

CAST-IN-PLACE OPTIONAL PIPE SIZE SLEEVE OPS-PL SERIES



For Use With Nonmetallic or Metallic Pipe Types

For use in

- Concrete floor assemblies with flat form decks
- Dust and fiber free environments such as hospitals, computer centers and laboratories

Product Description

- HydroFlame sleeves offer fire and water protection for a variety of pipe sizes and types that pass through concrete floors in single and multi-story buildings
- These sleeves are delivered to the job site completely assembled and need only be fastened to the wood form deck for installation
- Tested and approved by UL
- OSHA compliant safety caps

Nonmetallic Through Penetrants

½" – 6" pipe sizes: Non-Metallic and Metallic, See UL fire resistance directory for specific detail

Product Feature & Benefits

- Simple and quick installation
- Helps prevent water, fire, smoke, moisture & mold intrusion
- Each device accepts optional pipe size (1/2"-1"), (1 ¼"-2"), (2"-3"), (3"-4") & (5"-6")

Not for use in

- Walls

Safety & Precautions

- Keep this device out of reach of children
- Read the Material & Safety Data Sheet

Storage of Device

- Store in a covered or closed area protected from weather
- Do not stack devices on top of one another other than how they are shipped from manufacture



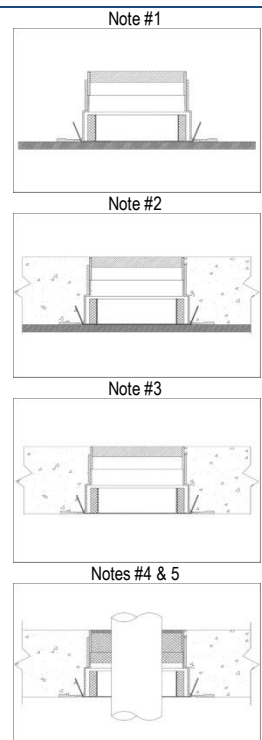
Technical Data for HYDROFLAME Firestop Material	
Physical Properties	
Color: Gray/Black	
Heat Expansion (Intumescence)	
Expansion begins:	410°F (210°C)
Significant expansion:	555°F (290°C)
Free expansion:	25 times (5 min @ 662°[350°C])
Weatherability (Tested to ASTM G23 and G53)	
Test Condition	Temperature/Humidity 90°F (32°C)/90%
Time	120 Days
After Exposure	No change in expansion
Surface Burning Characteristics (ASTM E84, UL 723)	
Flame spread index: 0	
Smoke development index: 5	
Testing Data	
cUL Fire Tested & Listed to UL 1479 (ASTM E814) Standards	
CAN/UPC S115	



Installation Instructions

- Layout lines on the wood form deck for the appropriate location of sleeve; center sleeve with the hatch marks on the sleeve base with the layout lines on the wood form deck. **Note: It is recommended to use 6 penny nails through the nail slots to secure device to the deck. You may use appropriate staples to secure the device to form deck by straddling the nail slots on the edge of the base. DO NOT USE SCREWS TO SECURE THE DEVICE TO FORM DECK BECAUSE THE FORM DECK OR DEVICE COULD BE DAMAGED.** A Minimum of 4 holes should be used for nailing the sleeve to the wood form deck.
- Before pouring of concrete slab, be sure the protective cap on top of sleeve is in place before concrete pour. Pour concrete around sleeve to the appropriate concrete thickness.
- After concrete has cured remove wood form deck and the protective cap from the top portion of device before inserting pipe of choice.
- Prior to installation, thoroughly clean the outside of the pipe to be inserted through the sleeve. The pipe must be free of concrete, dirt, paint, rust or anything protruding from the outside of pipe including burrs of pipe material. Make sure the inner seal membrane is clean of all debris, dirt, concrete, or anything that might have gotten on the inner seal membrane during or after construction that could damage the sealing surface of the inner seal membrane when the pipe is inserted through the inner seal membrane. Failure to perform proper cleaning could damage the inner seal membrane of the sleeve when the pipe is installed.
- It is recommended inserting the pipe of choice up through the bottom of the device; this will allow the inner seal membrane to be pushed upward around the pipe of choice forming a complete seal around the pipe. **Note:** If water seal is needed, compress mineral wool down into the top of the sleeve approximately 2" so there is a ¼" from the top of sleeve to the top of mineral wool. To achieve water seal use 3M products FB-1000 NS, FB-3000 WT or FB-1003 SL sealant to fill the top of the packed mineral wool and around pipe to form a water tight seal. Sealant to lap a min ½" onto the top surface of concrete around perimeter of firestop device. Please refer to UL listing for full details

Note: HOLDRITE HYDROFLAME is not responsible for sleeve performance when installation instructions are not followed and will not be liable for damage to property or persons due to improper installation of materials or through attempts to utilize the material under conditions which exceed the designed capacities. Purchaser agrees to indemnify and hold us harmless for any and all claims, liabilities, damages, costs and expenses asserted against us or incurred by us because of injuries to persons or damages to property resulting from the improper installation or misuse of the material. For additional warranty limitations, refer to HOLDRITE's Limited Warranty dated 1/15/13.



Product Submittal		
Job Name:	Architect/Owner:	
Date:	Contractor:	
Part#:	Qty:	Notes:

System No. F-B-2042 XHEZ.F-B-2042 Through-penetration Firestop Systems

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- Authorities Having Jurisdiction should be consulted in all cases as to the particular requirements covering the installation and use of UL Certified products, equipment, system, devices, and materials.
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- Only products which bear UL's Mark are considered Certified.

XHEZ - Through-penetration Firestop Systems

XHEZ7 - Through-penetration Firestop Systems Certified for Canada

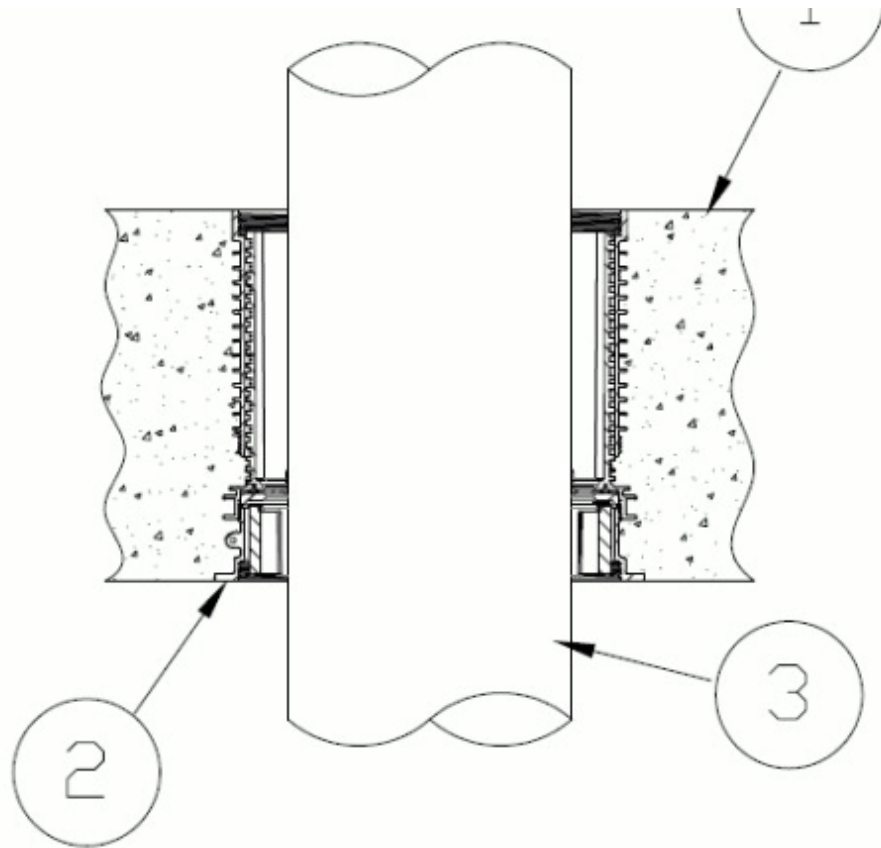
[See General Information for Through-penetration Firestop Systems](#)

[See General Information for Through-penetration Firestop Systems Certified for Canada](#)

