

XHEZ.F-A-1133 - 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

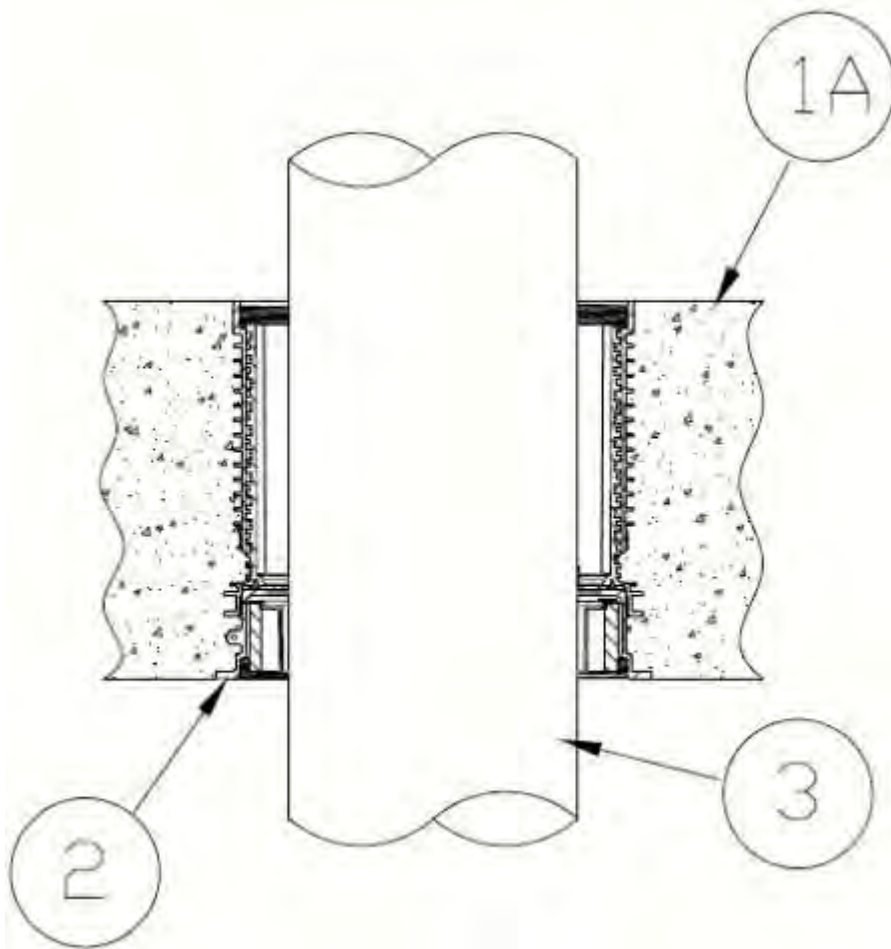
System No. F-A-1133

July 08, 2020

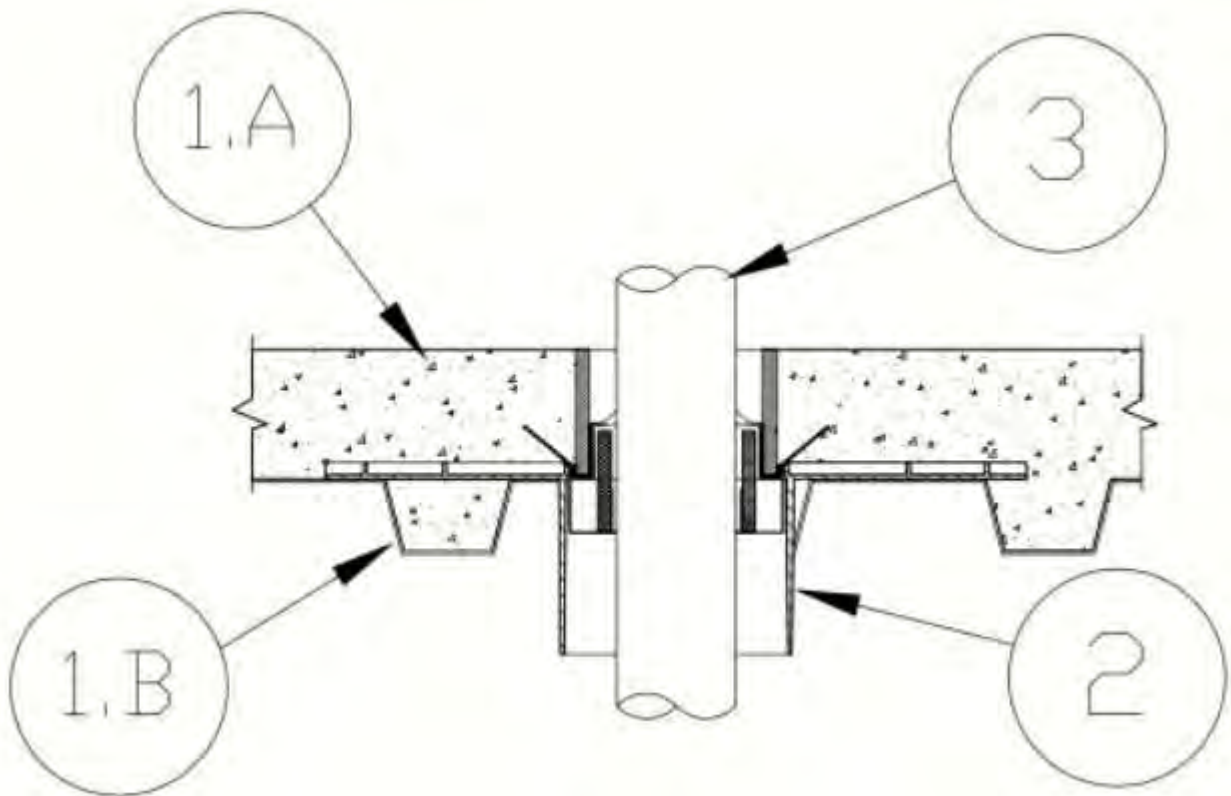
ANSI/UL1479 (ASTM E814)

CAN/ULC S115

F Ratings — 2 and 3 Hr (See Item 6)	F Ratings — 2 and 3 Hr (See Item 6)
T Rating — 0 or 2 Hr (See Item 7)	FT Rating — 0 or 2 Hr (See Item 7)
L Rating At Ambient — Less Than 1 CFM/sq ft	FH Rating — 2 or 3 Hr (See item 6)
L Rating At 400°F — Less Than 1 CFM/sq ft	FTH Rating — 0 or 2 Hr (See Item 7)
W Rating — Class 1 (See Item 4 and 5 and W-Rating table)	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



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 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** — 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 or grouted in concrete assembly in accordance with accompanying installation instructions. The device shall be installed flush with top and bottom surfaces of floor. Config 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 1-1/4* (13 to 32*)	HFP-M1, HFP-M1B, HFP-P1, HFP-P1B	add HFPCD1
1-1/4 to 2 (32 to 51)	HFP-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
4 to 5 (102 to 127)	HFP-M5, HFP-M5B, HFP-P5, HFP-P5B	add HFPCD5
5 to 6 (127 to 152)	HFP-M6, HFP-M6B, HFP-P6, HFP-P6B	add HFPCD6

*Refer to W & L Rating table below

When penetrant diameters are smaller than permitted in the table above, the use of Items 4B is required and Item 5 optional.

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 or grouted in concrete assembly 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 Fluted Deck	Firestop Devices for Concrete Slab (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

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.

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.

F. **Steel Flexible Metal Conduit** — Nom 4 in. (102 mm) diam (or smaller) steel flexible metal conduit. W-Rating not applicable.

G. **Aluminum Flexible Metal Conduit** — Nom 1-1/2 in. (38 mm) diam (or smaller) aluminum flexible metal conduit. W-Rating not applicable

See **Flexible Metal Conduit** (DXUZ) category in the Electrical Construction Materials Directory for names of manufacturers.

