

UL Product IQ®

XHEZ-F-C-1168 - 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.
Fire resistance assemblies and products are developed by the design submitter and have been investigated by UL for compliance with applicable requirements.

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-C-1168

April 29, 2020

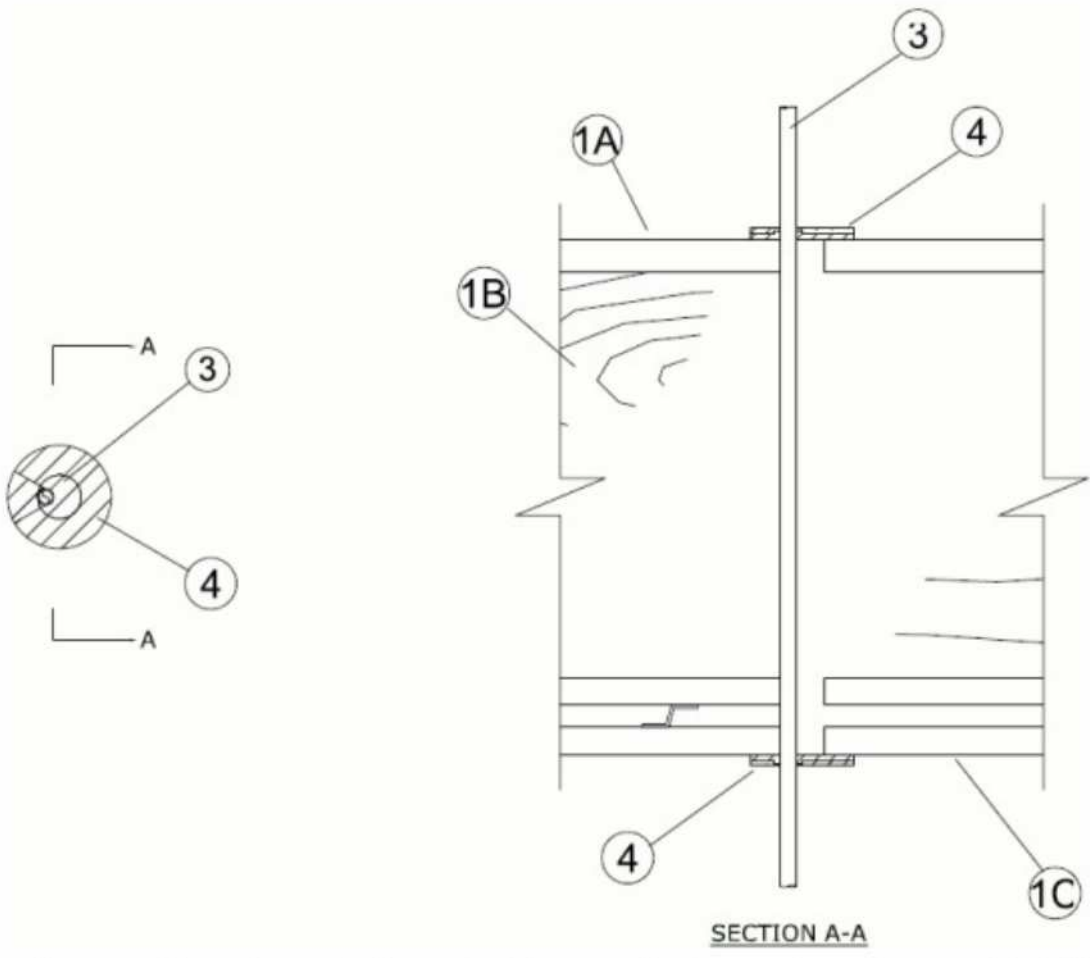
Table with 2 columns: ANS/UL1479 (ASTM E814) and CAN/ULC 5115. Rows include F Ratings, T Ratings, L Rating at Ambient, and L Rating at 400 F.

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1/3

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D. Gypsum Board\* — Thickness, type, number of layers and fasteners shall be as specified in individual Wall and Partition Design.



1. Floor-Ceiling Assembly — The 1 or 2 hr fire-rated solid or trussed lumber joist Floor-Ceiling assembly shall be constructed of the materials and in the manner specified in the individual L500 Series Floor-Ceiling Designs in the UL Fire Resistance Directory, as summarized below:

A. Flooring System — Lumber or plywood subfloor with finish floor of lumber, plywood or Floor Topping Mixture\* as specified in the individual Floor-Ceiling Design. Opening may be round, rectangular or irregular with a max diam or dimension of 1 in. (25 mm).