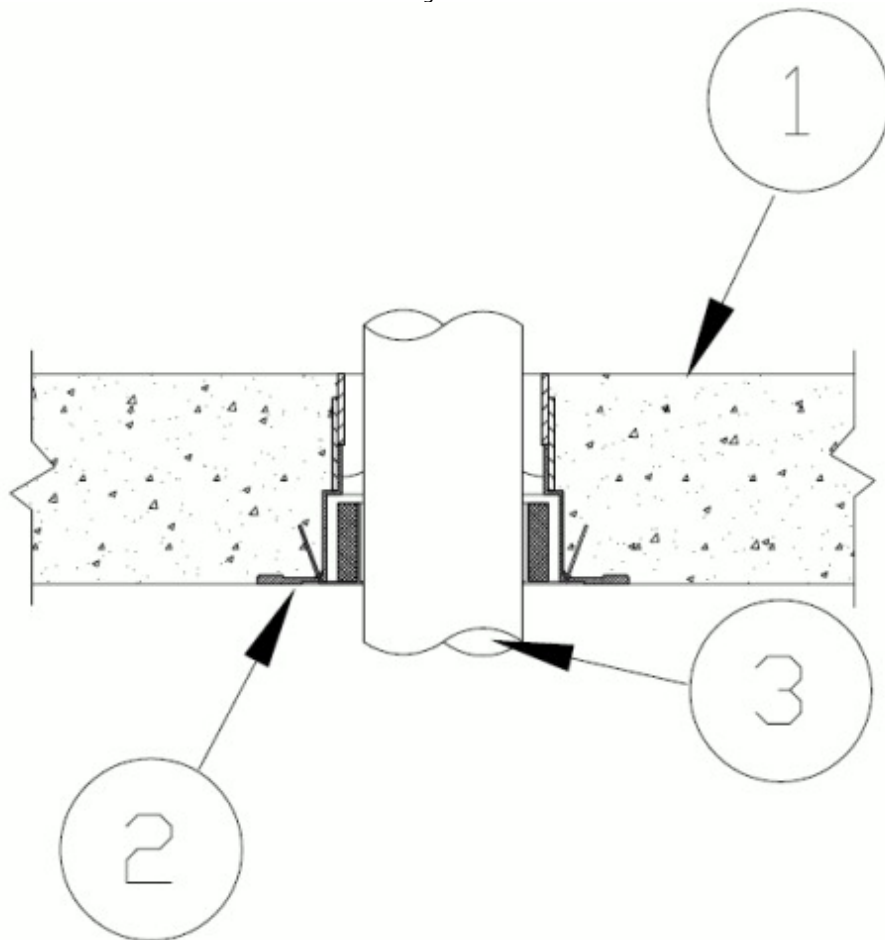
System No. F-B-2042

September 12, 2016

ANSI/UL1479 (ASTM E814)	CAN/ULC S115
F Ratings — 2 and 3 Hr (See Item 3)	F Ratings — 2 and 3 Hr (See Item 3)
T Ratings — 0 and 3 Hr (See Item 3)	FT Ratings — 0 and 3 Hr (See Item 3)
W Ratings — Class 1 (See Item 5)	FH Ratings — 2 and 3 Hr (See Item 3)
L Rating At Ambient — Less Than 1 CFM/Lin Ft	FTH Ratings — 0 and 3 Hr (See Item 3)
L Rating At 400°F — Less Than 1 CFM/Lin Ft	L Rating At Ambient — Less Than 5.1 L/s-m ²
	L Rating At 400°F — Less Than 5.1 L/s-m ²



Configuration A



Configuration B

1. **Floor Assembly** — Min 6 in. (152 mm) thick reinforced lightweight or normal weight (100-150 pcf or 1600-2400 kg/m³) concrete when measured above base of device excluding any adapters.
2. **Firestop Device*** — Cast in place firestop device permanently embedded during concrete placement in accordance with accompanying installation instructions. For Conf A HFP devices and optional accessories (not shown) includes sleeve extension, water module, aerator adapter and/or water dam installed in accordance with installation instructions. For Conf B devices, optional accessory (not shown) aerator adapter installed in accordance with the installation instructions. The device shall be installed flush with top and bottom surfaces of floor. The devices are sized to accommodate the following nom pipe sizes:

Nom Pipe Diam in. (mm)	Conf A Firestop Devices Concrete Slab	Conf A Firestop Devices Concrete over Fluted Metal Deck (Not Shown)	Conf B Firestop Devices Concrete Slab	Conf B Firestop Devices Concrete over Fluted Metal Deck (Not Shown)
1/2 to 1 (13 to 25)	HFP-P1, HFP-P1B	add HFPCD1	OPS-PL-0100, WD-PL-0200	CD-OPS-PL-0100, CD-PL-0200
1-1/4 to 2 (32 to 51)	HFP-P2, HFP-P2B	add HFPCD2	OPS-PL-0200, WD-PL-0300	CD-OPS-PL-0200, CD-PL-0300
2 to 3 (51 to 76)	HFP-P3, HFP-P3B	add HFPCD3	OPS-PL-0300, WD-PL-0400	CD-OPS-PL-0300, CD-PL-0400
3 to 4 (76 to 102)	HFP-P4, HFP-P4B	add HFPCD4	OPS-PL-0400, WD-PL-0500	CD-OPS-PL-0400, CD-PL-0500
5 to 6 (127 to 152)	HFP-P6, HFP-P6B	add HFPCD6-DC	OPS-PL-0600, WD-PL-0800	CD-OPS-PL-0600, CD-PL-0800

SECURUS INC, DBA HOLDRITE — HydroFlame OPS-PL, CD-PL-x, CD-OPS-PL-x, WD-PL-x, HFP-Px, HFP-PxB

3. **Through Penetrant** — One nonmetallic pipe or conduit to be installed within the firestop device. Pipe or conduit to be installed in accordance with firestop device installation instructions and rigidly supported on both sides of floor assembly. The following types of pipe, conduit or tubing may be used:

A. **Polyvinyl Chloride (PVC) Pipe** — Nom 6 in. (152 mm) diam (or smaller) Schedule 40 solid or cellular core PVC pipe for use in closed (process or supply) or vented (drain, waste or vent) piping systems. **When nom 5 in. or 6 in. (127 or 152 mm) diam PVC pipe is used, F Rating is 2 hr and T Rating is 0 hr. When max 4 in. (102 mm) diam PVC pipe is used, F Rating is 3 hr and T Rating is 3 hr.**

B. **Rigid Nonmetallic Conduit+** — Nom 6 in. (152 mm) diam (or smaller) Schedule 40 PVC conduit installed in accordance with the National Electrical Code (NFPA No. 70). **When nom 5 in. or 6 in. (127 or 152 mm) diam PVC conduit is used, F Rating is 2 hr and T Rating is 0 hr. When max 4 in. (102 mm) diam PVC conduit is used, F Rating is 3 hr and T Rating is 3 hr.**

C. **Chlorinated Polyvinyl Chloride (CPVC) Pipe** — Nom 6 in. (152 mm) diam (or smaller) SDR 13.5 (or heavier) or Schedule 40 CPVC pipe for use in closed (process or supply) piping systems. **When nom 5 in. or 6 in. (127 or 152 mm) diam CPVC pipe is used, F Rating is 2 hr and T Rating is 0 hr. When max 4 in. (102 mm) diam CPVC pipe is used, F Rating is 3 hr and T Rating is 3 hr.**

D. **Acrylonitrile Butadiene Styrene (ABS) Pipe** — Nom 4 in. (102 mm) diam (or smaller) Schedule 40 solid or cellular core ABS pipe for use in closed (process or supply) or vented (drain, waste or vent) piping systems. **When max 4 in. (102 mm) diam ABS pipe is used, F Rating is 3 hr and T Rating is 3 hr.**

E. **Cross-Linked Polyethylene (PEX) Tubing** — Nom 2 in. (51 mm) diam (or smaller) SDR 9 PEX tubing for use in closed (process or supply) piping systems. HFP series devices only) Nom 3 in. (76 mm) diam (or smaller) SDR PEX tubing in closed (process or supply) piping systems. **When max 2 in. (51 mm) diam or smaller PEX tubing is used, F Rating is 3 hr and T Rating is 3 hr. For HPF series devices when max 3 in. (76 mm) diam or smaller PEX tubing is used, F Rating is 3 hr and T Rating is 3 hr.**

F. **Polypropylene (PP) Pipe** — Nom 3 in. (76 mm) diam (or smaller) Aquatherm SDR 7.4 or 11 PP pipe for use in closed (process or supply) piping systems. **When max 3 in. (76 mm) diam AquaTherm PP pipe is used, F Rating is 3 hr and T Rating is 3 hr.**

(Item 5) is used, top surface of packing material to be recessed min 1/4 in. (6 mm) from top surface of floor.

