Other information

NFPA Hazard Classification
Health: 0 **Flammability:** 1 **Instability:** 1 **Special Hazards:** None

National Fire Protection Association (NFPA) hazard ratings are designed for use by emergency response personnel to address the hazards that are presented by short-term, acute exposure to a material under conditions of fire, spill, or similar emergencies. Hazard ratings are primarily based on the inherent physical and toxic properties of the material but also include the toxic properties of combustion or decomposition products that are known to be generated in significant quantities.

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Issue Date:	05/07/14	**Supercedes Date:**	02/15/11

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3M USA SDSs are available at www.3M.com

Safety Data Sheet

Document Group:	19-9776-6	**Version Number:**	8.00
Issue Date:	08/13/14	**Supercedes Date:**	08/13/14

SECTION 1: Identification

1.1. Product identifier
3M FireBarrier™ Sealant IC 15 WB+

Product Identification Numbers
42-0016-4768-6, 42-0016-4769-4, 42-0016-4770-2, 98-0400-5509-1, 98-0400-5510-9, 98-0400-5511-7, 98-0400-5512-5, 98-0400-5630-5

1.2. Recommended use and restrictions on use

Recommended use
Fire Barrier Sealant.

1.3. Supplier's details

MANUFACTURER:	3M
DIVISION:	Industrial Adhesives and Tapes Division
ADDRESS:	3M Center, St. Paul, MN 55144-1000, USA
Telephone:	1-888-3M HELPS (1-888-364-3577)

1.4. Emergency telephone number
1-800-364-3577 or (651) 737-6501 (24 hours)

SECTION 2: Hazard identification

2.1. Hazard classification
Serious Eye Damage/Irritation: Category 2B.
Carcinogenicity: Category 1A.

2.2. Label elements
Signal word
Danger

Symbols
Health Hazard |

Pictograms

Hazard Statements
Causes eye irritation.
May cause cancer.

Precautionary Statements
General:
Keep out of reach of children.

Prevention:
Obtain special instructions before use.
Do not handle until all safety precautions have been read and understood.
Wear protective gloves.
Wash thoroughly after handling.

Response:
IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
If eye irritation persists: Get medical advice/attention.
IF exposed or concerned: Get medical advice/attention.

Storage:
Store locked up.

Disposal:
Dispose of contents/container in accordance with applicable local/regional/national/international regulations.

2.3. Hazards not otherwise classified
None.

SECTION 3: Composition/information on ingredients

Ingredient	C.A.S. No.	% by Wt
Calcium Carbonate	1317-65-3	30 - 60 Trade Secret *
Water	7732-18-5	10 - 30 Trade Secret *
Polymer NJTS Reg. No. 04499600-7314	Trade Secret*	10 - 30 Trade Secret *
Sodium Silicate	1344-09-8	3 - 7 Trade Secret *
ZIinc Borate 2335	138265-88-0	3 - 7 Trade Secret *
Fiberglass	65997-17-3	0.5 - 1.5 Trade Secret *
Quartz Silica	14808-60-7	< 0.5 Trade Secret *

NJTS or NJTSRN: New Jersey Trade Secret Registry Number.

*The specific chemical identity and/or exact percentage (concentration) of this composition has been withheld as a trade secret.

SECTION 4: First aid measures

4.1. Description of first aid measures

Inhalation:
Remove person to fresh air. If you feel unwell, get medical attention.

Skin Contact:
Wash with soap and water. If signs/symptoms develop, get medical attention.

Eye Contact:
Flush with large amounts of water. Remove contact lenses if easy to do. Continue rinsing. If signs/symptoms persist, get medical attention.

If Swallowed:
Rinse mouth. If you feel unwell, get medical attention.

4.2. Most important symptoms and effects, both acute and delayed
See Section 11.1. Information on toxicological effects.

4.3. Indication of any immediate medical attention and special treatment required
Not applicable

SECTION 5: Fire-fighting measures

5.1. Suitable extinguishing media
In case of fire: Use a fire fighting agent suitable for ordinary combustible material such as water or foam to extinguish.

5.2. Special hazards arising from the substance or mixture
None inherent in this product.

Hazardous Decomposition or By-Products

Substance	Condition
Carbon monoxide	During Combustion
Carbon dioxide	During Combustion

5.3. Special protective actions for fire-fighters
No special protective actions for fire-fighters are anticipated.

SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures
Evacuate area. Ventilate the area with fresh air. For large spill, or spills in confined spaces, provide mechanical ventilation to disperse or exhaust vapors, in accordance with good industrial hygiene practice. Warning! A motor could be an ignition source and could cause flammable gases or vapors in the spill area to burn or explode. Refer to other sections of this SDS for information regarding physical and health hazards, respiratory protection, ventilation, and personal protective equipment.

6.2. Environmental precautions
Avoid release to the environment. For larger spills, cover drains and build dikes to prevent entry into sewer systems or bodies of water.

6.3. Methods and material for containment and cleaning up
Collect as much of the spilled material as possible. Place in a closed container approved for transportation by appropriate authorities. Clean up residue. Seal the container. Dispose of collected material as soon as possible.

SECTION 7: Handling and storage

7.1. Precautions for safe handling
Keep out of reach of children. Do not handle until all safety precautions have been read and understood. Do not breathe dust/fume/gas/mist/vapors/spray. Do not get in eyes, on skin, or on clothing. Do not eat, drink or smoke when using this product. Wash thoroughly after handling. Avoid release to the environment. Use personal protective equipment (gloves, respirators, etc.) as required.

7.2. Conditions for safe storage including any incompatibilities
No special storage requirements.

SECTION 8: Exposure controls/personal protection

8.1. Control parameters

Occupational exposure limits

Ingredient	C.A.S. No.	Agency	Limit type	Additional Comments
Calcium Carbonate	1317-65-3	OSHA	TWA(as total dust):15 mg/m3;TWA(respirable fraction):5 mg/m3	
Quartz Silica	14808-60-7	ACGIH	TWA(respirable fraction):0.025 mg/m3	A2: Suspected human carcin.
Quartz Silica	14808-60-7	OSHA	TWA concentration(as total dust):0.3 mg/m3;TWA concentration(respirable):0.1 mg/m3(2.4 millions of particles/cu. ft.)	
Fiberglass	65997-17-3	Manufacturer determined	TWA(as dust):10 mg/m3	

ACGIH : American Conference of Governmental Industrial Hygienists
AIHA : American Industrial Hygiene Association
CMRG : Chemical Manufacturer's Recommended Guidelines
OSHA : United States Department of Labor - Occupational Safety and Health Administration
TWA: Time-Weighted-Average
STEL: Short Term Exposure Limit
CEIL: Ceiling

8.2. Exposure controls

8.2.1. Engineering controls
Use general dilution ventilation and/or local exhaust ventilation to control airborne exposures to below relevant Exposure Limits and/or control dust/fume/gas/mist/vapors/spray. If ventilation is not adequate, use respiratory protection equipment.