H. **Through Penetrating Product* Flexible Metal Piping** — As an alternate to the flexible metal conduit (Item 3G), 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

GASTITE, DIV OF TITEFLEX — CSST or FlashShield CSST

WARD MFG L L C

W-Rating is not applicable when Item 3G or 3H is installed.

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 Item 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.

4B. **Packing Material** — (Optional instead of Item 4, Not Shown) — For Configuration A only. When penetrant diameters are smaller than the device size range in the table above, Min. 3-3/4 in. depth from floor surface or to fullest extent possible to top of inner seal 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.

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. A Min 1/2 in. (13 mm) thickness of sealant applied within the annulus, flush with the top surface of floor to attain W-Rating. 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 when sealant is optional 100% silicone sealant can be used.

For Configuration A (ONLY), the W Rating and L Ratings apply according to the Table below.

Device size	Penetrant with (IPS) Diam in. (mm)	Penetrant with (CTS) Diam in. (mm)	W RATING	L Rating
HFP-x1, HFP-x1B	1/2 to 1 (13 to 25)	1/2 to 1-1/4 (13 to 32)	YES	YES
HFP-x2, HFP-x2B	1-1/4 to 2 (32 to 51)	1-1/2 to 2 (38 to 51)	YES	YES
HFP-x2, HFP-x2B	N/A	1-1/4 (32)	YES, with Items 4 & 5 Above	YES, with Items 4 & 5 Above
HFP-x3, HFP-x3B	2 to 3 (51 to 76)	2-1/2 to 3 (64 to 76)	YES	YES
HFP-x3, HFP-x3B	N/A	2 (51)	YES, with Items 4 & 5 Above	YES, with Items 4 & 5 Above
HFP-x4, HFP-x4B	3 to 4 (76 to 102)	3-1/2 to 4 (89 to 102)	YES	YES
HFP-x4, HFP-x4B	N/A	3 (76)	YES, with Items 4 & 5 Above	YES, with Items 4 & 5 Above
HFP-x5, HFP-x5B	4 to 5 (102 to 127)	5 (127)	YES	YES
HFP-x5, HFP-x5B	N/A	4 (102)	YES, with Items 4 & 5 Above	YES, with Items 4 & 5 Above
HFP-x6, HFP-x6B	5 to 6 (127 to 152)	6 (152)	YES	YES
HFP-x6, HFP-x6B	N/A	5 (127)	YES, with Items 4 & 5 Above	YES, with Items 4 & 5 Above

Note: IPS is Iron pipe diameter standard and CTS is Copper tube diameter standard.

If inner seal is torn or compromised in any way, Items 4 and Item 5 can be used to achieve W and L Ratings. When the penetrant is smaller than the device range sealant (Item 5) must be used to obtain W and L Rating

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

RELIANCE WORLDWIDE CORPORATION DBA HOLDRITE HYDROFLAME — HydroFlame 100, HydroFlame 200, HydroFlame 300SL, HydroFlame 300 CG

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 assembly.
When Item 6 is used between 6 and 24 in. (152 - 610 mm) from the top of the device (Item 2) to bottom connection of (Item 6) and concrete thickness is less than 4-1/2 in. (114 mm) the F rating is limited to 2 Hours.

7. Duct Wrap Material* — (Optional, Not Shown) — Nom 2 in. (51 mm) thick duct wrap tightly wrapped around penetrant to extend 36 in. (914 mm) above floor. An additional layer of nom 2 in. (51 mm) thick duct wrap tightly wrapped around the first layer of duct wrap to extend 12 in. (305 mm) (914 mm) above floor. All longitudinal seams of both layers of duct wrap are sealed with foil tape.

3M COMPANY 3M FIRE PROTECTION PRODUCTS — FireBarrier Duct Wrap 20A.

UNIFRAX I L L C — FyreWrap® Elite 1.5

THERMAL CERAMICS INC — FireMaster® FastWrap XL

T Rating only applies when Item 7 is installed.

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

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