

XHEZ.F-A-8034 - THROUGH-PENETRATION FIRESTOP SYSTEMS

Design/System/Construction/Assembly Usage Disclaimer

- 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.
- 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.
- Only products which bear UL's Mark are considered Certified.

XHEZ - Through-penetration Firestop Systems

XHEZ7 - Through-penetration Firestop Systems Certified for Canada

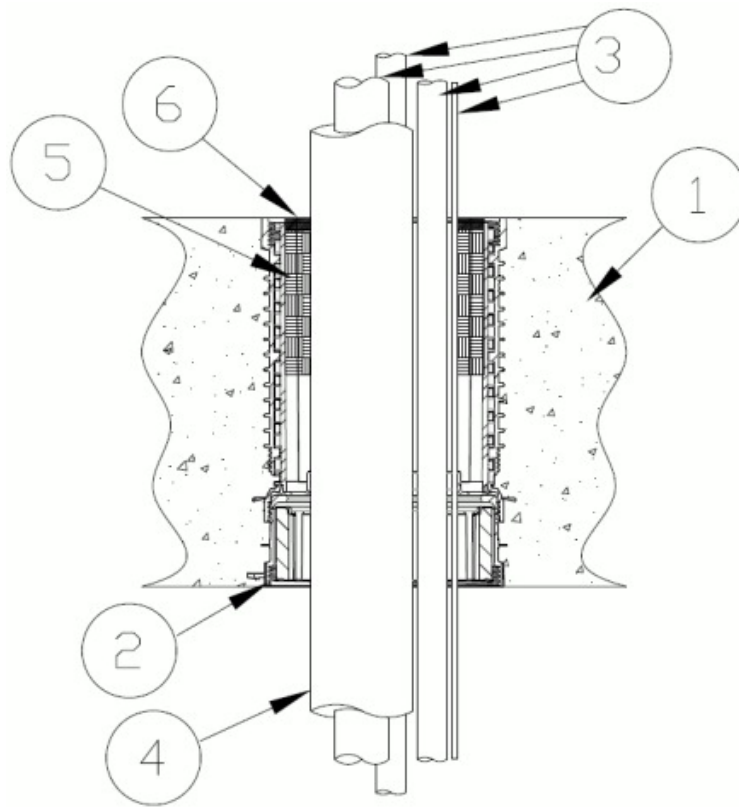
See General Information for Through-penetration Firestop Systems

See General Information for Through-penetration Firestop Systems Certified for Canada

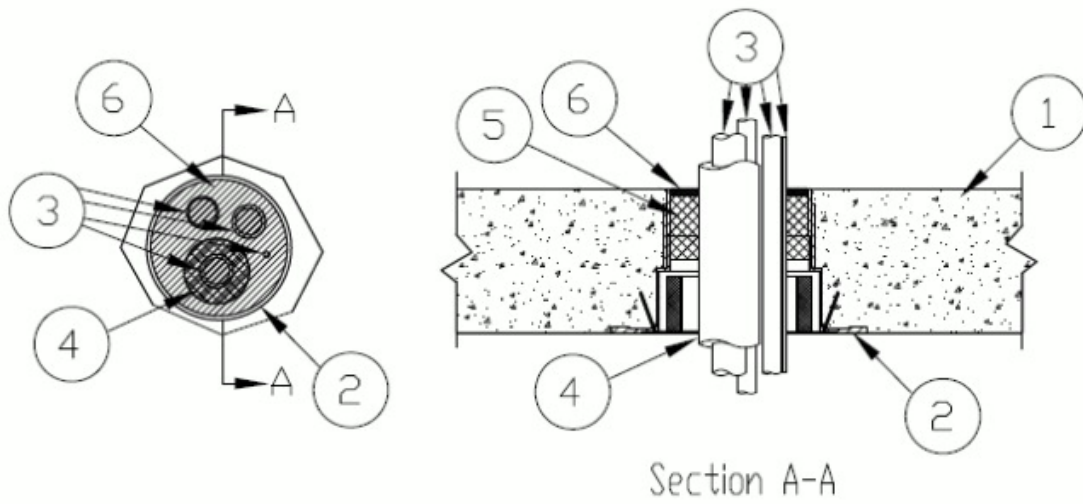
System No. F-A-8034

April 30, 2019

ANSI/UL1479 (ASTM E814)	CAN/ULC S115
F Rating — 3 Hr	F Rating — 3 Hr
T Rating — 1/4 Hr	FT Rating — 1/4 Hr
L Rating At Ambient — Less Than 1 CFM/ft ²	FH Rating — 3 Hr
L Rating At 400 F — Less Than 1 CFM/ft ²	FTH Rating — 1/4 Hr
W Rating — Class 1 (See Item 3)	L Rating At Ambient — Less Than 5.1 L/s/m ²
	L Rating At 204°C — Less Than 5.1 L/s/m ²