8.2.2. Personal protective equipment (PPE)

Eye/face protection

Select and use eye/face protection to prevent contact based on the results of an exposure assessment. The following eye/face protection(s) are recommended:
Indirect Vented Goggles

Skin/hand protection
Select and use gloves and/or protective clothing approved to relevant local standards to prevent skin contact based on the results of an exposure assessment. Selection should be based on use factors such as exposure levels, concentration of the substance or mixture, frequency and duration, physical challenges such as temperature extremes, and other use conditions. Consult with your glove and/or protective clothing manufacturer for selection of appropriate compatible gloves/protective clothing.

Gloves made from the following material(s) are recommended: Nitrile Rubber

Respiratory protection

An exposure assessment may be needed to decide if a respirator is required. If a respirator is needed, use respirators as part of a full respiratory protection program. Based on the results of the exposure assessment, select from the following respirator type(s) to reduce inhalation exposure:
Half facepiece or full facepiece air-purifying respirator suitable for organic vapors and particulates

For questions about suitability for a specific application, consult with your respirator manufacturer.

SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

General Physical Form:	Solid
Specific Physical Form:	Paste
Odor, Color, Grade:	Light yellow viscous paste with a mild odor
Odor threshold	*No Data Available*
Melting point	*No Data Available*
Boiling Point	*Not Applicable*
Flash Point	Flash point > 93 °C (200 °F)
Flammability (solid, gas)	Not Classified
Flammable Limits(LEL)	*Not Applicable*
Flammable Limits(UEL)	*Not Applicable*
Specific Gravity	1.4 [*Ref Std:* WATER=1]
Solubility in Water	Moderate
Solubility- non-water	*No Data Available*
Autoignition temperature	*No Data Available*
Decomposition temperature	*No Data Available*
Volatile Organic Compounds	< 2 g/l
VOC Less H2O & Exempt Solvents	< 2 g/l

SECTION 10: Stability and reactivity

10.1. Reactivity
This material is considered to be non reactive under normal use conditions.

10.2. Chemical stability
Stable.

10.3. Possibility of hazardous reactions
Hazardous polymerization will not occur.

10.4. Conditions to avoid
None known.

10.5. Incompatible materials
None known.

10.6. Hazardous decomposition products

Substance	Condition
None known.	

Refer to section 5.2 for hazardous decomposition products during combustion.

SECTION 11: Toxicological information

The information below may not be consistent with the material classification in Section 2 if specific ingredient classifications are mandated by a competent authority. In addition, toxicological data on ingredients may not be reflected in the material classification and/or the signs and symptoms of exposure, because an ingredient may be present below the threshold for labeling, an ingredient may not be available for exposure, or the data may not be relevant to the material as a whole.

11.1. Information on Toxicological effects

Signs and Symptoms of Exposure

Based on test data and/or information on the components, this material may produce the following health effects:

Inhalation:
Respiratory Tract Irritation: Signs/symptoms may include cough, sneezing, nasal discharge, headache, hoarseness, and nose and throat pain.

Skin Contact:
Mild Skin Irritation: Signs/symptoms may include localized redness, swelling, itching, and dryness.

Eye Contact:
Moderate Eye Irritation: Signs/symptoms may include redness, swelling, pain, tearing, and blurred or hazy vision.

Ingestion:
Gastrointestinal Irritation: Signs/symptoms may include abdominal pain, stomach upset, nausea, vomiting and diarrhea.

Carcinogenicity:
Contains a chemical or chemicals which can cause cancer.

Ingredient	C.A.S. No.	Class Description	Regulation
Generic: GLASS FILAMENTS	65997-17-3	Anticipated human carcinogen	National Toxicology Program Carcinogens
Generic: GLASS FILAMENTS	65997-17-3	Grp. 2B: Possible human carc.	International Agency for Research on Cancer
Quartz Silica	14808-60-7	Grp. 1: Carcinogenic to humans	International Agency for Research on Cancer
SILICA, CRYS AIRRESP	14808-60-7	Known human carcinogen	National Toxicology Program Carcinogens

Toxicological Data
If a component is disclosed in section 3 but does not appear in a table below, either no data are available for that endpoint or the data are not sufficient for classification.

Acute Toxicity

Name	Route	Species	Value
Overall product	Ingestion		No data available; calculated ATE > 5,000 mg/kg
Calcium Carbonate	Dermal	Rat	LD50 > 2,000 mg/kg
Calcium Carbonate	Inhalation-Dust/Mist (4 hours)	Rat	LC50 3.0 mg/l
Calcium Carbonate	Ingestion	Rat	LD50 6,450 mg/kg
Polymer NJTS Reg. No. 04499600-7314	Ingestion	Rat	LD50 > 2,000 mg/kg
ZIinc Borate 2335	Dermal	Rabbit	LD50 > 10,000 mg/kg
ZIinc Borate 2335	Ingestion	Rat	LD50 > 10,000 mg/kg
Sodium Silicate	Dermal	Rabbit	LD50 > 4,640 mg/kg
Sodium Silicate	Ingestion	Rat	LD50 500 mg/kg
Fiberglass	Dermal		LD50 estimated to be > 5,000 mg/kg
Fiberglass	Ingestion		LD50 estimated to be 2,000 - 5,000 mg/kg
Quartz Silica	Dermal		LD50 estimated to be > 5,000 mg/kg

Quartz Silica	Ingestion		LD50 estimated to be > 5,000 mg/kg

ATE = acute toxicity estimate

Skin Corrosion/Irritation

Name	Species	Value
Calcium Carbonate	Rabbit	No significant irritation
Polymer NJTS Reg. No. 04499600-7314	Rabbit	Minimal irritation
Sodium Silicate	Rabbit	Corrosive
Fiberglass		No significant irritation
Quartz Silica		No significant irritation

