



# **FIRE** Retardants Inc.™

*The Decision You Make May Save A Life!*

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## Fire Barrier Spray 100



Listed  
OPL ID# 15654-3



FILL OR VOID CAVITY  
MATERIALS CLASSIFIED BY  
UNDERWRITERS  
LABORATORIES, INC. FOR  
USE IN JOINT  
SYSTEMS (XHBN).  
SEE CURRENT UL FIRE  
RESISTANCE DIRECTORY

### Product Data

#### 1. Product Description

3M™ Fire Barrier Spray 100 is sprayable water-based material that dries to form a tough, elastomeric coating. This material is designed for use with Thermafiber Firespan® mineral wool and safig insulation and firestops building joints, perimeter joints (curtain wall), and penetration seals. 3M Fire Barrier Spray 100, when installed properly, will control the transmission of fire, heat, and smoke before, during, and after exposure to fire.

#### 3M Fire Barrier Spray 100 Features

- Designed for use with Thermafiber® Firespan® mineral wool
- Good adhesion to most construction materials
- Highly elastic--maintains performance with +/- 25% joint movement
- Broad range of applications--extensive portfolio of tested and listed building and perimeter joint systems
- Applied with conventional airless spray equipment
- Robust job site formula
  - Freeze/thaw resistant
  - Uniform seal formation in hot and cold drying conditions
- High cling properties — stays where it's sprayed
- Paintable
- Easy water clean-up

#### 2. Applications

Ideal for sealing building joints, penetration seals, and perimeter joints. Helps limit the spread of noxious gas, smoke, and water. Maintains the integrity of the fire-rated construction.

#### 3. Physical Properties

Product	Unit	Volume	Units/Ctn.	Wt./ctn. Lbs.
Fire Barrier Spray 100	5 gallon (18.9 litre)	1155.0 cu. in. (18926.9 cu. cm)	1	45.5 lbs. (20.6 kg)

#### 4. Specifications

##### Product

The coating must be tested and listed by independent test agencies such as UL and Omega Point Laboratories. The coating shall comply with the requirements of BOCA, ICBO, SBCCI, and NFPA Code #101.

Building Joints: Must be fire tested and evaluated under the pass/fail criteria ASTM E 1966 and UL 2079 at maximum extended joint width. Joint must be cycled per ASTM E 1399 prior to test.

Perimeter Joints: Must pass under the pass/fail criteria of proposed ASTM "Standard Test Method for the Determining the Fire Endurance of Perimeter Fire Barrier Systems Using the Intermediate-Scale, Multi-Story Test Apparatus," capable of achieving a T-rating 1/4 hour, F-rating 2 hour, L-Rating <1scfm and +/- 16.7% movement.

Penetration Seals: Must be capable of passing ASTM E 814/UL 1479 Standard Method for Through-Penetration Firestops up to the desired fire resistance rating.

##### Typically Specified Divisions

Division 7	Thermal and Moisture Protection
07840	Firestopping
07842	Fire Resistive Joint Systems

## 5. Performance

### A. Typical Physical Properties

Base:	Polychloroprene
Color:	Dark Blue
Net Weight:	8.7 lbs./gal. (1.04 kg/litre)
Non-Volatile Content:	50%
Viscosity:	20,000 cps
Coverage*:	12.8 sq. ft./gallon (0.31 sq. rn/litre)Flash Point:
None	
ASTM E 84:	Flame Spread: 5 Smoke Development: 0
Cure Time:	12 hrs tack-free 48 hrs fully cured

@70°F (21°C)170% RH  
\*The coverage rate listed is calculated coverage based on 1/8 in. (3 mm) thick wet coating.