4A. Packing Material — (Optional instead of 4, Not Shown) — Foam backer rod firmly packed into opening as a permanent form. Packing material to be recessed from top surface of floor as required to accommodate the required thickness of fill material.

5. Fill, Void or Cavity Material* — Sealant — (Optional, Not Shown) — Min 1/4 in. (6 mm) thickness of sealant applied within the annulus, flush with the top surface of floor. Conf B (Only), Sealant to lap min 1/2 in. (13 mm) onto top surface of concrete around perimeter of firestop device. As an alternate 100% silicone sealant can be used. **W and L Ratings apply only when packing material (Item 4) and sealant are used and remains optional for devices in Configuration A.**

3M COMPANY 3M FIRE PROTECTION PRODUCTS — FB-1000 NS, FB-3000 WT or FB-1003 SL

6. Pipe Tee Fitting System — (Optional, Not Shown) — For use with PVC pipe (Item 3A) only, One nom 6 in. (152 mm) diam (or smaller) PVC TESTRITE TEE Fitting (matched to penetrant diameter). The PVC TESTRITE TEE Fitting is secured to penetrant (Item 3A) with compression type pipe coupling elastomeric gasket with stainless steel jacket and stainless steel band clamps for use in vented (drain, waste or vent) iron pipe systems. Installed (Item 3A) penetrant shall extend a minimum of 6 in. (152 mm) above the surface of the floor and minimum 12 in. (302 mm) below the bottom surface of the floor above assembly.

*** Indicates such products shall bear the UL or cUL Certification Mark for jurisdictions employing the UL or cUL Certification (such as Canada), respectively.**

+Bearing the UL Listing Mark

Last Updated on 2016-09-12

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System No. F-B-1017 XHEZ.F-B-1017 Through-penetration Firestop Systems

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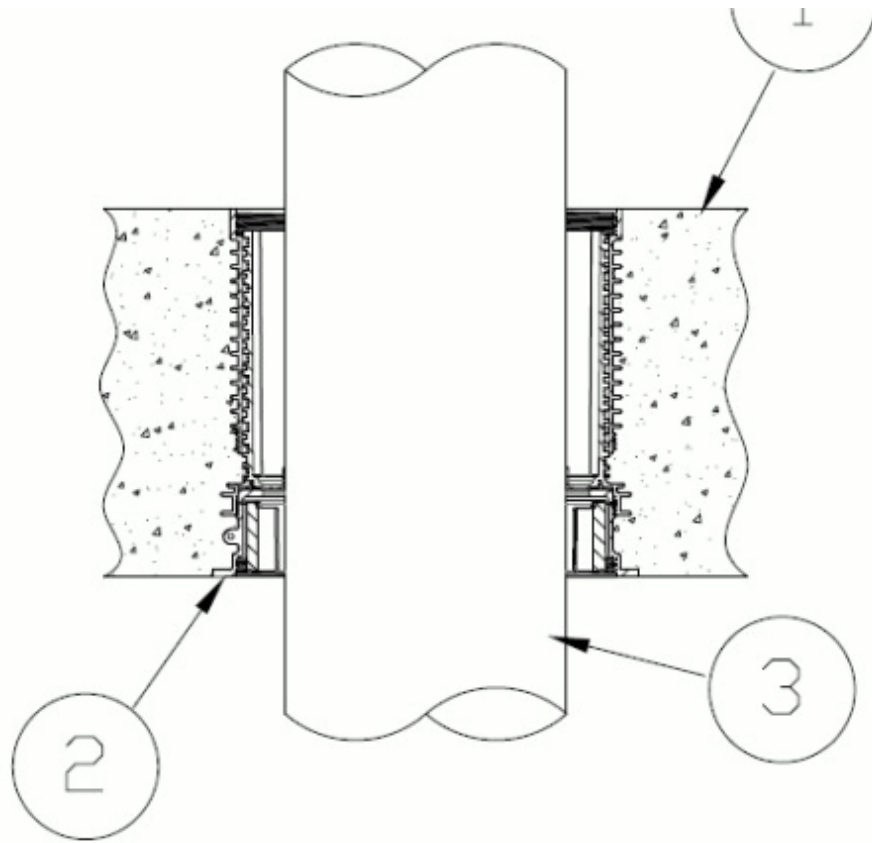
[See General Information for Through-penetration Firestop Systems](#)

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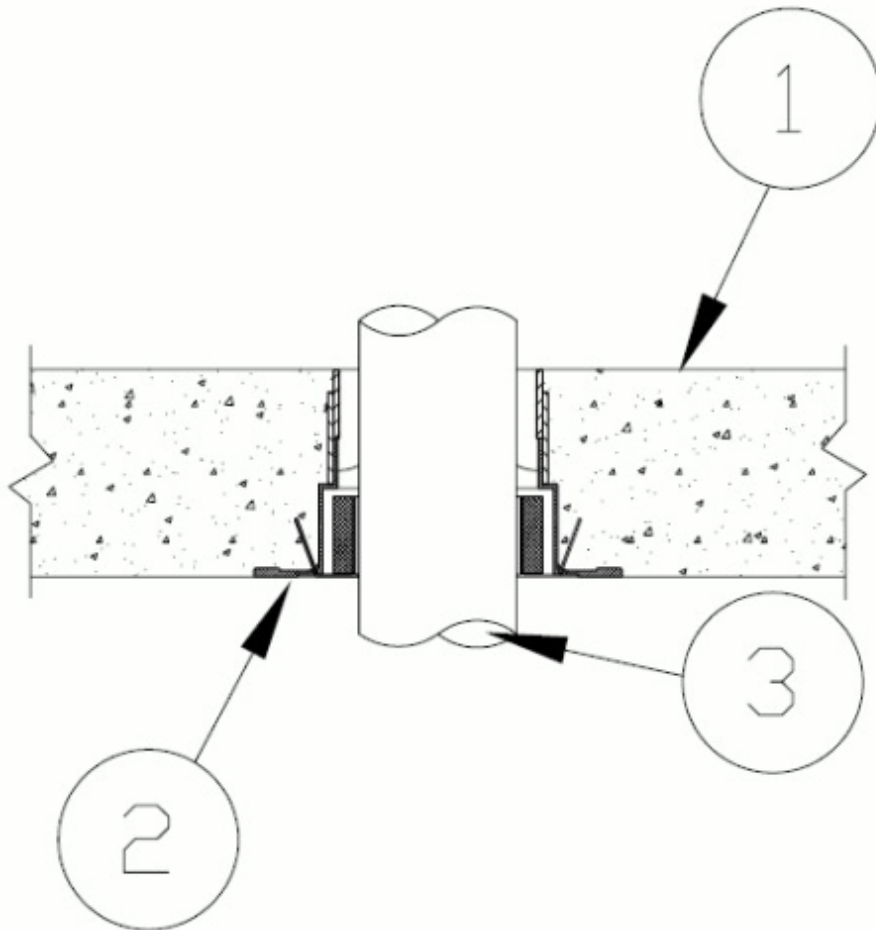
System No. F-B-1017

September 19, 2016

ANSI/UL1479 (ASTM E814)	CAN/ULC S115
F Rating — 3 Hr	F Rating — 3 Hr
T Rating — 0 Hr	FT Rating — 0 Hr
L Rating At Ambient — Less Than 1 CFM/Lin Ft	FH Rating — 3 Hr
L Rating At 400°F — Less Than 1 CFM/Lin Ft	FTH Rating — 0 Hr
W Rating — Class 1 (See Item 5)	L Rating At Ambient — Less Than 5.1L/s-m ²
	L Rating At 400°F — Less Than 5.1L/s-m ²



Configuration A



Configuration B

kg/m³) concrete measured above the base of the device.

2. **Firestop Device*** — Cast in place firestop device permanently embedded during concrete placement in accordance with accompanying installation instructions. The device shall be installed flush with top and bottom surfaces of floor. The devices are sized to accommodate the following nom pipe sizes:

Configuration A HFP devices and optional accessories (not shown) includes sleeve extension, water module, aerator adapter and/or Water dam installed in accordance with installation instructions.

Configuration B devices, optional accessory (not shown) aerator adapter installed in accordance with the installation instructions.