Serious Eye Damage/Irritation

Name	Species	Value
Calcium Carbonate	Rabbit	No significant irritation
Polymer NJTS Reg. No. 04499600-7314		Mild irritant
Sodium Silicate	Rabbit	Corrosive
Fiberglass		No significant irritation

Skin Sensitization

Name	Species	Value
Sodium Silicate	Mouse	Not sensitizing

Respiratory Sensitization

Name	Species	Value

Germ Cell Mutagenicity

Name	Route	Value
Sodium Silicate	In Vitro	Not mutagenic
Sodium Silicate	In vivo	Not mutagenic
Fiberglass	In Vitro	Some positive data exist, but the data are not sufficient for classification
Quartz Silica	In Vitro	Some positive data exist, but the data are not sufficient for classification
Quartz Silica	In vivo	Some positive data exist, but the data are not sufficient for classification

Carcinogenicity

Name	Route	Species	Value
Fiberglass	Inhalation	Multiple animal species	Some positive data exist, but the data are not sufficient for classification
Quartz Silica	Inhalation	Human and animal	Carcinogenic

Reproductive Toxicity

Reproductive and/or Developmental Effects

Name	Route	Value	Species	Test Result	Exposure Duration
Calcium Carbonate	Ingestion	Not toxic to development	Rat	NOAEL 625 mg/kg/day	premating & during gestation
Sodium Silicate	Ingestion	Some positive developmental data exist, but the data are not sufficient for classification	Mouse	NOAEL 200 mg/kg/day	during gestation

Target Organ(s)

Specific Target Organ Toxicity - single exposure

Name	Route	Target Organ(s)	Value	Species	Test Result	Exposure Duration

Calcium Carbonate	Inhalation	respiratory system	All data are negative	Rat	NOAEL 0.812 mg/l	90 minutes
Sodium Silicate	Inhalation	respiratory irritation	May cause respiratory irritation	official classification	NOAEL Not available	

Specific Target Organ Toxicity - repeated exposure

Name	Route	Target Organ(s)	Value	Species	Test Result	Exposure Duration
Calcium Carbonate	Inhalation	respiratory system	Some positive data exist, but the data are not sufficient for classification	Human	NOAEL Not available	occupational exposure
Sodium Silicate	Ingestion	kidney and/or bladder	Some positive data exist, but the data are not sufficient for classification	Dog	LOAEL 2,400 mg/kg/day	4 weeks
Sodium Silicate	Ingestion	endocrine system	Some positive data exist, but the data are not sufficient for classification	Rat	NOAEL 804 mg/kg/day	3 months
Sodium Silicate	Ingestion	blood	All data are negative	Rat	NOAEL 804 mg/kg/day	3 months
Sodium Silicate	Ingestion	heart | liver	All data are negative	Rat	NOAEL 1,259 mg/kg/day	8 weeks
Fiberglass	Inhalation	respiratory system	Some positive data exist, but the data are not sufficient for classification	Human	NOAEL not available	occupational exposure
Quartz Silica	Inhalation	silicosis	Causes damage to organs through prolonged or repeated exposure	Human	NOAEL Not available	occupational exposure

Aspiration Hazard

Name	Value

Please contact the address or phone number listed on the first page of the SDS for additional toxicological information on this material and/or its components.

SECTION 12: Ecological information

Ecotoxicological information

Please contact the address or phone number listed on the first page of the SDS for additional ecotoxicological information on this material and/or its components.

Chemical fate information

Please contact the address or phone number listed on the first page of the SDS for additional chemical fate information on this material and/or its components.

SECTION 13: Disposal considerations

13.1. Disposal methods

Dispose of contents/ container in accordance with the local/regional/national/international regulations.

Dispose of waste product in a permitted industrial waste facility. As a disposal alternative, incinerate in a permitted waste incineration facility. Proper destruction may require the use of additional fuel during incineration processes. Empty drums/barrels/containers used for transporting and handling hazardous chemicals (chemical substances/mixtures/preparations classified as Hazardous as per applicable regulations) shall be considered, stored, treated & disposed of as hazardous wastes unless otherwise defined by applicable waste regulations. Consult with the respective regulating authorities to determine the available treatment and disposal facilities.

EPA Hazardous Waste Number (RCRA): Not regulated

SECTION 14: Transport Information

For Transport Information, please visit **http://3M.com/Transportinfo** or call 1-800-364-3577 or 651-737-6501.

SECTION 15: Regulatory information

15.1. US Federal Regulations

Contact 3M for more information.

311/312 Hazard Categories:

Fire Hazard - No Pressure Hazard - No Reactivity Hazard - No Immediate Hazard - Yes Delayed Hazard - Yes

Section 313 Toxic Chemicals subject to the reporting requirements of that section and 40 CFR part 372 (EPCRA):

Ingredient	C.A.S. No	% by Wt
ZIinc Borate 2335 (ZINC COMPOUNDS)	138265-88-0	3 - 7

15.2. State Regulations

Contact 3M for more information.

California Proposition 65

Ingredient	C.A.S. No.	Classification
SILICA, CRYSTALLINE (AIRBORNE PARTICLES OF RESPIRABLE SIZE)	None	Carcinogen
GLASS FILAMENTS	None	Carcinogen
ACETALDEHYDE	75-07-0	Carcinogen

WARNING: This product contains a chemical known to the State of California to cause cancer.

15.3. Chemical Inventories

The components of this material are in compliance with the provisions of Australia National Industrial Chemical Notification and Assessment Scheme (NICNAS). Certain restrictions may apply. Contact the selling division for additional information.

The components of this product are in compliance with the new substance notification requirements of CEPA.

The components of this material are in compliance with the China "Measures on Environmental Management of New Chemical Substance". Certain restrictions may apply. Contact the selling division for additional information.

The components of this material are in compliance with the provisions of the Korean Toxic Chemical Control Law. Certain restrictions may apply. Contact the selling division for additional information.

The components of this product are in compliance with the chemical notification requirements of TSCA.

This product complies with the New Zealand Hazardous Substances and New Organisms Act (1996).

Contact 3M for more information.

15.4. International Regulations

Contact 3M for more information.

This SDS has been prepared to meet the U.S. OSHA Hazard Communication Standard, 29 CFR 1910.1200.