### B. Firestopping Properties

Building Joints: Underwriters Laboratories  
Systems: HWDOO20, HWDOO21, HWDOO23  
,HWDOO29, HWDOO30, HWDOO31, HWDOO38,  
HWDOO40, HWDO1 01, HWDO1 22, HWDO1 23

Perimeter Joints: Omega Point Laboratories  
Systems: CEJ130P, CEJ131P, CEJ132P,  
CEJ133P, CEJ134P, CEJ135P, CEJ136P,  
CEJ137P, CEJ138P, CEJ139P, CEJ140P,  
CEJ141P, CEJ170P, CEJ171P, CEJ172P,  
CEJ173P, CEJ174P, CEJ175P, CEJ176P,  
CEJ177P, CEJ178P, CEJ179P, CEJ180P,  
CEJ181P

### C. Firestopping code Requirements

ICBO Uniform Building Code (1997 Edition)	SBCCI Standard Building Code (1997 Edition)	BOCA Basic/National Building Code (1996 Edition)		NFPA Life Safety Code 101 (1997 Edition)
702 DEFINITIONS	104.2.4 PLANS MUST SHOW HOW INTEGRITY IS MAINTAINED FOR ASSEMBLIES PENETRATED	702.0 REVISED AND EXPANDED DEFINITIONS FOR PENETRATIONS AND JOINTS	709.7 JOINTS	6-2.3.2.4 PENETRATIONS AND MISC. OPENINGS & FIRE BARRIERS
706 CONSTRUCTION JOINTS	202 DEFINITIONS	703.1 CONSTRUCTION DOCUMENTS SHALL INDICATE DETAILS AND MATERIALS FOR PROVIDING RATINGS AT JOINTS AND PENETRATIONS	711.0 FIRE PARTITIONS 711.6 PENETRATIONS - REFERS TO 714 711.7 JOINTS - REFER TO 709.7	6.2.4.2. EXCEPTION 5 OPENINGS (EXPANSION OR SEISMIC JOINTS) IN FLOORS APPENDIX A-6-2.4.2
708 WOOD FRAME CONSTRUCTION FIREBLOCKING	705.3 WOOD FRAME CONSTRUCTION FIREBLOCKING	703.1.1 PENETRATIONS AND JOINTS SHALL NOT BE CONCEALED FROM VIEW BEFORE INSPECTION	713.0 FLOOR/CEILING AND ROOF/CEILING ASSEMBLIES	6-3.6.1 PENETRATIONS AND MISC. OPENINGS IN FLOORS AND SMOKE BARRIERS
709 WALL & PARTITION PENETRATION PROTECTION	705.3.1.5 CURTAIN WALL GAP	703.2 BUILDINGS FOR MORE THAN TWO STORIES SHALL INDICATE ALL PENETRATIONS	713.2 CURTAIN WALL GAP 713.4 PENETRATIONS - REFERS TO 714 713.5 JOINTS - REFERS TO 709.7	NFPA #221 FIRE WALLS AND BARRIERS
709.3.2.2 CURTAIN WALL GAP	705.4 (GENERAL) PENETRATIONS OF FIRE RATED ASSEMBLIES	704.1.1 SUFFICIENT DATA SHALL BE AVAILABLE TO JUSTIFY UNTESTED MATERIALS USED FOR RESTORATION OF FIRE RATINGS	714.0 PENETRATIONS - ALL REQUIREMENTS (GENERAL) 714.1 THROUGH 714.1.6.2 WALL ASSEMBLIES	NFPA Code 70 NEC National Electric Code 300-21 FIRESTOPPING
710 FLOOR/CEILING OR ROOF/CEILING PENETRATION PROTECTION	705.5 (WALLS) 705.6 (FLOORS)	707.0 FIRE WALLS AND PARTY WALLS	714.2 THROUGH 714.2.6.5 FLOOR/CEILING AND ROOF/CEILING ASSEMBLIES 714.3 THROUGH 714.3.2 NONRATED ASSEMBLIES	CABO One and Two Family Dwelling Code (1995 Edition) 602.7 FIRESTOPPING (FIREBLOCKING IN OTHER MODEL CODES)
711.3 SHAFT ALTERNATIVE	705.7 FIRE RESISTANT JOINT SYSTEMS	707.10 PENETRATIONS - REFERS TO 714	721.0 FIREBLOCKING AND DRAFTSTOPPING	
714 THROUGH-PENETRATION FIRESTOPS F&T REQUIREMENTS		707.8 JOINTS - REFERS TO 709.7		
UBC STANDARD 7-1 EQUIVALENT TO ASTM E 119		709.0 FIRE SEPARATION ASSEMBLIES		
UBC STANDARD 7-5 EQUIVALENT TO ASTM E 814		709.6 PENETRATIONS - REFER TO 714		