The devices are sized to accommodate the following nom pipe sizes:

Nom Pipe Diam in. (mm)	Conf A Firestop Devices for Concrete Slab	Conf B Firestop Devices for Concrete Slab
1/2 to 1 (13 to 25)	HFP-M1, HFP-M1B, HFP-P1, HFP-P1B	WD-PL-0100, OPS-PL-0100, OPS-MT-0100
1-1/4 to 2 (32 to 51)	HF-M2, HFP-M2B, HFP-P2, HFP-P2B	WD-PL-0200, OPS-PL-0200, OPS-MT-0200
2 to 3 (51 to 76)	HFP-M3, HFP-M3B, HFP-P3, HFP-P3B	WD-PL-0300, OPS-PL-0300, OPS-MT-0300
3 to 4 (76 to 102)	HFP-M4, HFP-M4B, HFP-P4, HFP-P4B	WD-PL-0400, OPS-PL-0400, OPS-MT-0400
5 to 6 (127 to 152)	HFP-M6, HFP-M6B, HFP-P6, HFP-P6B	WD-PL-0600, OPS-PL-0600, OPS-MT-0600

SECURUS INC, DBA HOLDRITE — HydroFlame OPS-MT, OPS-PL, WD-PL, HFP-Mx, HFP-MxB, HFP-Px HFP-PxB

3. **Through Penetrant** — One metallic pipe, conduit or tubing to be installed within the firestop device. Pipe, conduit or tubing to be installed in accordance with firestop device installation instructions and rigidly supported on both sides of floor assembly. The following types of pipe, conduit or tubing 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) rigid steel conduit or nom 4 in. (102 mm) diam steel electrical metallic tubing.
- D. **Copper Tubing** — Nom 6 in. (152 mm) diam (or smaller) Type L (or heavier) copper tubing.
- E. **Copper Pipe** — Nom 6 in. (152 mm) diam (or smaller) Regular (or heavier) copper pipe.

4. **Packing Material** — (Optional, Not Shown) — Min 2 in. (51 mm) depth of min 4 pcf (64 kg/m³) mineral wool batt insulation tightly-packed into annular space between penetrant and device with its top surface flush with the top surface of the floor. When optional sealant (Item 5) is used, top surface of packing material to be recessed min 1/4 in. (6 mm) from top surface of floor. W Rating applies only when packing material and sealant (Item 5) is used.

4A. **Packing Material** — (Optional instead of 4, Not Shown) — Foam backer rod firmly packed into opening as a permanent form. Packing material to be recessed from top surface of floor as required to accommodate the required thickness of fill material.

5. **Fill, Void or Cavity Material* — Sealant** — (Optional, Not Shown) — Min 1/4 in. (6 mm) thickness of sealant applied within the annulus, flush with the top surface of floor. Conf B (Only), Sealant to lap min 1/2 in. (13 mm) onto top surface of concrete around perimeter of firestop device. As an alternate 100% silicone sealant can be used.

For Configuration B, W Rating and L Ratings apply only when packing material (Item 4) and sealant (Item 5) is used.

3M COMPANY 3M FIRE PROTECTION PRODUCTS — FB-1000 NS, FB-3000 WT or FB-1003 SL

RECTORSEAL — Metacaulk 835+ or Biotherm 100 or 200

6. **Pipe Tee Fitting System** — (Optional, Not Shown) — For use with Iron Pipe (Item 3B) only, One nom 6 in. (152 mm) diam (or smaller) PVC TESTRITE TEE Fitting (matched to penetrant diameter). The PVC TESTRITE TEE Fitting is secured to metallic penetrant (Item 3B) with compression type pipe coupling elastomeric gasket with stainless steel

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Last Updated on 2016-09-19

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System No. F-A-5043 XHEZ.F-A-5043 Through-penetration Firestop Systems

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XHEZ7 - Through-penetration Firestop Systems Certified for Canada

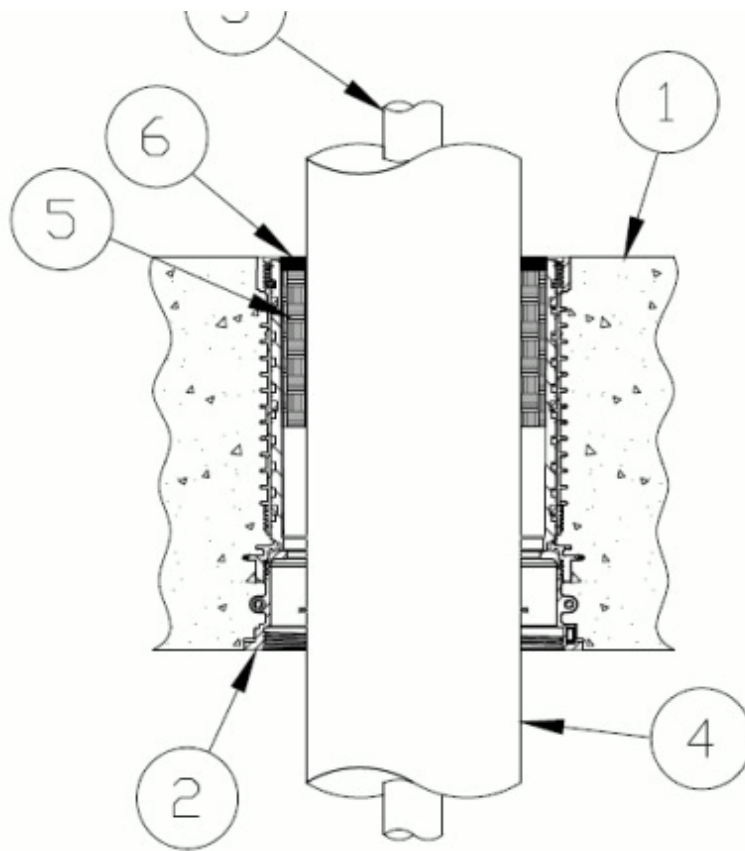
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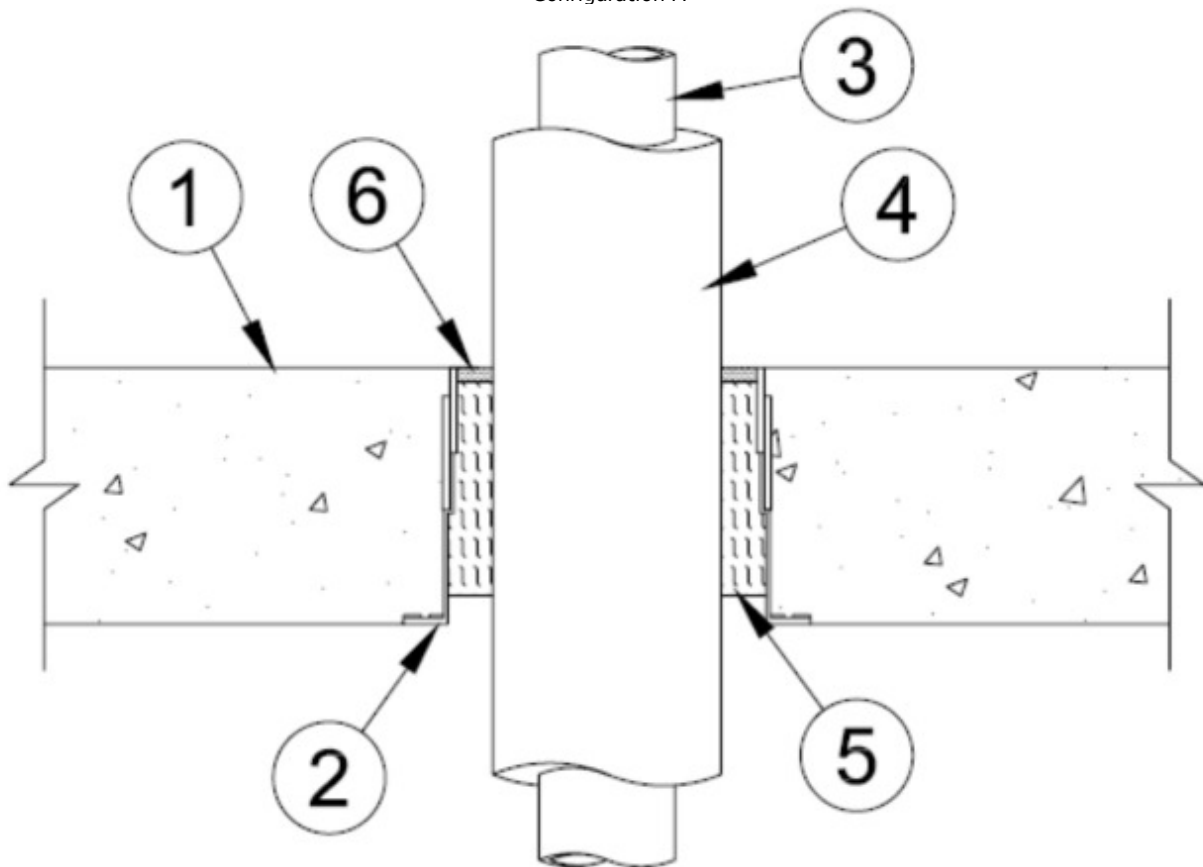
System No. F-A-5043

September 16, 2016

ANSI/UL1479 (ASTM E814)	CAN/ULC S115
F Ratings — 2 or 3 Hr (See Items 1 and 2)	F Ratings — 2 or 3 Hr (See Items 1 and 2)
T Ratings — 1-1/4 or 1-1/2 Hr (See Item 2)	FT Ratings — 1-1/4 or 1-1/2 Hr (See Item 2)
L Rating At Ambient — Less Than 1 CFM/ft ²	FH Ratings — 2 or 3 Hr (See Items 1 and 2)
L Rating At 400 F — Less Than 1 CFM/ft ²	FTH Ratings — 1-1/4 or 1-1/2 Hr
W Rating — Class 1 (see Item 4)	L Rating At Ambient — Less Than 5.1 L/s/m ²
	L Rating At 400 F — Less Than 5.1 L/s/m ²



Configuration A



Configuration B

1. **Floor Assembly** — Min 4-1/2 in. (114 mm) thick reinforced lightweight or normal weight (100-150 pcf or 1600-2400 kg/m³) concrete.