SECTION 16: Other information

NFPA Hazard Classification
Health: 1 **Flammability:** 1 **Instability:** 0 **Special Hazards:** None

National Fire Protection Association (NFPA) hazard ratings are designed for use by emergency response personnel to address the hazards that are presented by short-term, acute exposure to a material under conditions of fire, spill, or similar emergencies. Hazard ratings are primarily based on the inherent physical and toxic properties of the material but also include the toxic properties of combustion or decomposition products that are known to be generated in significant quantities.

Document Group:	19-9776-6	**Version Number:**	8.00
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Safety Data Sheet

Document Group:	23-6572-4	**Version Number:**	6.00
Issue Date:	08/14/14	**Supercedes Date:**	02/07/11

SECTION 1: Identification

1.1. Product identifier
3M(TM) Fire Barrier MP+ Stick

Product Identification Numbers
98-0400-5454-0

1.2. Recommended use and restrictions on use

Recommended use
Passive fire barrier product for industrial applications

1.3. Supplier's details

MANUFACTURER:	3M
DIVISION:	Industrial Adhesives and Tapes Division
ADDRESS:	3M Center, St. Paul, MN 55144-1000, USA
Telephone:	1-888-3M HELPS (1-888-364-3577)

1.4. Emergency telephone number
1-800-364-3577 or (651) 737-6501 (24 hours)

SECTION 2: Hazard identification

2.1. Hazard classification
Serious Eye Damage/Irritation: Category 2A.
Skin Sensitizer: Category 1.

2.2. Label elements
Signal word
Warning

Symbols
Exclamation mark |

Pictograms

Hazard Statements
Causes serious eye irritation.
May cause an allergic skin reaction.

Precautionary Statements
General:
Keep out of reach of children.

Prevention:
Avoid breathing dust/fume/gas/mist/vapors/spray.
Wear protective gloves and eye/face protection.
Wash thoroughly after handling.
Contaminated work clothing must not be allowed out of the workplace.

Response:
IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
If eye irritation persists: Get medical advice/attention.
IF ON SKIN: Wash with plenty of soap and water.
If skin irritation or rash occurs: Get medical advice/attention.
Wash contaminated clothing before reuse.

Disposal:
Dispose of contents/container in accordance with applicable local/regional/national/international regulations.

2.3. Hazards not otherwise classified
None.

2% of the mixture consists of ingredients of unknown acute oral toxicity.
7% of the mixture consists of ingredients of unknown acute dermal toxicity.

SECTION 3: Composition/information on ingredients

Ingredient	C.A.S. No.	% by Wt
Sodium Silicate	1344-09-8	10 - 30 Trade Secret *
Polymer NJTS Reg. No. 04499600-7315	Trade Secret*	10 - 30 Trade Secret *
Petrolatum	8009-03-8	10 - 30 Trade Secret *
Zinc Borate	138265-88-0	10 - 30 Trade Secret *
Melamine Phosphate	41583-09-9	7 - 13 Trade Secret *
Polybutylene	9003-29-6	7 - 13 Trade Secret *
Glass Wool	65997-17-3	3 - 7 Trade Secret *
Butadiene-Styrene-Meta-Divinylbenzene Polymer	26471-45-4	3 - 7 Trade Secret *
Amorphous Silica	112945-52-5	1 - 5 Trade Secret *
Rayon Fiber	None	< 5 Trade Secret *
Water	7732-18-5	1 - 5 Trade Secret *
Alpha-Methylstyrene-Isoamylene-Piperylene Polymer	62258-49-5	< 2 Trade Secret *
4,4'-Isopropylidenediphenol-Epichlorohydrin Polymer	25068-38-6	< 2 Trade Secret *
Rosin	8050-09-7	< 1 Trade Secret *

NJTS or NJTSRN: New Jersey Trade Secret Registry Number.

*The specific chemical identity and/or exact percentage (concentration) of this composition has been withheld as a trade secret.

SECTION 4: First aid measures

4.1. Description of first aid measures

Inhalation:
Remove person to fresh air. If you feel unwell, get medical attention.

Skin Contact:
Immediately wash with soap and water. Remove contaminated clothing and wash before reuse. If signs/symptoms develop, get medical attention.

Eye Contact:
Immediately flush with large amounts of water. Remove contact lenses if easy to do. Continue rinsing. Get medical attention.

If Swallowed:
Rinse mouth. If you feel unwell, get medical attention.

4.2. Most important symptoms and effects, both acute and delayed
See Section 11.1. Information on toxicological effects.

4.3. Indication of any immediate medical attention and special treatment required
Not applicable

SECTION 5: Fire-fighting measures

5.1. Suitable extinguishing media
Use a fire fighting agent suitable for the surrounding fire.

5.2. Special hazards arising from the substance or mixture
None inherent in this product.

5.3. Special protective actions for fire-fighters
No special protective actions for fire-fighters are anticipated.

SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures
Ventilate the area with fresh air. Refer to other sections of this SDS for information regarding physical and health hazards, respiratory protection, ventilation, and personal protective equipment.

6.2. Environmental precautions
Avoid release to the environment.

6.3. Methods and material for containment and cleaning up
Collect as much of the spilled material as possible. Place in a closed container approved for transportation by appropriate authorities. Clean up residue. Seal the container. Dispose of collected material as soon as possible.

SECTION 7: Handling and storage

7.1. Precautions for safe handling
Keep out of reach of children. Avoid breathing dust/fume/gas/mist/vapors/spray. Do not get in eyes, on skin, or on clothing. Do not eat, drink or smoke when using this product. Wash thoroughly after handling. Contaminated work clothing should not be allowed out of the workplace. Avoid release to the environment. Wash contaminated clothing before reuse.

7.2. Conditions for safe storage including any incompatibilities
Store away from areas where product may come into contact with food or pharmaceuticals.

SECTION 8: Exposure controls/personal protection

8.1. Control parameters

Occupational exposure limits

Ingredient	C.A.S. No.	Agency	Limit type	Additional Comments
SILICA, AMORPHOUS	112945-52-5	OSHA	TWA concentration:0.8 mg/m3;TWA:20 millions of particles/cu. ft.	
Glass Wool	65997-17-3	Manufacturer determined	TWA(as dust):10 mg/m3	
MINERAL OILS, HIGHLY-REFINED OILS	8009-03-8	ACGIH	TWA(inhalable fraction):5 mg/m3	A4: Not class. as human carcin
Paraffin oil	8009-03-8	OSHA	TWA(as mist):5 mg/m3	
Rosin	8050-09-7	ACGIH	Limit value not established:	Cntrl all exposr-low as possib, Dermal/Respiratory Sensitizer

ACGIH : American Conference of Governmental Industrial Hygienists
AIHA : American Industrial Hygiene Association
CMRG : Chemical Manufacturer's Recommended Guidelines
OSHA : United States Department of Labor - Occupational Safety and Health Administration
TWA: Time-Weighted-Average
STEL: Short Term Exposure Limit
CEIL: Ceiling

8.2. Exposure controls

8.2.1. Engineering controls
Use general dilution ventilation and/or local exhaust ventilation to control airborne exposures to below relevant Exposure Limits and/or control dust/fume/gas/mist/vapors/spray. If ventilation is not adequate, use respiratory protection equipment.

