



## System No. F-C-5087 XHEZ.F-C-5087 Through-penetration Firestop Systems

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### 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

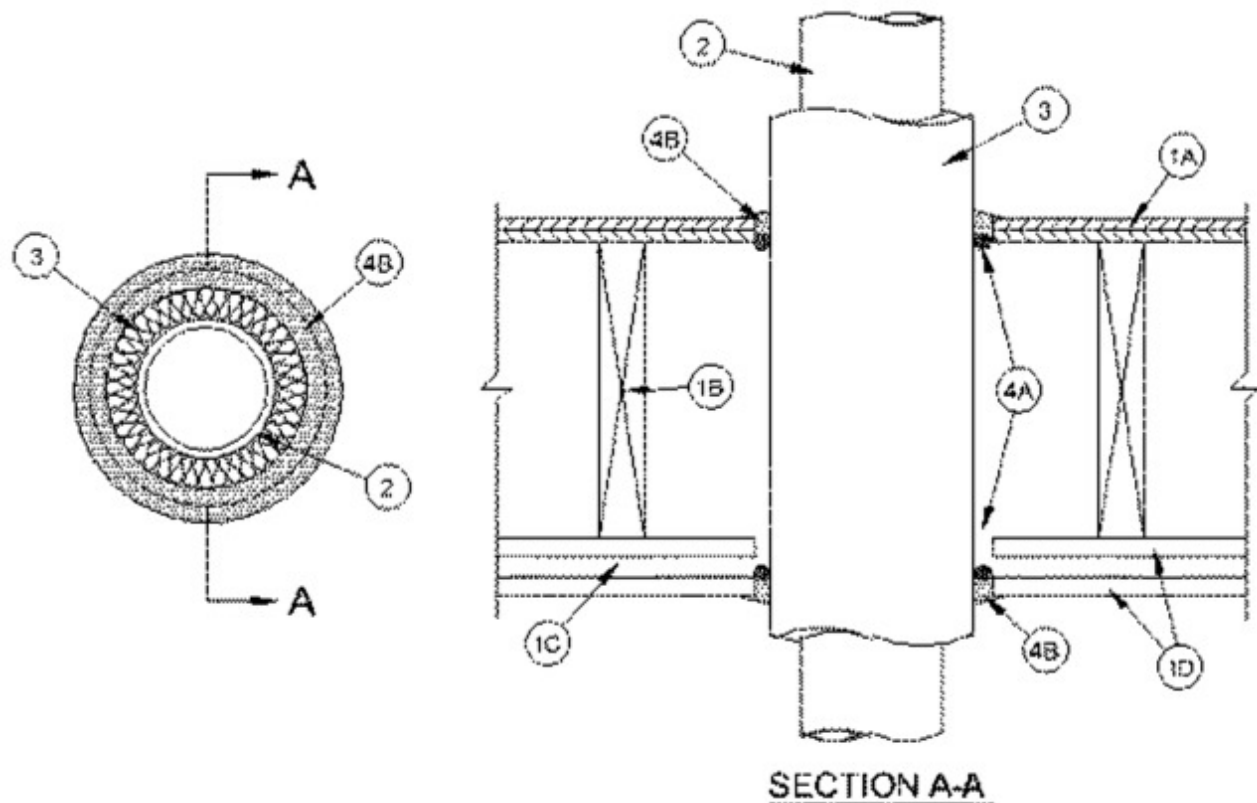
[See General Information for Through-penetration Firestop Systems](#)

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

## System No. F-C-5087

June 01, 2016

| ANSI/UL1479 (ASTM E814)                     | CAN/ULC S115                                |
|---|---|
| F Ratings - 1 and 2 Hr (See Item 1)         | F Ratings - 1 and 2 Hr (See Item 1)         |
| T Ratings - 3/4 and 1 Hr (See Item 3)       | FT Ratings - 3/4 and 1 Hr (See Item 3)      |
| L Rating At Ambient - Less Than 1 CFM/sq ft | FH Ratings - 1 and 2 Hr (See Item 1)        |
|   | FTH Ratings - 3/4 and 1 Hr (See Item 3)     |
|   | L Rating At Ambient - Less Than 1 CFM/sq ft |



**1. Floor-Ceiling Assembly** — The 1 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 2 hr fire-rated wood joist floor-ceiling assembly shall be constructed of the materials and in the manner specified in Design Nos. L505, L511 or L536 in the UL Fire Resistance Directory. The F Rating of the firestop system is equal to the hourly fire rating of the floor-ceiling assembly. 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. Max diam of floor opening is 7-5/8 in. (194 mm).