1A. **Alternate Floor Assembly** — (Not Shown) — The fire rated unprotected concrete and steel deck floor assembly shall be constructed of the material and in the manner specified in the individual D900 Series designs in the UL Fire Resistance Directory and as summarized below:

A. **Concrete** — Min 2-1/2 in. (64 mm) thick reinforced lightweight or normal weight (100-150 pcf or 1600-2400 kg/m³) concrete, as measured from the top plane of the steel floor units.

B. **Steel Floor and Form Units*** — Composite or non-composite max 3 in. (76 mm) deep galv steel fluted units as specified in the individual Floor-Ceiling Design.

2. **Firestop Device* — Sleeve** — Max 8 in. (203 mm) diam WD sleeve or Max 6 in. (152 mm) HFP Series cast in place firestop device permanently embedded during concrete placement in accordance with accompanying installation instructions. For HFP devices the optional accessories (not shown) includes a sleeve extension, deck adapter and/or water dam installed in accordance with installation instructions. The device shall be installed flush with top and bottom surfaces of floor. The devices are sized to accommodate the following nom pipe sizes:

Nom Pipe Diam in. (mm) with (Item 4 below) Insulation Thickness will determine which device size to use.	Firestop Devices for Concrete Slab	Firestop Devices for Fluted Deck (Not Shown)
1/2 to 1 (13 to 25)	HFP-P1, HFP-M1, HFP-H2, HFP-P1B, HFP-M1B, HFP-H2B	add HFPCD1
1-1/4 to 2 (32 to 51)	HFP-P2, HFP-M2, HFP-H3, HFP-P2B, HFP-M2B, HFP-H3B	add HFPCD2
2 to 3 (51 to 76)	HFP-P3, HFP-M3, HFP-H4, HFP-P3B, HFP-M3B, HFP-H4B	add HFPCD3
3 to 4 (76 to 102)	HFP-P4, HFP-M4, HFP-H5, HFP-P4B, HFP-M4B, HFP-H5B	add HFPCD4
	HFP-P6, HFP-P6B, HFP-M6, HFP-M6B, HFP-H7, HFP-H7B	add HFPCD6

HFP Series devices do not require the use of Packing material (Item 5) or Sealant (Item 6) when sized according to manufacturer's instructions.

SECURUS INC, DBA HOLDRITE — HFP-Px, HFP-Hx, HFP-PxB, HFP-HxB, HFP-Mx and HFP-MxB

F Rating is limited to 2 hour when HFP-H series devices are used in Config A & all other HFP series devices hav a 3 hour F Rating and a 1-1/4 T Rating.

Configuration B

Note: F rating is limited to 2 hours when configuration B is used.

1. **Floor Assembly** — Min 4-1/2 in. (114 mm) thick reinforced lightweight or normal weight (100-150 pcf or 1600-2400 kg/m³) concrete.

1A. **Alternate Floor Assembly** — (Not Shown) — The fire rated unprotected concrete and steel deck floor assembly shall be constructed of the material and in the manner specified in the individual D900 Series designs in the UL Fire Resistance Directory and as summarized below:

A. **Concrete** — Min 4-1/2 in. (64 mm) thick reinforced lightweight or normal weight (100-150 pcf or 1600-2400 kg/m³) concrete, as measured from the top plane of the steel floor units.

B. **Steel Floor and Form Units*** — Composite or non-composite max 3 in. (76 mm) deep galv steel fluted units as specified in the individual Floor-Ceiling Design.

2. **Firestop Device* — Sleeve** — Max 8 in. (203 mm) diam cast in place firestop device permanently embedded during concrete placement in accordance with accompanying installation instructions. The device shall be installed flush with top and bottom surfaces of floor. The devices are sized to accommodate the nom pipe sizes:

SECURUS INC, DBA HOLDRITE — HydroFlame WD, CD Sleeve

3. **Through-Penetrant** — One metallic pipe or tubing to be centered within the firestop system. Pipe or tubing to be rigidly supported on both sides of floor assembly. The following types of pipe or tubing may be used:

- A. **Steel Pipe** — Nom 4 in. (102 mm) diam (or smaller) Schedule 10 (or heavier) steel pipe.
- B. **Copper Tubing** — Nom 4 in. (102 mm) diam (or smaller) Type M (or heavier) copper tubing.
- C. **Copper Pipe** — Nom 4 in. (102) diam (or smaller) Regular (or heavy) copper pipe.
- D. **Iron Pipe** — Nom 4 in. (152 mm) diam (or smaller) cast or ductile iron pipe.

4. **Pipe Covering*** — Max 1-1/2 in. (38 mm) thick hollow cylindrical heavy density mineral fiber units with an all service jacket. Longitudinal joints sealed with metal fasteners or factory-applied self-sealing lap tape. Transverse joints secured with metal fasteners or with butt tape supplied with the product. A min annular space of 1/2 in. (13 mm) is required within the firestop system.

See **Pipe and Equipment Covering — Materials** (BRGU) category in the Building Materials Directory for names of manufacturers. Any pipe covering meeting the above specifications and bearing the UL Classification Marking with a Flame Spread Index of 25 or less and a Smoke Developed Index of 50 or less may be used.

Note: L and W Rating only apply when pipe covering is 1/2 in. (13 mm) or less.

5. **Packing Material** — Min 3-3/4 in. (95 mm) thickness of min 4 pcf (64 kg/m³) mineral wool batt insulation firmly packed into opening as a permanent form so that the width of the wool is compressed at least 50 percent. Packing material to be recessed from top surface of floor as required to accommodate the required thickness of fill material. **Packing material is optional for HFP-Px, HFP-PxB, HFP-Mx, HFP-MxB series devices (See Item 2).**

6. **Fill, Void or Cavity Material* — Sealant** — Min 1/4 in. (6 mm) thickness of sealant applied within the annulus, flush with the top surface of floor. When pipe covering (Item 4) thickness is greater than 1 in. (25 mm), the min thickness of sealant applied within the annulus shall be 1/2 in. (13 mm). **Sealant is optional for HFP-Px, HFP-PxB, HFP-Mx, HFP-MxB series devices (See Item 2).**

3M COMPANY 3M FIRE PROTECTION PRODUCTS — FB-1000NS, FB-1003SL, FB-3000 WT

RECTORSEAL — Metacaulk 835+ or Biotherm 100 or 200

*** Indicates such products shall bear the UL or cUL Certification Mark for jurisdictions employing the UL or cUL Certification (such as Canada), respectively.**

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System No. F-A-2221 XHEZ.F-A-2221 Through-penetration Firestop Systems

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- Fire resistance assemblies and products are developed by the design submitter and have been investigated by UL for compliance with applicable requirements. The published information cannot always address every construction nuance encountered in the field.
- When field issues arise, it is recommended the first contact for assistance be the technical service staff provided by the product manufacturer noted for the design. Users of fire resistance assemblies are advised to consult the general Guide Information for each product category and each group of assemblies. The Guide Information includes specifics concerning alternate materials and alternate methods of construction.
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XHEZ - Through-penetration Firestop Systems