8.2.2. Personal protective equipment (PPE)

Eye/face protection

Select and use eye/face protection to prevent contact based on the results of an exposure assessment. The following eye/face protection(s) are recommended:
Indirect Vented Goggles

Skin/hand protection
Select and use gloves and/or protective clothing approved to relevant local standards to prevent skin contact based on the results of an exposure assessment. Selection should be based on use factors such as exposure levels, concentration of the substance or mixture, frequency and duration, physical challenges such as temperature extremes, and other use conditions. Consult with your glove and/or protective clothing manufacturer for selection of appropriate compatible gloves/protective

clothing.
Gloves made from the following material(s) are recommended: Polymer laminate

Select and use body protection to prevent contact based on the results of an exposure assessment. The following protective clothing material(s) are recommended: Apron - polymer laminate

Respiratory protection

An exposure assessment may be needed to decide if a respirator is required. If a respirator is needed, use respirators as part of a full respiratory protection program. Based on the results of the exposure assessment, select from the following respirator type(s) to reduce inhalation exposure:
Half facepiece or full facepiece air-purifying respirator suitable for particulates

For questions about suitability for a specific application, consult with your respirator manufacturer.

SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

General Physical Form:	Solid
Specific Physical Form:	Putty
Odor, Color, Grade:	Red putty with negligible odor
Odor threshold	*No Data Available*
Melting point	*Not Applicable*
Boiling Point	*Not Applicable*
Flash Point	Flash point > 93 °C (200 °F)
Flammability (solid, gas)	Not Classified
Flammable Limits(LEL)	*Not Applicable*
Flammable Limits(UEL)	*Not Applicable*
Specific Gravity	1.25 [*Ref Std:* WATER=1]
Solubility In Water	*No Data Available*
Solubility- non-water	*No Data Available*
Partition coefficient: n-octanol/ water	*No Data Available*
Autoignition temperature	*Not Applicable*
Decomposition temperature	*No Data Available*
Volatile Organic Compounds	< 1 % weight
VOC Less H2O & Exempt Solvents	< 1 g/l

SECTION 10: Stability and reactivity

10.1. Reactivity
This material is considered to be non reactive under normal use conditions.

10.2. Chemical stability
Stable.

10.3. Possibility of hazardous reactions
Hazardous polymerization will not occur.

10.4. Conditions to avoid
None known.

10.5. Incompatible materials
None known.

10.6. Hazardous decomposition products

Substance	Condition
Aldehydes	Not Specified
Carbon monoxide	Not Specified
Carbon dioxide	Not Specified

SECTION 11: Toxicological information

The information below may not be consistent with the material classification in Section 2 if specific ingredient classifications are mandated by a competent authority. In addition, toxicological data on ingredients may not be reflected in the material classification and/or the signs and symptoms of exposure, because an ingredient may be present below the threshold for labeling, an ingredient may not be available for exposure, or the data may not be relevant to the material as a whole.

11.1. Information on Toxicological effects

Signs and Symptoms of Exposure

Based on test data and/or information on the components, this material may produce the following health effects:

Inhalation:
Respiratory Tract Irritation: Signs/symptoms may include cough, sneezing, nasal discharge, headache, hoarseness, and nose and throat pain.

Skin Contact:
Mild Skin Irritation: Signs/symptoms may include localized redness, swelling, itching, and dryness. Allergic Skin Reaction (non-photo induced): Signs/symptoms may include redness, swelling, blistering, and itching.

Eye Contact:
Severe Eye Irritation: Signs/symptoms may include significant redness, swelling, pain, tearing, cloudy appearance of the cornea, and impaired vision.

Ingestion:
May be harmful if swallowed.
Gastrointestinal Irritation: Signs/symptoms may include abdominal pain, stomach upset, nausea, vomiting and diarrhea.

Toxicological Data
If a component is disclosed in section 3 but does not appear in a table below, either no data are available for that endpoint or the data are not sufficient for classification.

Acute Toxicity

Name	Route	Species	Value
Overall product	Dermal		No data available; calculated ATE > 5,000 mg/kg
Overall product	Ingestion		No data available; calculated ATE 2,000 - 5,000 mg/kg
Zinc Borate	Dermal	Rabbit	LD50 > 10,000 mg/kg
Zinc Borate	Ingestion	Rat	LD50 > 10,000 mg/kg
Sodium Silicate	Dermal	Rabbit	LD50 > 4,640 mg/kg
Sodium Silicate	Ingestion	Rat	LD50 500 mg/kg
Petrolatum	Dermal		LD50 estimated to be > 5,000 mg/kg
Petrolatum	Ingestion	Rat	LD50 > 5,000 mg/kg
Polymer NJTS Reg. No. 04499600-7315	Dermal	Rabbit	LD50 > 2,000 mg/kg
Polymer NJTS Reg. No. 04499600-7315	Ingestion	Rat	LD50 > 5,000 mg/kg
Polybutylene	Dermal	Rat	LD50 > 10,250 mg/kg
Polybutylene	Ingestion	Rat	LD50 > 34,600 mg/kg
Melamine Phosphate	Dermal		LD50 estimated to be 2,000 - 5,000 mg/kg