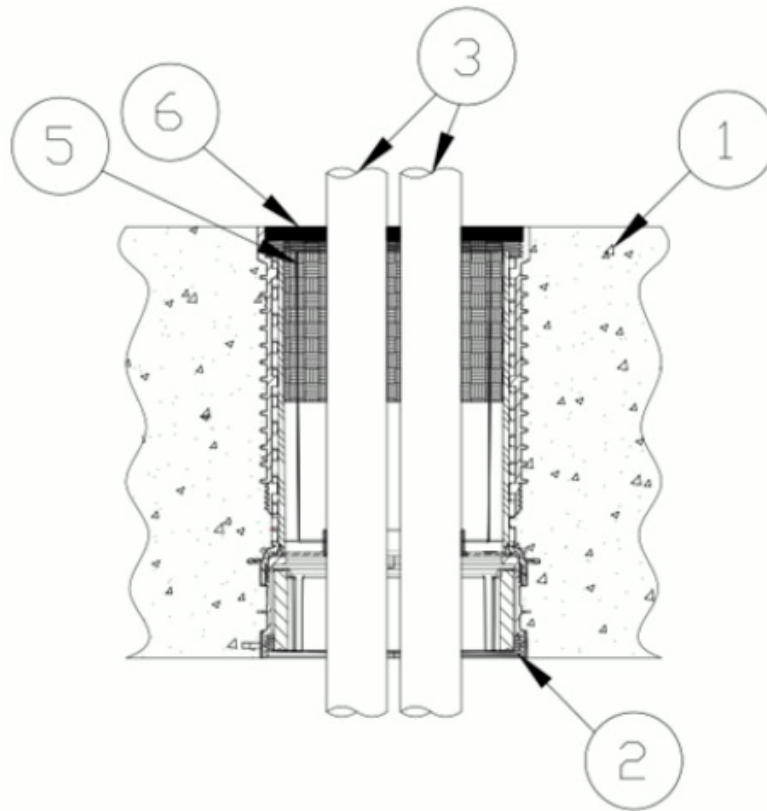


Configuration A



Section A-A

Configuration B



Configuration C

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** — 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. (114 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. When concrete thickness is min 4-1/2 in. (114 mm), the F and FH Ratings are 3 hr.

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.

Configurations A and B

2. **Firestop Device*** — Cast in place firestop device permanently embedded during concrete placement or grouted in concrete assembly in accordance with accompanying installation instructions. For HFP devices in configuration A the optional accessories (not shown) includes a sleeve extension and deck adapter, installed in accordance with manufactures instructions.

Conf A Firestop Devices for Concrete Slab	Conf B Firestop Devices for Concrete Slab	Conf B Firestop Devices for Fluted Deck (Not Shown)	Conf A Firestop Devices for Fluted Deck (Not Shown)
HFP-LSP3, HFP-LSP3B, HFP-P3, HFP-P3B, HFP-H3, HFP-H3B	PS-LS-0300, OPS-PL-0300, WD-PL-0400, WD Sleeve	CD-LS-0300, CD-OPS-PL-0300, CD-PL-0400, CD Sleeve	add HFPCD3

HOLDRITE — HydroFlame PS-LS, CD-LS HFP-LS3, OPS-PL, CD-OPS, WD-PL, CD-PL, WD, CD, HFP-LS3B, HFP-P3, HFP-P3B, HFP-H3, HFP-H3B

3. **Through Penetrants** — Pipes, tubing or cable to be bundled within the opening. **The space between penetrants and the space between the penetrants and the inside of the firestop device (Item 2) at top of floor shall be min 1/4 in. (6 mm).** Penetrants to be rigidly supported on both sides of floor assembly. The following types and sizes of penetrants may be used:

A. **Metallic Pipes** — Max four of the following types and sizes of metallic pipe or tubing may be used:

1. **Copper Tubing** — Nom 3/4 in. (19 mm) diam (or smaller) Type M (or heavier) copper tubing.

2. **Copper Pipe** — Nom 3/4 in. (19 mm) diam (or smaller) Regular (or heavier) copper pipe.

B. **Polyvinyl Chloride (PVC) Pipe** — A max of one nom 1 in. (25 mm) diam (or smaller) Schedule 40 solid core PVC pipe for use in closed (process or supply) piping systems.

C. **Cable** — One max 8/C No. 18 AWG (or smaller) thermostat cable; XLPE or PVC insulation with XLPE or PVC jacket.

D1. **Cable** — Max four total - Nom 3/4 in. (19 mm) diam (or smaller) aluminum or steel Metal Clad Cable (Type MC). W-Rating not applicable.

D2. **Cable** — Alternate to item 3D1 Max four total - 3/C No. 4/0 AWG (or smaller) copper or aluminum conductor SER or MCM cables with XLPE or PVC insulation and jacket. W-Rating not applicable.

E. **Through Penetrating Product*** — Flexible Metal Piping — As an alternate to the metal pipes (Item 3A), one nom 2 in. (51 mm) diam (or smaller) steel flexible metal piping may be installed concentrically within the firestop system. Piping to be rigidly supported on both sides of wall assembly.
OMEGA FLEX INC — Flexible metal gas piping

GASTITE, DIV OF TITFLEX — CSST or FlashShield CSST

WARD MFG L L C — Wardflex, Wardflex Max and Wardflex II

W-Rating Not applicable when Item 3D1 or 3D2 is installed.