XHEZ7 - Through-penetration Firestop Systems Certified for Canada

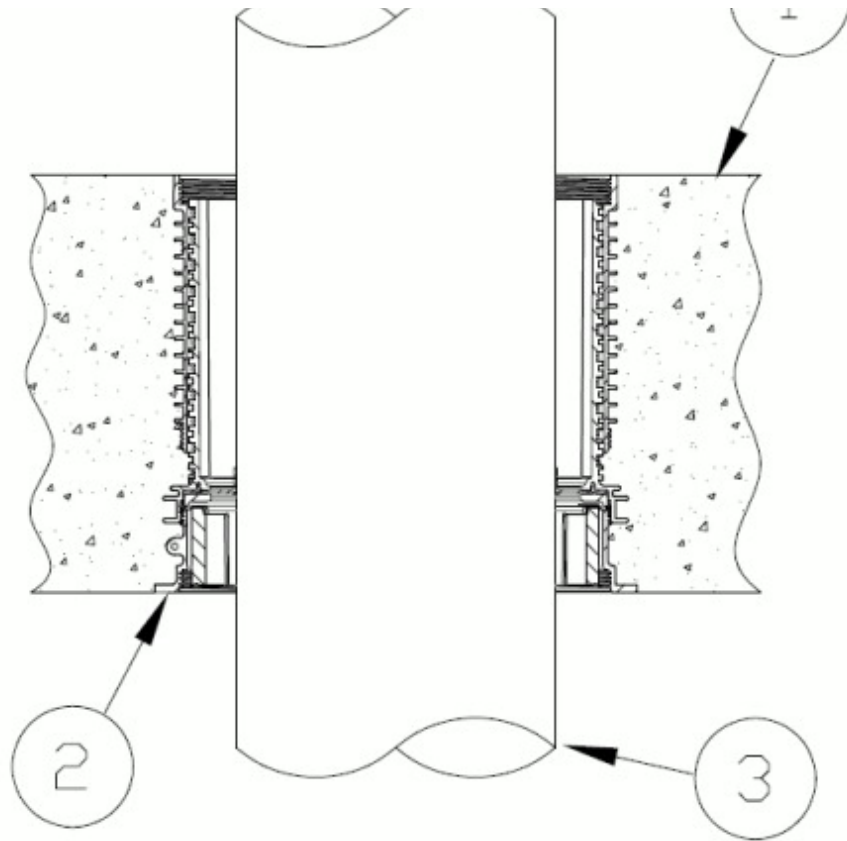
[See General Information for Through-penetration Firestop Systems](#)

[See General Information for Through-penetration Firestop Systems Certified for Canada](#)

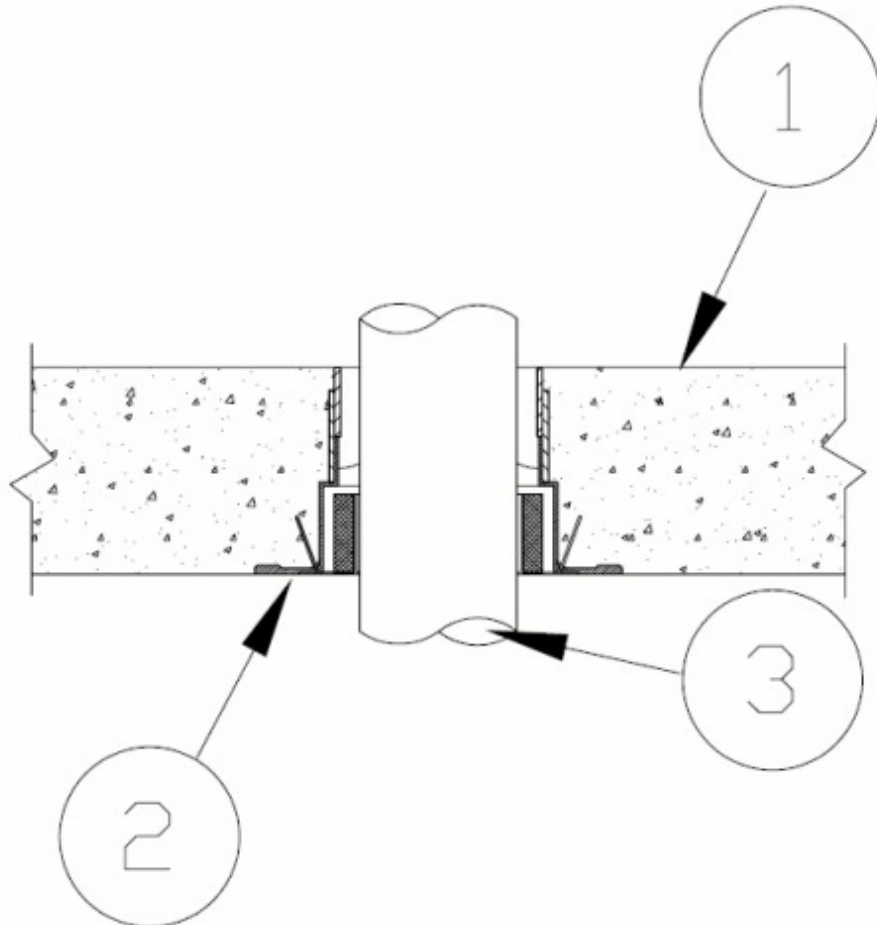
System No. F-A-2221

September 12, 2016

ANSI/UL1479 (ASTM E814)	CAN/ULC S115
F Ratings — 2 and 3 Hr (See Item 3)	F Ratings — 2 and 3 Hr (See Item 3)
T Ratings — 0 and 3 Hr (See Item 3)	FT Ratings — 0 and 3 Hr (See Item 3)
L Rating At Ambient — Less Than 1 CFM/sq ft	FH Ratings — 2 and 3 Hr (See Item 3)
L Rating At 400 F — Less Than 1 CFM/sq ft	FTH Ratings — 0 and 3 Hr (See Item 3)
W Rating — Class 1 (See Item 5)	L Rating At Ambient — Less Than 1 CFM/sq ft
	L Rating At 400 F — Less Than 1 CFM/sq ft



Configuration A



Configuration B

and in the manner specified in the individual D900 Series designs in the UL Fire Resistance Directory and as summarized below:

A. **Concrete** — Min 2-1/2 in. (64 mm) thick reinforced lightweight or normal weight (100-150 pcf or 1600-2400 kg/m³) concrete topping, as measured over crests of fluted floor units and over top of device base.

B. **Steel Floor and Form Units*** — Composite or noncomposite nom 3 in. (76 mm) deep fluted galv units as specified in the individual Floor-Ceiling design. Diam of opening cut through fluted floor unit to be maximum 1/4 in. (6 mm) larger than outside diameter of bottom extension portion of firestop device base.

1A. **Floor Assembly** — (As an alternate to item 1) — Min 2-1/2 in. (64 mm) thick reinforced lightweight or normal weight (100-150 pcf or 1600-2400 kg/m³) concrete measured over top of device base.

2. **Firestop Device*** — Cast in place firestop device permanently embedded during concrete placement in accordance with accompanying installation instructions. The device shall be installed flush with top and bottom surfaces of floor. For Conf A HFP devices and optional accessories (not shown) includes sleeve extension, water module, aerator adapter, deck adapter and/or water dam installed in accordance with installation instructions. For Conf B devices, optional accessory (not shown) includes aerator adapter installed in accordance with the installation instructions. The devices are sized to accommodate the following nom pipe sizes:

Nom Pipe Diam in. (mm)	Conf A Firestop Devices Concrete Slab	Conf A Firestop Devices Concrete Fluted Deck (Not Shown)	Conf B Firestop Devices Concrete Slab	Conf B Firestop Devices Concrete Fluted Deck (Not Shown)
1/2 to 1 (13 to 25)	HFP-P1, HFP-P1B	add HFPCD1	WD-PL-0200, OPS-PL-0100	CD-PL-0200, CD-OPS-PL-0100
1-1/4 to 2 (32 to 51)	HFP-P2, HFP-P2B	add HFPCD2	WD-PL-0300, OPS-PL-0200	CD-PL-0300, CD-OPS-PL-0200
2 to 3 (51 to 76)	HFP-P3, HFP-P3B	add HFPCD3	WD-PL-0400, OPS-PL-0300	CD-PL-0400, CD-OPS-PL-0300
3 to 4 (76 to 102)	HFP-P4, HFP-P4B	add HFPCD4	WD-PL-0500, OPS-PL-0400	CD-PL-0500, CD-OPS-PL-0400
5 to 6 (127 to 152)	HFP-P6, HFP-P6B	add HFPCD6-DC	WD-PL-0800, OPS-PL-0600	CD-PL-0800, CD-OPS-PL-0600

SECURUS INC, DBA HOLDRITE — HydroFlame CD-PL, HydroFlame CD-OPS-PL,WD-PL, OPS-PL, HydroFlame HFP-Px and HFP-PxB