Melamine Phosphate	Ingestion	Rat	LD50 > 4,000 mg/kg
Glass Wool	Dermal		LD50 estimated to be > 5,000 mg/kg
Glass Wool	Ingestion		LD50 estimated to be 2,000 - 5,000 mg/kg
Butadiene-Styrene-Meta-Divinylbenzene Polymer	Ingestion		LD50 estimated to be 2,000 - 5,000 mg/kg
Amorphous Silica	Dermal	Rabbit	LD50 > 5,000 mg/kg
Amorphous Silica	Inhalation-Dust/Mist (4 hours)	Rat	LC50 > 0.691 mg/l
Amorphous Silica	Ingestion	Rat	LD50 > 5,110 mg/kg
4,4'-Isopropylidenediphenol-Epichlorohydrin Polymer	Dermal	Rat	LD50 > 1,600 mg/kg
4,4'-Isopropylidenediphenol-Epichlorohydrin Polymer	Ingestion	Rat	LD50 > 1,000 mg/kg
Alpha-Methylstyrene-Isoamylene-Piperylene Polymer	Ingestion	Rat	LD50 > 40,000 mg/kg
Rosin	Dermal	Rabbit	LD50 > 2,500 mg/kg
Rosin	Ingestion	Rat	LD50 7,600 mg/kg

ATE = acute toxicity estimate

Skin Corrosion/Irritation

Name	Species	Value
Sodium Silicate	Rabbit	Corrosive
Polymer NJTS Reg. No. 04499600-7315		No significant irritation
Polybutylene	Rabbit	Minimal irritation
Glass Wool		No significant irritation
Butadiene-Styrene-Meta-Divinylbenzene Polymer		Minimal irritation
Amorphous Silica	Rabbit	No significant irritation
4,4'-Isopropylidenediphenol-Epichlorohydrin Polymer	Rabbit	Mild irritant
Rosin	Rabbit	No significant irritation

Serious Eye Damage/Irritation

Name	Species	Value
Sodium Silicate	Rabbit	Corrosive
Polybutylene	Rabbit	Mild irritant
Glass Wool		No significant irritation
Amorphous Silica	Rabbit	No significant irritation
4,4'-Isopropylidenediphenol-Epichlorohydrin Polymer	Rabbit	Moderate irritant
Rosin	Rabbit	Mild irritant

Skin Sensitization

Name	Species	Value
Sodium Silicate	Mouse	Not sensitizing
Amorphous Silica	Human and animal	Not sensitizing
4,4'-Isopropylidenediphenol-Epichlorohydrin Polymer	Human and animal	Sensitizing
Rosin	Guinea pig	Sensitizing

Respiratory Sensitization

Name	Species	Value
4,4'-Isopropylidenediphenol-Epichlorohydrin Polymer	Human	Some positive data exist, but the data are not sufficient for classification
Rosin	Human	Some positive data exist, but the data are not sufficient for classification

Germ Cell Mutagenicity

Name	Route	Value
Sodium Silicate	In Vitro	Not mutagenic
Sodium Silicate	In vivo	Not mutagenic
Glass Wool	In Vitro	Some positive data exist, but the data are not sufficient for classification
Amorphous Silica	In Vitro	Not mutagenic
4,4'-Isopropylidenediphenol-Epichlorohydrin Polymer	In vivo	Not mutagenic
4,4'-Isopropylidenediphenol-Epichlorohydrin Polymer	In Vitro	Some positive data exist, but the data are not

		sufficient for classification

Carcinogenicity

Name	Route	Species	Value
Glass Wool	Inhalation	Multiple animal species	Some positive data exist, but the data are not sufficient for classification
Amorphous Silica	Not Specified	Mouse	Some positive data exist, but the data are not sufficient for classification
4,4'-Isopropylidenediphenol-Epichlorohydrin Polymer	Dermal	Mouse	Some positive data exist, but the data are not sufficient for classification

Reproductive Toxicity

Reproductive and/or Developmental Effects

Name	Route	Value	Species	Test Result	Exposure Duration
Sodium Silicate	Ingestion	Some positive developmental data exist, but the data are not sufficient for classification	Mouse	NOAEL 200 mg/kg/day	during gestation
Amorphous Silica	Ingestion	Not toxic to female reproduction	Rat	NOAEL 509 mg/kg/day	1 generation
Amorphous Silica	Ingestion	Not toxic to male reproduction	Rat	NOAEL 497 mg/kg/day	1 generation
Amorphous Silica	Ingestion	Not toxic to development	Rat	NOAEL 1,350 mg/kg/day	during organogenesis
4,4'-Isopropylidenediphenol-Epichlorohydrin Polymer	Ingestion	Not toxic to female reproduction	Rat	NOAEL 750 mg/kg/day	2 generation
4,4'-Isopropylidenediphenol-Epichlorohydrin Polymer	Ingestion	Not toxic to male reproduction	Rat	NOAEL 750 mg/kg/day	2 generation
4,4'-Isopropylidenediphenol-Epichlorohydrin Polymer	Dermal	Not toxic to development	Rabbit	NOAEL 300 mg/kg/day	during organogenesis
4,4'-Isopropylidenediphenol-Epichlorohydrin Polymer	Ingestion	Not toxic to development	Rat	NOAEL 750 mg/kg/day	2 generation

Target Organ(s)

Specific Target Organ Toxicity - single exposure

Name	Route	Target Organ(s)	Value	Species	Test Result	Exposure Duration
Sodium Silicate	Inhalation	respiratory irritation	May cause respiratory irritation	official classification	NOAEL Not available	

Specific Target Organ Toxicity - repeated exposure

Name	Route	Target Organ(s)	Value	Species	Test Result	Exposure Duration
Sodium Silicate	Ingestion	kidney and/or bladder	Some positive data exist, but the data are not sufficient for classification	Dog	LOAEL 2,400 mg/kg/day	4 weeks
Sodium Silicate	Ingestion	endocrine system	Some positive data exist, but the data are not sufficient for classification	Rat	NOAEL 804 mg/kg/day	3 months
Sodium Silicate	Ingestion	blood	All data are negative	Rat	NOAEL 804 mg/kg/day	3 months
Sodium Silicate	Ingestion	heart | liver	All data are negative	Rat	NOAEL 1,259 mg/kg/day	8 weeks
Polybutylene	Inhalation	respiratory system	Some positive data exist, but the data are not sufficient for classification	Rat	NOAEL 0.07 mg/l	2 weeks
Polybutylene	Inhalation	liver	Some positive data exist, but the data are not sufficient for	Rat	NOAEL 0.7 mg/l	2 weeks

			classification			
Glass Wool	Inhalation	respiratory system	Some positive data exist, but the data are not sufficient for classification	Human	NOAEL not available	occupational exposure
Amorphous Silica	Inhalation	respiratory system | silicosis	All data are negative	Human	NOAEL Not available	occupational exposure
4,4'-Isopropylidenediphenol-Epichlorohydrin Polymer	Dermal	liver	Some positive data exist, but the data are not sufficient for classification	Rat	NOAEL 1,000 mg/kg/day	2 years
4,4'-Isopropylidenediphenol-Epichlorohydrin Polymer	Dermal	nervous system	All data are negative	Rat	NOAEL 1,000 mg/kg/day	13 weeks
4,4'-Isopropylidenediphenol-Epichlorohydrin Polymer	Ingestion	auditory system | heart | endocrine system | hematopoietic system | liver | eyes | kidney and/or bladder	All data are negative	Rat	NOAEL 1,000 mg/kg/day	28 days

Aspiration Hazard

Name	Value

Please contact the address or phone number listed on the first page of the SDS for additional toxicological information on this material and/or its components.