B. Joists — Nom 10 in. (254 mm) deep (or deeper) lumber, steel or combination lumber and steel joists, trusses or Structural Wood Members\* with bridging as required and with ends firestopped.

C. Gypsum Board\* — Nom 4 ft (122 cm) wide by 5/8 in. (16 mm) thick. Gypsum board direct-attached to joists or screw-attached to furring channels as specified in the individual Floor-Ceiling Design. Opening may be round, rectangular or irregular with a max diam or dimension of 1 in. (25 mm).

The F, FT, FH and FTH Rating of the firestop system is equal to the rating of the floor-ceiling assembly.

2. Chase Wall — (Optional, Not Shown) — The through penetrants (Item 3) may be routed through a fire-rated or non-rated single, double or staggered wood stud/gypsum board chase wall constructed of the materials and Partition design in the UL Fire Resistance Directory and shall include the following construction features:

A. Studs — Nom 2 by 4 in. (51 by 102 mm), 2 by 6 in. (51 by 152 mm) or 2 by 8 in. (51 by 203 mm) lumber studs.

B. Sole Plate — Nom 2 by 4 in. (51 by 102 mm), 2 by 6 in. (51 by 152 mm) or 2 by 8 in. (51 by 203 mm) lumber plates. Opening to be centered in sole plate. Opening may be round, rectangular or irregular with a max diam or dimension of 1 in. (25 mm).

C. Top Plate — The double top plate shall consist of two nom 2 by 4 in. (51 by 102 mm), 2 by 6 in. (51 by 152 mm) or 2 by 8 in. (51 by 203 mm) lumber. Opening to be centered in top plate. Opening may be round, rectangular or irregular with a max diam or dimension of 1 in. (25 mm).

2/3

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3. Through Penetrant — Max one metallic pipe, tubing or conduit installed either concentrically or eccentrically within the firestop system. The annular space between penetrant and periphery of the opening shall be min 0 in. (point contact). Pipe or tubing to be rigidly supported on both sides of floor-ceiling assembly. The following types and sizes of pipes, tubing or conduit may be used:

- A. Steel Pipe — Nom 3/4 in. (19 mm) diam (or smaller) Schedule 5 (or heavier) steel pipe.
B. Iron Pipe — Nom 3/4 in. (19 mm) diam (or smaller) cast or ductile iron pipe.
C. Copper Tubing — Nom 1/2 in. (13 mm) diam (or smaller) Type L and Type K (or heavier) copper tubing.
D. Copper Pipe — Nom 1/2 in. (13 mm) diam (or smaller) Regular (or heavier) copper pipe.
E. Conduit — Nom 3/4 in. (19 mm) diam (or smaller) rigid or flexible steel conduit.
F. Conduit — Nom 3/4 in. (19 mm) diam (or smaller) electrical metallic tubing (EMT).

4. Fill, Void or Cavity Material\* — Nom 60 mm diam by 3 mm thick putty disc with one seam at radius. Paper-backer of disc to be removed and disc firmly pressed around the penetrant lapping nom 5 mm onto penetrant to completely cover opening and firmly pressed to lay onto the floor and ceiling (or plates) around periphery of opening. Disc seam to be firmly pressed and sealed tight. Disc to be installed at both sides of opening in floor-ceiling assembly.

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

Last Updated on 2020-04-29

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6C A615 FIRE STOP - FLOOR - FRAMED - METALLIC PIPE, CONDUIT OR TUBING - F\_1HR&2HR - T\_1HR&2HR - L\_NA - HILTI - XHEZ-F-C-1168 12" = 1'-0"

UL Product IQ®

XHEZ-F-C-2030 - Through-penetration Firestop Systems

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XHEZ - Through-penetration Firestop Systems

See General Information for Through-penetration Firestop Systems

System No. F-C-2030

April 06, 2018

F Ratings — 1 and 2 Hr (See Item 1)
T Ratings — 0, 3/4, 1, 1-1/2 and 2 Hr (See Item 3)