3. **Through Penetrant** — One nonmetallic pipe or conduit to be installed within the firestop device. Pipe or conduit to be installed in accordance with firestop device installation instructions and rigidly supported on both sides of floor assembly. The following types of pipe, conduit or tubing may be used:

A. **Polyvinyl Chloride (PVC) Pipe** — Nom 6 in. (152 mm) diam (or smaller) Schedule 40 solid or cellular core PVC pipe for use in closed (process or supply) or vented (drain, waste or vent) piping systems. **When nom 5 in. or 6 in. (127 to 152 mm) diam PVC pipe is used, F Rating is 2 hr (HFP devices only, F rating is 3 hr) and T Rating is 0. When max 4 in. (102 mm) diam PVC pipe is used, F Rating is 3 hr and T Rating is 3 hr.**

B. **Rigid Nonmetallic Conduit+** — Nom 6 in. (152 mm) diam (or smaller) Schedule 40 PVC conduit installed in accordance with the National Electrical Code (NFPA No. 70). **When nom 5 in. or 6 in. (127 or 152 mm) diam PVC conduit is used, F Rating is 2 hr (HFP devices only, F Rating is 3 hr) and T Rating is 0 hr. When max 4 in. (102 mm) diam PVC conduit is used, F Rating is 3 hr and T Rating is 3 hr.**

C. **Chlorinated Polyvinyl Chloride (CPVC) Pipe** — Nom 6 in. (152 mm) diam (or smaller) SDR 13.5 (or heavier) or Schedule 40 CPVC pipe for use in closed (process or supply) piping systems. **When nom 5 in. or 6 in. (127 or 152 mm) diam CPVC pipe is used, F Rating is 2 hr (HFP devices only, F Rating is 3 hr) and T Rating is 0 hr. When max 4 in. (102 mm) diam CPVC pipe is used, F Rating is 3 hr and T Rating is 3 hr.**

D. **Acrylonitrile Butadiene Styrene (ABS) Pipe** — Nom 4 in. (102 mm) diam (or smaller) Schedule 40 solid or cellular core ABS pipe for use in closed (process or supply) or vented (drain, waste or vent) piping systems. **When max 4 in. (102 mm) diam ABS pipe is used, F Rating is 3 hr and T Rating is 3 hr.**

F. Polypropylene (PP) Pipe (for use with HFP series devices only) — Nom 3 in. (76 mm) diam (or smaller) Aquatherm SDR 7.4 or 11 PP pipe for use in closed (process or supply) piping systems. **When max 3 in. (76 mm) diam AquaTherm PP pipe is used, F Rating is 3 hr and T Rating is 3 hr.**

4. Packing Material — (Optional, Not Shown) — Min 2 in. (51 mm) depth of min 4 pcf (64 kg/m³) mineral wool batt insulation tightly-packed into annular space with its top surface flush with the top surface of the floor. When optional sealant (Item 5) is used, top surface of packing material to be recessed min 1/4 in. (6 mm) from top surface of floor.

4A. Packing Material — (Optional instead of 4, Not Shown) — Foam backer rod firmly packed into opening as a permanent form. Packing material to be recessed from top surface of floor as required to accommodate the required thickness of fill material.

5. Fill, Void or Cavity Material* — Sealant — (Optional, Not Shown) — Min 1/4 in. (6 mm) thickness of sealant applied within the annulus, flush with the top surface of floor. Conf B (Only), Sealant to lap min 1/2 in. (13 mm) onto top surface of concrete around perimeter of firestop device. As an alternate 100% silicone sealant can be used. **W Rating applies only when sealant is used.**

3M COMPANY 3M FIRE PROTECTION PRODUCTS — FB-1000 NS, FB-3000 WT or FB-1003 SL

RECTORSEAL — Metacaulk 835+ or Biotherm 100 or 200

*** Indicates such products shall bear the UL or cUL Certification Mark for jurisdictions employing the UL or cUL Certification (such as Canada), respectively.**

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System No. F-A-1133 XHEZ.F-A-1133 Through-penetration Firestop Systems

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- Authorities Having Jurisdiction should be consulted before construction.
- Fire resistance assemblies and products are developed by the design submitter and have been investigated by UL for compliance with applicable requirements. The published information cannot always address every construction nuance encountered in the field.
- When field issues arise, it is recommended the first contact for assistance be the technical service staff provided by the product manufacturer noted for the design. Users of fire resistance assemblies are advised to consult the general Guide Information for each product category and each group of assemblies. The Guide Information includes specifics concerning alternate materials and alternate methods of construction.
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XHEZ - Through-penetration Firestop Systems

XHEZ7 - Through-penetration Firestop Systems Certified for Canada

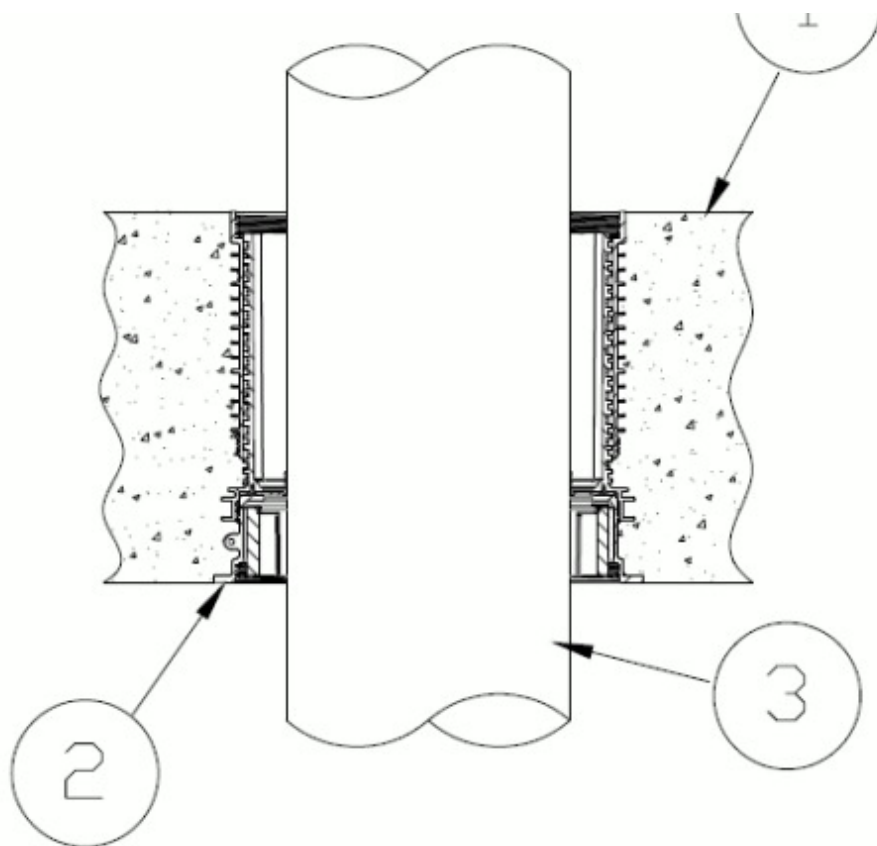
[See General Information for Through-penetration Firestop Systems](#)

[See General Information for Through-penetration Firestop Systems Certified for Canada](#)