Configuration C

2. **Firestop Device*** — Cast in place firestop device permanently embedded during concrete placement or grouted in concrete assembly in accordance with accompanying installation instructions. For HFP devices in configuration C the optional accessories (not shown) includes a sleeve extension and deck adapter, installed in accordance with manufactures instructions.

Conf C Firestop Devices for Concrete Slab	Conf C Firestop Devices for Fluted Deck (Not Shown)
HFP-P3, HFP-P3B, HFP-LS3, HFP-LS3B, HFP-H4, HFP-H4B	add HFPCD3

HOLDRITE — HydroFlame HFP-P3, HFP-P3B, HFP-LS3, HFP-LS3B, HFP-H4, HFP-H4B

3. **Through Penetrants (For use with HFP3, and HFP3B devices only)** — Max of two of the same or different pipes, tubing to be bundled within the opening. **The space between penetrants and the space between the penetrants and the inside of the firestop device (Item 2) at top of floor shall be min 1/4 in. (6 mm).** Penetrants to be rigidly supported on both sides of floor assembly. The following types and sizes of penetrants may be used:

A. **Cross-Linked Polyethylene (PEX) Tubing** — A max of two nom 1 in. (25 mm) diam (or smaller) SDR 9 PEX tubing for use in closed (process or supply) piping systems.

B. **Polyvinyl Chloride (PVC) Pipe** — A max of two nom 1 in. (25 mm) diam (or smaller) Schedule 40 solid core PVC pipe, for use in closed (process or supply) piping systems.

B1. **Polyvinyl Chloride (PVC) Pipe** — As an alternate to Item B, Max of two Nom 1 in. (25.4 mm) diam (or smaller) solid or cellular core Schedule 40 polyvinyl chloride (PVC) pipe.

IPEX INC — System 15 piping

C. **Rigid Nonmetallic Conduit+** — Nom 1 in. (25 mm) diam (or smaller) Schedule 40 PVC conduit installed in accordance with the National Electrical Code (NFPA No. 70).

D. **Chlorinated Polyvinyl Chloride (CPVC) Pipe** — A max of two nom 1 in. (25 mm) diam (or smaller) SDR13.5 (or heavier) or Sch 40 CPVC pipe for use in closed (process or supply) piping systems.

D1. **Chlorinated Polyvinyl Chloride (CPVC) Pipe** — As an alternate to Item D, max of two Nom 1 in. (25.4 mm) diam (or smaller) SDR 13.5 CPVC for use in closed (process or supply) piping systems.

IPEX INC — AquaRise

4. **Pipe Covering** — The following types and sizes of pipe coverings may be used with the metallic pipes:

A. **Pipe Covering** — Nom 1/2 in. (13 mm) thick hollow cylindrical heavy density glass fiber units jacketed on the outside 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 product.

See **Pipe and Equipment Covering - Materials (BRGU)** category in the Building Materials Directory for names of manufacturers. Any pipe covering material 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.

B. **PVC Jacket++** — An additional PVC jacket, supplied in sheet form, shall be tightly wrapped around the all service jacket on the pipe covering (Item 4A) with the longitudinal seam continuously sealed using the self-sealing lap tape or adhesive supplied with the jacket. The jacket is to be nom 48 in. (1.22 m) wide by nom 20 or 30 mil (0.5 or 0.8 mm) thick. The jacket shall extend downward into and/or through the opening from a point 36 to 40 in. (0.91 to 1.02 m) above the top surface of the floor assembly. **The PVC jacket must be used for the W Rating to apply.**

See **Plastics (QMFZ2)** category in the Plastics Recognized Component Directory for names of manufacturers. Any Recognized Component plastic material meeting the above specifications and having a UL 94 Flammability Classification of 94-5VA may be used.

C. **Tube Insulation-Plastics+** — Nom 1/2 in. (13 mm) thick acrylonitrile butadiene/polyvinyl chloride (AB/PVC) flexible foam furnished in the form of tubing.

See **Plastics** (QMFZ2) category in the Plastics Recognized Component Directory for names of manufacturers. Any Recognized Component tube insulation material meeting the above specifications and having a UL 94 Flammability Classification of 94-5A may be used.

5. **Packing Material** — Min 2 in. (51 mm) depth of min 4 pcf (64 kg/m³) mineral wool batt insulation firmly packed into top of firestop device as a permanent form. Packing material to be recessed from top surface of floor as required to accommodate the required thickness of fill material.

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. Sealant to be forced into interstices of AC lineset to max extent possible. Config B Only Sealant to lap min 1/2 in. (13 mm) onto top surface of concrete around perimeter of firestop device.

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.**

+ Bearing the UL Listing Mark

++-Bearing the UL Recognized Component Mark

Last Updated on 2019-04-30

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