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## 6. Installation Techniques

Shown is an example of a Omega Point Laboratory tested and listed system for 3M Fire Barrier Spray 100. The appropriate tested and listed system must be used for each application. Additional details are available through your 3M authorized Fire Protection Products Distributor or sales representative

1. Surface Preparation: Surfaces must be frost free, clean, dry and dust free.
2. Sating Insulation: Install 4 lb. (10 cm) thick, pcf (63 kg/cu. m) density Thermafiber mineral wool batt insulation. Compress the mineral wool 25% and install into the perimeter joint opening such that the top surface of the batt insulation is flush with the top surface of the concrete floor slab. Seams in the batt insulation sections are to be tightly butt-jointed together.
3. Coating: Apply the 3M Fire Barrier Spray 100 using an airless sprayer to the joint overlapping onto the wall and floor a minimum 1/2 in. (13mm). A minimum 1/8 in. (3mm) continuous wet coating should be applied over the Thermafiber and substrates. 3M Fire Barrier Spray 100 must be applied at a temperature

between 40°F (4°C) and 90°F (32°C). 3M Fire Barrier Spray 100 can be applied when the ambient air temperature is 10°F (-12°C) or higher. Note: It is recommended that the pails of product remain in heated storage at 70°F (21°C) prior to spraying material in conditions below 40°F (4°C).

3M Fire Barrier Spray 100 can be applied to surfaces that are 10°F (-12°C) providing that the surfaces are frost free, clean, dry and dust free.

The curing (evaporating of water) of the 3M Fire Barrier 100 is affected by the ambient temperature and humidity. The lower the temperatures and the higher the humidity the slower the products will cure. At 70°F (21°C) and 70% R.H. a 1/8 in. thick wet coating is fully cured in 48 hours. Note: At temperatures below 32°F (0°C) no curing of the products will occur until the temperature of the installed product is above 32°F (0°C).

## 7. Spray Equipment

These procedures are intended to inform end users of the equipment requirements for properly dispensing 3M Fire Barrier Spray 100 and achieving the thickness and coverage necessary to comply with the tested systems for the product. The equipment

mentioned is not an entire list of the pumps capable of delivering 3M Fire Barrier Spray 100 but a sample of those know to be capable of accomplishing the desired results.

### General Equipment Parameters

Flow Output: 0.6 gpm minimum  
Liquid Pressure: 2000 psi minimum  
Tip Size Range: No. 219-231 (4 in. fan with 0.019-0.031 orifice)  
Motor Size: Greater than or equal to 0.75 horsepower

### Recommended Equipment

**Wagner:** Spray TECH® EP2400 and EP2510

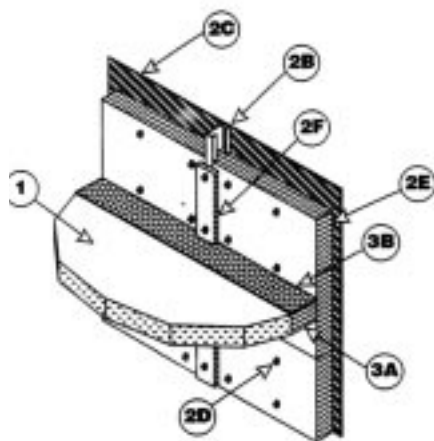
**Graco:** Ultra® Max 695, 795, 1095 and 1595

**Titan:** Epic 660ex and 690gx, Elite E20 and G55

### Equipment Start-up

If the spray equipment has been used previously and has wash of a previous product, then purge the machine, hoses, and gun prior to spraying – do this as follows:

- Have a 5-gallon pail filled with five (5) gallons of clean water. This will be needed for clean-up at end of application.
- Turn on pump in prime (re-circulating mode). The pump should have a large and small tube. The large tube is a primary material pick-up tube, and small tube is the re-circulating tube.



1. Concrete
- 2A. Mounting angle(not shown)
- 2B. Structural Member
- 2C. Spandrel Panel
- 2D. Impaling Pins
- 2E. Thermafiber™ CW-40or CW-90
- 2F. Framing covers
- 3A. Thermafiber™ Safing
- 3B. 3MTM Fire Barrier Spray 100



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