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14

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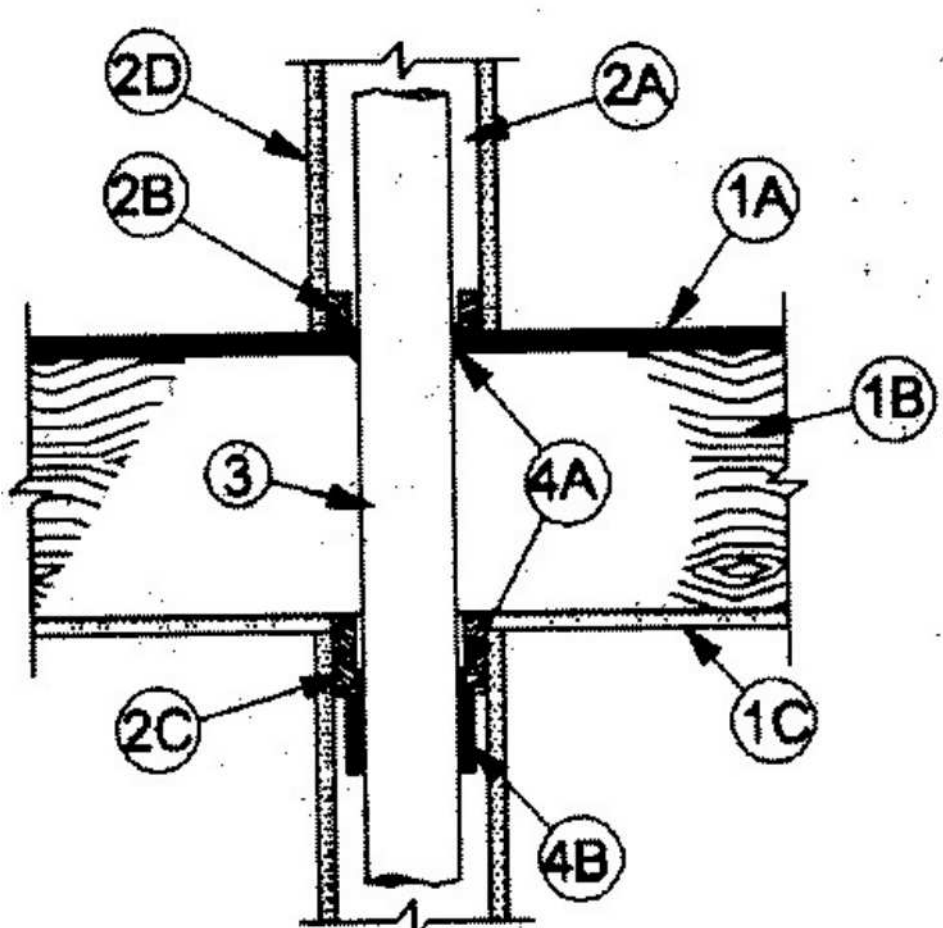
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3/4

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4/4



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-Ceiling Assembly — The 1 or 2 hr fire-rated solid or trussed lumber joist floor-ceiling assembly shall be constructed of the materials and in the manner specified in the individual L500 Series Floor-Ceiling Designs in the UL Fire Resistance Directory. The F Rating of the firestop system is equal to the rating of the floor-ceiling and wall assemblies. The general construction features of the floor-ceiling assembly are summarized below:

A. Flooring System — Lumber or plywood subfloor with finish floor of lumber, plywood or Floor Topping Mixture\* as specified in the individual Floor-Ceiling Design. Diam of opening shall be 1 in. (25 mm) larger than the nom diam of through-penetrant (Item 3).

B. Joists — Nom 10 in. (254 mm) deep (or deeper) lumber, steel or combination lumber and steel joists, trusses or Structural Wood Members\* with bridging as required and with ends firestopped.

C. Gypsum Board\* — Thickness, type, number of layers and fasteners shall be as specified in the individual Floor-Ceiling Design. Diam of opening shall be 1 in. (25 mm) larger than the nom diam of through-penetrant (Item 3).

D. Furring Channels — (Not Shown) (As required) - Resilient galvanized steel furring installed in accordance with the manner specified in the individual L500 Series Designs in the Fire Resistance Directory.

2. Chase Wall — (Optional) - The through penetrant (Item 3) may be routed through a fire-rated or non-rated single, double or staggered wood stud/gypsum wallboard chase wall. The chase wall shall be constructed to include the following construction features:

A. Studs — Nom 2 by 6 in. (51 by 152 mm) or double nom 2 by 4 in. (51 by 102 mm) lumber studs.

B. Sole Plate — Nom 2 by 6 in. (51 by 152 mm) (or larger) or parallel 2 by 4 in. (51 by 102 mm) lumber plates, tightly butted. Diam of opening shall be 1 in. (25 mm) larger than the nom diam of through-penetrant (Item 3).