**B. Wood Joists** — For 1 hr fire-rated floor-ceiling assemblies, 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. For 2 hr fire-rated floor-ceiling assemblies, nom 2 by 10 in. (51 by 254 mm) lumber joists spaces 16 in. (406 mm) OC with nom 1 by 3 in. (25 by 76 mm) lumber bridging and with ends firestopped.

**C. Furring Channels** — In 2 hr fire-rated assemblies, resilient galv steel furring installed perpendicular to wood joists between first and second layers of gypsum board (Item 1D). Furring channels spaced max 24 in. (610 mm) OC.

**D. Gypsum Board\*** — Nom 4 ft (122 cm) wide by 5/8 in. (16 mm) thick as specified in the individual Floor-Ceiling Design. First layer of gypsum board secured to wood joists or furring channels as specified in the individual Floor-Ceiling Design. Second layer of gypsum board (2 hr fire-rated assembly) screw-attached to furring channels as specified in the individual Floor-Ceiling Design. Max diam of ceiling opening is 7-5/8 in. (194 mm).

**1.1 Chase Wall** — (Not Shown, Optional) — The through penetrant (Item 2) may be routed through a 1 or 2 hr fire-rated single, double or staggered wood stud/gypsum wallboard chase wall constructed of the materials and in the manner specified in the individual U300 Series Wall and Partition Designs in the UL Fire Resistance Directory and shall include the following construction features:

**A. Studs** — Nom 2 by 10 in. (51 by 254 mm) lumber or double nom 2 by 6 in. (51 by 152 mm) lumber studs.

**B. Sole Plate** — Nom 2 by 10 in. (51 by 254 mm) lumber or parallel 2 by 6 in. (51 by 152 mm) lumber plates, tightly butted. Max diam of opening is 7-5/8 in. (194 mm).

**C. Top Plate** — The double top plate shall consist of two nom 2 by 10 in. (51 by 254 mm) lumber plates or two sets of parallel 2 by 6 in. (51 by 152 mm) lumber plates, tightly butted. Max diam of opening is 7-5/8 in. (194 mm).

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

**2. Through Penetrants** — One metallic pipe or tubing to be installed either concentrically or eccentrically within the firestop system. Pipe or tubing to be rigidly supported on both sides of floor assembly. The following types and sizes of metallic pipes or tubing may be used:

- A. **Steel Pipe** — Nom 4 in. (102 mm) diam (or smaller) Schedule 40 (or heavier) steel pipe.
- B. **Iron Pipe** — Nom 4 in. (102 mm) diam (or smaller) cast or ductile iron pipe.
- C. **Copper Tubing** — Nom 2 in. (51 mm) diam (or smaller) Type L (or heavier) copper tubing.
- D. **Copper Pipe** — Nom 2 in. (51 mm) diam (or smaller) Regular (or heavier) copper pipe.

3. **Pipe Coverings\*** — One of the following pipe coverings installed such that the annular space between pipe covering and periphery of opening shall be min 1/2 in. (13 mm) to max 5/8 in. (16 mm). The following types of pipe coverings shall be used:

A. **Pipe Covering\*** — Nom 1 in. (25 mm) thick hollow cylindrical heavy density (min 3.5 pcf) (56 kg/cu meter) 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 the 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. **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 94-5VA may be used.

**The T Ratings are 1 and 3/4 hr when installed with Items A and B, respectively.**

4. **Firestop System** — The firestop system shall consist of the following:

A. **Packing Material** — (Optional) — Foam backer rod firmly packed into opening as a permanent form. Packing material to be recessed from top surface of floor or sole plate and bottom surface of the ceiling or lower top plate of chase wall assembly as required to accommodate the required thickness of fill material.

B. **Fill, Void or Cavity Material\* — (Caulk)** — Min 5/8 in. (16 mm) thickness of fill material applied within the annulus, flush with top surface of the floor or sole plate and bottom surface of the ceiling or lower top plate of chase wall assembly. Additional fill material to be installed such that a min 1/4 in. (6 mm) crown is formed around the penetrating item and lapping 1/2 in. (13 mm) beyond the periphery of the opening.

**A/D FIRE PROTECTION SYSTEMS INC** — A/D FIREBARRIER Intumescent Sealant, A/D FIREBARRIER Intumescent Sealant II

**\* 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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