SECTION 12: Ecological information

Ecotoxicological information

Please contact the address or phone number listed on the first page of the SDS for additional ecotoxicological information on this material and/or its components.

Chemical fate information

Please contact the address or phone number listed on the first page of the SDS for additional chemical fate information on this material and/or its components.

SECTION 13: Disposal considerations

13.1. Disposal methods

Dispose of contents/ container in accordance with the local/regional/national/international regulations.

Incinerate in a permitted waste incineration facility. Proper destruction may require the use of additional fuel during incineration processes. As a disposal alternative, utilize an acceptable permitted waste disposal facility. Empty drums/barrels/containers used for transporting and handling hazardous chemicals (chemical substances/mixtures/preparations classified as Hazardous as per applicable regulations) shall be considered, stored, treated & disposed of as hazardous wastes unless otherwise defined by applicable waste regulations. Consult with the respective regulating authorities to determine the available treatment and disposal facilities.

EPA Hazardous Waste Number (RCRA): D007 (Chromium)

SECTION 14: Transport Information

For Transport Information, please visit **http://3M.com/Transportinfo** or call 1-800-364-3577 or 651-737-6501.

SECTION 15: Regulatory information

15.1. US Federal Regulations
Contact 3M for more information.

311/312 Hazard Categories:

Fire Hazard - No Pressure Hazard - No Reactivity Hazard - No Immediate Hazard - Yes Delayed Hazard - No

Section 313 Toxic Chemicals subject to the reporting requirements of that section and 40 CFR part 372 (EPCRA):

Ingredient	C.A.S. No	% by Wt
Zinc Borate (ZINC COMPOUNDS)	138265-88-0	10 - 30

15.2. State Regulations
Contact 3M for more information.

15.3. Chemical Inventories
The components of this material are in compliance with the China "Measures on Environmental Management of New Chemical Substance". Certain restrictions may apply. Contact the selling division for additional information.

The components of this material are in compliance with the provisions of the Korean Toxic Chemical Control Law. Certain restrictions may apply. Contact the selling division for additional information.

The components of this product are in compliance with the chemical notification requirements of TSCA.

Contact 3M for more information.

15.4. International Regulations
Contact 3M for more information.

This SDS has been prepared to meet the U.S. OSHA Hazard Communication Standard, 29 CFR 1910.1200.

SECTION 16: Other information

NFPA Hazard Classification
Health: 2 **Flammability:** 1 **Instability:** 0 **Special Hazards:** None

National Fire Protection Association (NFPA) hazard ratings are designed for use by emergency response personnel to address the hazards that are presented by short-term, acute exposure to a material under conditions of fire, spill, or similar emergencies. Hazard ratings are primarily based on the inherent physical and toxic properties of the material but also include the toxic properties of combustion or decomposition products that are known to be generated in significant quantities.

Document Group:	23-6572-4	**Version Number:**	6.00
Issue Date:	08/14/14	**Supercedes Date:**	02/07/11

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determine whether it is fit for a particular purpose and suitable for user's method of use or application.

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3M USA SDSs are available at www.3M.com

Material Safety Data Sheet

This material safety data sheet (MSDS) is provided as a courtesy in response to a customer request. This product is not regulated under, and a MSDS is not required for this product by the OSHA Hazard Communication Standard (29 CFR 1910.1200) because, when used as recommended or under ordinary conditions, it should not present a health and safety hazard. However, use or processing of the product not in accordance with the product's recommendations or not under ordinary conditions may affect the performance of the product and may present potential health and safety hazards.

SECTION 1: PRODUCT AND COMPANY IDENTIFICATION

PRODUCT NAME: 3M™ Fire Barrier Pillow and 3M™ Fire Barrier Self-Locking Pillow
MANUFACTURER: 3M
DIVISION: Building & Commercial Services Division

ADDRESS: 3M Center
St. Paul, MN 55144-1000

EMERGENCY PHONE: 1-800-364-3577 or (651) 737-6501 (24 hours)

Issue Date: 01/31/2008
Supercedes Date: 06/07/2006

Document Group: 16-3772-7

Product Use:
Intended Use: Fire Protection

SECTION 2: INGREDIENTS

Ingredient	C.A.S. No.	% by Wt
Expantrol Flexible Intumescent Strips	Mixture	40 - 60
Fiber Mineral Wool	Mixture	35 - 55
Adhesive	Mixture	1 - 3
Plastic Film	9002-88-4	1 - 3
Hook & Loop Fastner	Mixture	0 - 3
Tape	Mixture	0 - 2

SECTION 3: HAZARDS IDENTIFICATION

3.1 EMERGENCY OVERVIEW

Odor, Color, Grade: Mineral fiber pillow with intumescent covering in a red plastic pillow.
General Physical Form: Solid

Immediate health, physical, and environmental hazards: The environmental properties of this product present a low environmental hazard. This product, when used under reasonable conditions and in accordance with the 3M directions for use, should not present a health hazard. However, use or processing of the product in a manner not in accordance with the product's directions for use may affect the performance of the product and may present potential health and safety hazards.

3.2 POTENTIAL HEALTH EFFECTS

Eye Contact:
No health effects are expected.

Skin Contact:
No health effects are expected.

Inhalation:
No health effects are expected.

Ingestion:
No health effects are expected.

3.3 POTENTIAL ENVIRONMENTAL EFFECTS

This substance does not leach metals or other RCRA (Resource Conservation and Recovery Act) listed TCLP (Toxic Characteristic Leaching Procedure) hazardous substances at concentrations that would make the product a hazardous waste.