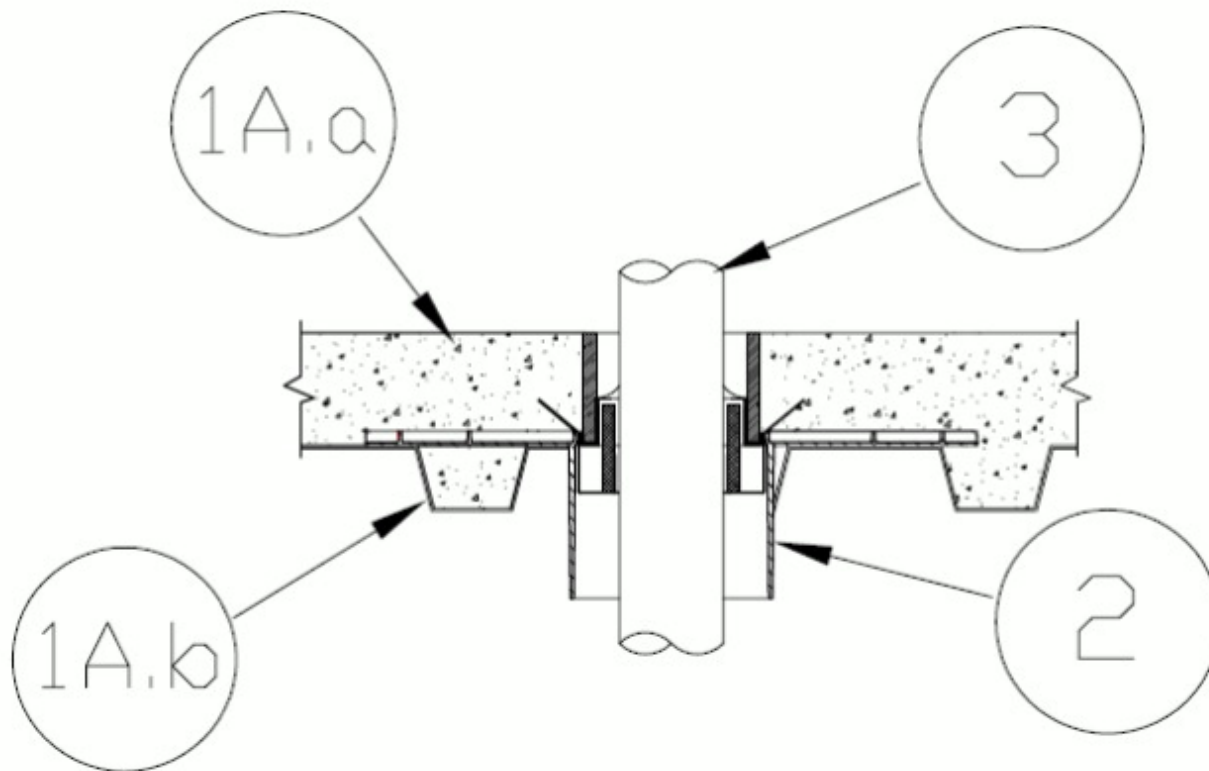
System No. F-A-1133

September 12, 2016

ANSI/UL1479 (ASTM E814)	CAN/ULC S115
F Ratings — 2 and 3 Hr (See Item 6)	F Ratings — 2 and 3 Hr (See Item 6)
T Rating — 0 Hr	FT Rating — 0 Hr
L Rating At Ambient — Less Than 1 CFM/sq ft	FH Rating — 3 Hr
L Rating At 400 F — Less Than 1 CFM/sq ft	FTH Rating — 0 Hr
W Rating — Class 1 (See Item 5)	L Rating At Ambient — Less Than 1 CFM/sq ft
	L Rating At 400 F — Less Than 1 CFM/sq ft



Configuration A



Configuration B

System tested with a pressure differential of 2.5 Pa between the exposed and the unexposed surfaces with the higher pressure on the exposed side.

1. Floor Assembly — The fire-rated concrete and fluted steel deck floor assembly shall be constructed of the materials and in the manner specified in the individual D900 Series designs in the UL Fire Resistance Directory and as

over top of device base.

B. Steel Floor and Form Units* — Composite or noncomposite nom 3 in. (76 mm) deep fluted galv units as specified in the individual Floor-Ceiling design. Diam of opening cut through fluted floor unit to be maximum 1/4 in. (6 mm) larger than outside diameter of bottom extension portion of firestop device base.

1A. Floor Assembly — Min 4-1/2 in. (114 mm) thick reinforced lightweight or normal weight 100-150 pcf (1600-2400 kg/m³) concrete. Measured over the top of the device base.

Configuration A

2. Firestop Device* — Cast in place firestop device permanently embedded during concrete placement in accordance with accompanying installation instructions. The device shall be installed flush with top and bottom surfaces of floor. A HFP devices and optional accessories (not shown) includes sleeve extension, water module, deck adapter, aerator adapter and/or water dam installed in accordance with installation instructions. The devices are sized to accommodate the following nom pipe sizes:

Nom Pipe Diam in. (mm)	Firestop Devices for Concrete Slab	Firestop Devices for Fluted Deck (Not Shown)
1/2 to 1 (13 to 25)	HFP-M1, HFP-M1B, HFP-P1, HFP-P1B	add HFPCD1
1-1/4 to 2 (32 to 51)	HF-M2, HFP-M2B, HFP-P2, HFP-P2B	add HFPCD2
2 to 3 (51 to 76)	HFP-M3, HFP-M3B, HFP-P3, HFP-P3B	add HFPCD3
3 to 4 (76 to 102)	HFP-M4, HFP-M4B, HFP-P4, HFP-P4B	add HFPCD4
5 to 6 (127 to 152)	HFP-M6, HFP-M6B, HFP-P6, HFP-P6B	add HFPCD6

SECURUS INC, DBA HOLDRITE — HydroFlame HFP-Mx, HFP-MxB, HFP-Px HFP-PxB

Configuration B

2. Firestop Device* — Cast in place firestop device permanently embedded during concrete placement in accordance with accompanying installation instructions. The device shall be installed flush with top and bottom surfaces of floor. Optional accessory (not shown) aerator adapter installed in accordance with the installation instructions. The devices are sized to accommodate the following nom pipe sizes

Nom Pipe Diam in. (mm)	Firestop Devices for Concrete Slab	Firestop Devices for Fluted Deck (Not Shown)
1/2 to 1 (13 to 25)	CD-PL-0100, CD-OPS-PL-0100, CD-OPS-MT-0100	WD-PL-0100, OPS-PL-0100, OPS-MT-0100
1-1/4 to 2 (32 to 51)	CD-PL-0200, CD-OPS-PL-0200, CD-OPS-MT-0200	WD-PL-0200, OPS-PL-0200, OPS-MT-0200
2 to 3 (51 to 76)	CD-PL-0300, CD-OPS-PL-0300, CD-OPS-MT-0300	WD-PL-0300, OPS-PL-0300, OPS-MT-0300
3 to 4 (76 to 102)	CD-PL-0400, CD-OPS-PL-0400, CD-OPS-MT-0400	WD-PL-0400, OPS-PL-0400, OPS-MT-0400
5 to 6 (127 to 152)	CD-PL-0600, CD-OPS-PL-0600, CD-OPS-MT-0600	WD-PL-0600, OPS-PL-0600, OPS-MT-0600

SECURUS INC, DBA HOLDRITE — HydroFlame CD-OPS-MT, CD-PL, CD-OPS-PL,WD-PL, OPS-PL, OPS-MT

3. Through Penetrant — One metallic pipe, conduit or tubing to be installed within the firestop device. Pipe, conduit or tubing to be installed in accordance with firestop device installation instructions and rigidly supported on both sides of floor assembly. The following types of pipe, conduit or tubing 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) rigid steel conduit or nom 4 in. (102 mm) diam steel electrical metallic tubing.

4. Packing Material — (Optional, Not Shown) — Min 2 in. (51 mm) depth of min 4 pcf (64 kg/m³) mineral wool batt insulation tightly-packed into annular space between penetrant and device, flush with the top surface of the floor. When optional sealant (Item 5) is used, top surface of packing material to be recessed min 1/4 in. (6 mm) from top surface of floor.

4A. Packing Material — (Optional instead of 4, Not Shown) — Foam backer rod firmly packed into opening as a permanent form. Packing material to be recessed from top surface of floor as required to accommodate the required thickness of fill material.

5. Fill, Void or Cavity Material* — Sealant — (Optional, Not Shown) — Min 1/4 in. (6 mm) thickness of sealant applied within the annulus, flush with the top surface of floor. Conf B (Only), Sealant to lap min 1/2 in. (13 mm) onto top surface of concrete around perimeter of firestop device. As an alternate 100% silicone sealant can be used.

For Configuration B, The L Rating and W Rating applies only when packing material (Item 4) and sealant (Item 5) is used.

3M COMPANY 3M FIRE PROTECTION PRODUCTS — FB-1000 NS, FB-3000 WT or FB-1003 SL

RECTORSEAL — Metacaulk 835+ or Biotherm 100 or 200

6. Pipe Tee Fitting System — (Optional, Not Shown) — For use with Iron Pipe (Item 3B) only, One nom 6 in. (152 mm) diam (or smaller) PVC TESTRITE TEE Fitting (matched to penetrant diameter). The PVC TESTRITE TEE Fitting is secured to metallic penetrant (Item 3B) with compression type pipe coupling elastomeric gasket with stainless steel jacket and stainless steel band clamps for use in vented (drain, waste or vent) iron pipe systems. Installed (Item 3B) penetrant shall extend a minimum of 6 in. (152 mm) above the surface of the floor and minimum 12 in. (302 mm) below the bottom surface of the floor above assembly.

When Item 6 is used within 24 in. (610 mm) of the device (Item 2) the F rating is limited to 2 Hours.

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