C. Top Plate — The double top plate shall consist of two nom 2 by 6 in. (51 by 152 mm) (or larger) or parallel 2 by 4 in. (51 by 102 mm) lumber plates, tightly butted. Diam of opening shall be 1 in. (25 mm) larger than the nom diam of through-penetrant (Item 3).

D. Gypsum Board\* — One or two layers of min 1/2 in. (13 mm) gypsum board.

3. Through-Penetrants — One nom 1-1/2 in. (38 mm), 2 in. (51 mm), 3 in. (76 mm) or 4 in. (102 mm) diam nonmetallic pipe to be installed within the firestop system. Diam of opening through flooring system and through sole and top plates of chase wall to be max 2-1/8 in. (64 mm), 2-5/8 in. (67 mm), 4 in. (102 mm) or 5 in. (127 mm) for nom 1-1/2 in. (38 mm), 2 in. (51 mm), 3 in. (76 mm) or 4 in. (102 mm) diam nonmetallic pipe sizes, respectively. Pipe to be rigidly supported on both sides of the floor-ceiling assembly. The T Rating is dependent on the size of the through-penetrant. For 2 hr rated assemblies, the T Rating is 2 hr for 1-1/2 in. (38 mm) diam (and smaller) pipes and 1-1/2 hr for pipes greater than 1-1/2 in. (38 mm) diam. For 1 hr rated assemblies, the T Rating is 1 hr for 1-1/2 in. (38 mm) diam (and smaller) pipes, 3/4 hr for 2 in. (51 mm) diam pipes and 0 hr for pipes greater than 2 in. (51 mm) diam. The following types of nonmetallic pipes may be used:

- A. Polyvinyl Chloride (PVC) Pipe — 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. Chlorinated Polyvinyl Chloride (CPVC) Pipe — SDR17 CPVC pipe for use in closed (process or supply) or vented (drain, waste or vent) piping systems.
C. Acrylonitrile Butadiene Styrene (ABS) pipe — Schedule 40 solid-core or cellular core ABS pipe for use in closed (process or supply) or vented (drain, waste or vent) piping systems.
D. Flame Retardant Polypropylene (FRPP) Pipe — Schedule 40 FRPP pipe for use in closed (process or supply) or vented (drain, waste or vent) piping system.

4. Firestop System — The details of the firestop system shall be as follows:
A. Fill, Void or Cavity Material\* — Sealant — Min 3/4 in. (19 mm) thickness of fill material to be installed within the annular space between the pipe and the flooring (Item 1A) or sole plate. Min 5/8 in. (16 mm) thickness applied within the annular space, flush with the bottom surface of ceiling or lower top plate.
HILTI CONSTRUCTION CHEMICALS, DIV OF HILTI INC. — FS-ONE Sealant FS-ONE MAX Intumescent Sealant.

B. Firestop Device\* — Firestop Collar — Firestop collar shall be installed in accordance with the accompanying installation instructions. Collar to be installed and latched around the pipe and secured to underside of ceiling or chase wall top plate (Item 2C) using the anchor hooks provided with the collar. (Minimum 2 anchor hooks for 1-1/2 (38 mm) and 2 in. (51 mm) diam pipes and 3 anchor hooks for 3 in. (76 mm) diam pipes). The anchor hooks are to be secured to the ceiling with min 3/16 in. (5 mm) diam steel toggler bolts or to the chase wall top plate with min No. 12 by min 1 in. (25 mm) long steel wood screws in conjunction with steel washers.
HILTI CONSTRUCTION CHEMICALS, DIV OF HILTI INC. — CP 643 50/1.5"N, CP643 63/2"N, CP 643 90/3"N or CP643 110/4"N Firestop Collar

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

Last Updated on 2018-04-06

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3/4

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6A A615 FIRE STOP - FLOOR - FRAMED - NONMETALLIC PIPE CONDUIT TUBING - F\_1HR&2HR - T\_1HR&2HR - L\_NA - HILTI - XHEZ-F-C-2030 12" = 1'-0"

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Table with 2 columns: Date, Description. Row 1: 06/10/2022, Issued for Permit.

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