SECTION 4: FIRST AID MEASURES

4.1 FIRST AID PROCEDURES

The following first aid recommendations are based on an assumption that appropriate personal and industrial hygiene practices are followed.

Eye Contact: No need for first aid is anticipated.

Skin Contact: No need for first aid is anticipated.

Inhalation: No need for first aid is anticipated.

If Swallowed: No need for first aid is anticipated.

SECTION 5: FIRE FIGHTING MEASURES

5.1 FLAMMABLE PROPERTIES

Autoignition temperature	*No Data Available*
Flash Point	*No Data Available*
Flammable Limits - LEL	*No Data Available*
Flammable Limits - UEL	*No Data Available*
OSHA Flammability Classification:	Not Applicable

5.2 EXTINGUISHING MEDIA
Material will not burn.

5.3 PROTECTION OF FIRE FIGHTERS

Special Fire Fighting Procedures: Wear full protective equipment (Bunker Gear) and a self-contained breathing apparatus (SCBA).

Unusual Fire and Explosion Hazards: No unusual fire or explosion hazards are anticipated.

Note: See STABILITY AND REACTIVITY (SECTION 10) for hazardous combustion and thermal decomposition information.

SECTION 6: ACCIDENTAL RELEASE MEASURES

Accidental Release Measures: Not applicable.

SECTION 7: HANDLING AND STORAGE

7.1 HANDLING
This product is considered to be an article which does not release or otherwise result in exposure to a hazardous chemical under normal use conditions.

7.2 STORAGE
Not applicable.

SECTION 8: EXPOSURE CONTROLS/PERSONAL PROTECTION

8.1 ENGINEERING CONTROLS
Not applicable.

8.2 PERSONAL PROTECTIVE EQUIPMENT (PPE)

8.2.1 Eye/Face Protection
Not applicable.

8.2.2 Skin Protection
Not applicable. Gloves are not required.

8.2.3 Respiratory Protection
Under normal use conditions, airborne exposures are not expected to be significant enough to require respiratory protection.

8.2.4 Prevention of Swallowing
Not applicable.

8.3 EXPOSURE GUIDELINES

None Established

SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES

Odor, Color, Grade:	Mineral fiber pillow with intumescent covering in a red plastic pillow.
General Physical Form:	Solid
Autoignition temperature	*No Data Available*
Flash Point	*No Data Available*
Flammable Limits - LEL	*No Data Available*
Flammable Limits - UEL	*No Data Available*
Specific Gravity	*No Data Available*
Solubility in Water	Nil
Percent volatile	0 %
VOC Less H2O & Exempt Solvents	0 g/l

SECTION 10: STABILITY AND REACTIVITY

Stability: Stable.

Materials and Conditions to Avoid: None known

Hazardous Polymerization: Hazardous polymerization will not occur.

Hazardous Decomposition or By-Products

Substance	Condition
Carbon monoxide	Not Specified
Carbon dioxide	Not Specified

Hazardous Decomposition: Under recommended usage conditions, hazardous decomposition products are not expected. Hazardous decomposition products may occur as a result of oxidation, heating, or reaction with another material.

SECTION 11: TOXICOLOGICAL INFORMATION

Please contact the address listed on the first page of the MSDS for Toxicological Information on this material and/or its components.

SECTION 12: ECOLOGICAL INFORMATION

ECOTOXICOLOGICAL INFORMATION

Not applicable.

CHEMICAL FATE INFORMATION

Not applicable.

SECTION 13: DISPOSAL CONSIDERATIONS

Waste Disposal Method: Dispose of waste product in a sanitary landfill. As a disposal alternative, incinerate in an industrial or commercial facility.

EPA Hazardous Waste Number (RCRA): Not regulated

Since regulations vary, consult applicable regulations or authorities before disposal.

SECTION 14:TRANSPORT INFORMATION

ID Number(s):
98-0400-5421-9, 98-0400-5422-7, 98-0400-5423-5, 98-0400-5472-2, 98-0400-5473-0, 98-0400-5474-8

Please contact the emergency numbers listed on the first page of the MSDS for Transportation Information for this material.

SECTION 15: REGULATORY INFORMATION

US FEDERAL REGULATIONS
Contact 3M for more information.

311/312 Hazard Categories:
Fire Hazard - No Pressure Hazard - No Reactivity Hazard - No Immediate Hazard - No Delayed Hazard - No

STATE REGULATIONS
Contact 3M for more information.

CHEMICAL INVENTORIES
This product is an article as defined by TSCA regulations, and is exempt from TSCA Inventory listing requirements.

Contact 3M for more information.

INTERNATIONAL REGULATIONS
Contact 3M for more information.

ADDITIONAL INFORMATION
Product is RoHS Compliant

This MSDS has been prepared to meet the U.S. OSHA Hazard Communication Standard, 29 CFR 1910.1200.

SECTION 16: OTHER INFORMATION

NFPA Hazard Classification

Health: 0 **Flammability:** 0 **Reactivity:** 0 **Special Hazards:** None

National Fire Protection Association (NFPA) hazard ratings are designed for use by emergency response personnel to address the hazards that are presented by short-term, acute exposure to a material under conditions of fire, spill, or similar emergencies. Hazard ratings are primarily based on the inherent physical and toxic properties of the material but also include the toxic properties of combustion or decomposition products that are known to be generated in significant quantities.

HMIS Hazard Classification

Health: 0 **Flammability:** 0 **Reactivity:** 0 **Protection:** E

Hazardous Material Identification System (HMIS®) hazard ratings are designed to inform employees of chemical hazards in the workplace. These ratings are based on the inherent properties of the material under expected conditions of normal use and are not intended for use in emergency situations. HMIS® ratings are to be used with a fully implemented HMIS® program. HMIS® is a registered mark of the National Paint and Coatings Association (NPCA).

Reason for Reissue: The MSDS has been revised because 3M has adopted the 16-section ANSI/ISO format. The potential hazards of the product have not changed. We encourage you to reread the MSDS and review the information.

Revision Changes:
Section 1: Product name was modified.
Section 1: Product use information was modified.
Section 1: Division name was modified.
Copyright was modified.
Page Heading: Product name was modified.
Section 9: Property description for optional properties was modified.
Section 14: ID Number Heading Template 1 was added.
Section 14: ID Number(s) Template 1 was added.
Section 2: Ingredient table was added.
Section 8: Exposure guidelines information - none - was added.

3M MSDSs are available at www.3M.com