



System No. F-C-3099 XHEZ.F-C-3099 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

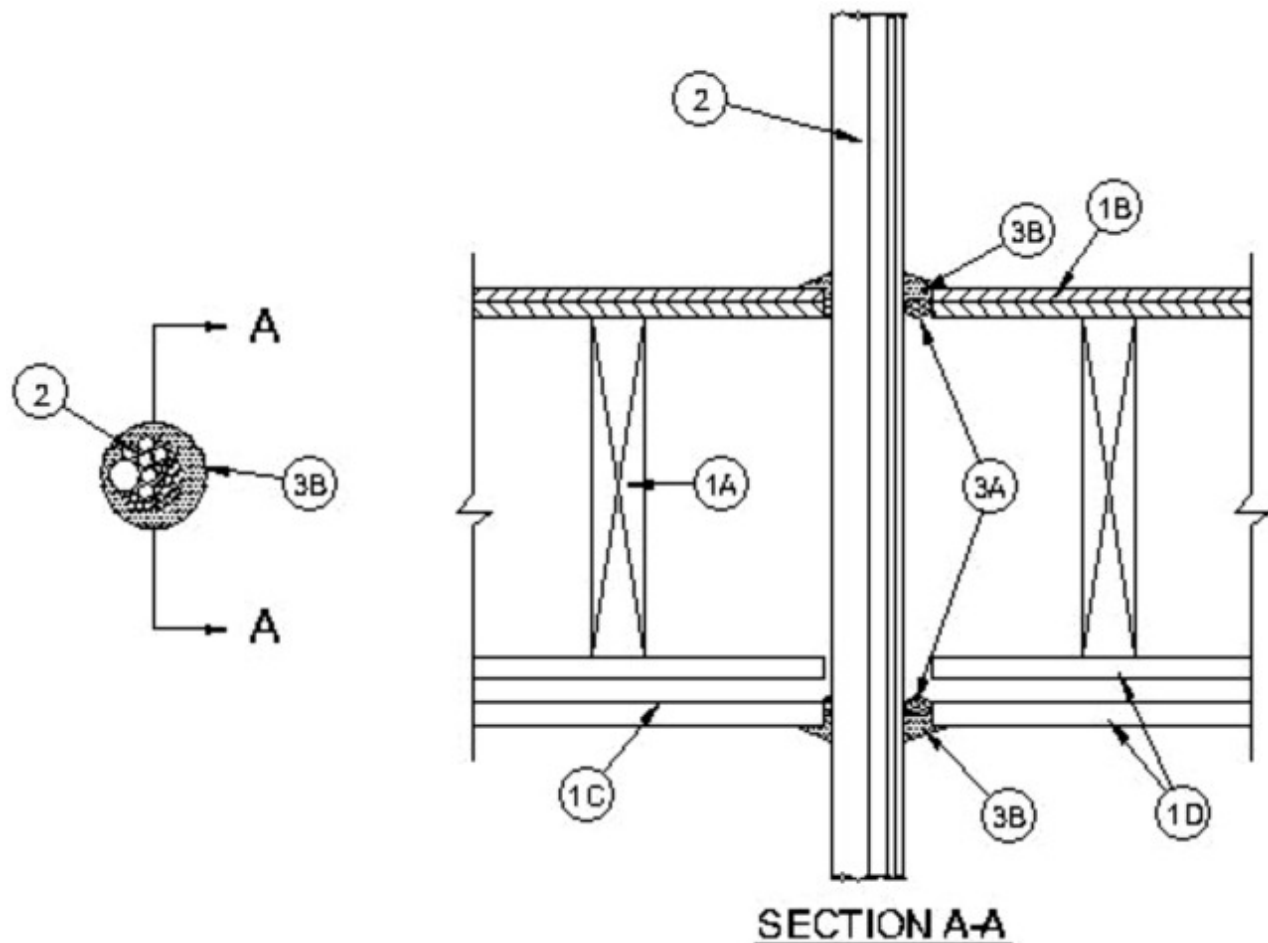
[See General Information for Through-penetration Firestop Systems](#)

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

System No. F-C-3099

June 02, 2016

ANSI/UL1479 (ASTM E814)	CAN/ULC S115
F Rating - 2 Hr	F Rating - 2 Hr
T Ratings - 0, 1-3/4 and 2 Hr (See Item 2)	FT Ratings - 0, 1-3/4 and 2 Hr (See Item 2)
L Rating At Ambient - 16 CFM/Sq Ft	FH Rating - 2 Hr (See Item 3C)
	FTH Ratings - 0, 1-3/4 and 2 Hr (See Item 2)
	L Rating At Ambient - 16 CFM/Sq Ft



1. Floor-Ceiling Assembly — 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 general construction features of the floor-ceiling assembly are summarized below:

A. Wood Joists — Nom 2 by 10 in. (51 by 254 mm) lumber joists spaced 16 in. (406 mm) OC with nom 1 by 3 in. (25 by 76 mm) lumber bridging and with ends firestopped.

B. 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 3 in. (76 mm).

C. Furring Channels — Resilient galv steel furring channels 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 as specified in the individual Floor-Ceiling Design. Second layer of gypsum board screw-attached to furring channels as specified in the individual Floor-Ceiling Design. Max diam of ceiling opening is 3 in. (76 mm).

1.1 Chase Wall — (Not Shown, Optional) — The through penetrant (Item 2) may be routed through a 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 6 in. (51 by 152 mm) lumber studs.

B. Sole Plate — Nom 2 by 6 in. (51 by 152 mm) lumber plates. Max diam of opening is 3 in. (76 mm).

C. Top Plate — The double top plate shall consist of two nom 2 by 6 in. (51 by 152 mm) lumber plates. Max diam of opening is 3 in. (76 mm).

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

2. Cables — Aggregate cross-sectional area of cables in opening to be max 44 percent of the aggregate cross-sectional area of the opening. The annular space between the cable bundle and the periphery of the opening shall be min 1/4 in. (6 mm) to max 1/2 in. (13 mm). Cables to be rigidly supported on both sides of floor assembly. Any combination of the following types and sizes of copper conductor cables may be used:

- A. Max 200 pair No. 24 AWG (or smaller) copper conductor cable with polyvinyl chloride (PVC) insulation and jacket.
- B. RG59/U (or smaller) coaxial cable with fluorinated ethylene (FE) or PVC insulation and jacket.
- C. Max 4 pair No. 24 AWG (or smaller) copper conductor data cable with Hylar jacket and insulation.
- D. Max three conductor with ground No. 12 AWG (or smaller) nonmetallic sheathed (Romex) cables with PVC insulation and jacket materials
- E. **Through Penetrating Product*** — Two or more twisted copper conductors No. 10 AWG (or smaller) **Power Limited Fire Alarm Cable+** without a jacket under a metal armor.

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- F. **Through Penetrating Product*** — Two or more twisted copper conductors No. 12 AWG (or smaller) Non **Power Limited Fire Alarm Cable+** with or without a jacket under a metal armor.

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- G. **Through Penetrating Product*** — Max two copper conductors with ground No. 12 AWG (or smaller) **Metal-Clad Cable+**.

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- H. **Through Penetrating Product*** — Nom 3/4 in.(19 mm) diam (or smaller) aluminum or steel **Flexible Metal Conduit+** with electrical conductors as permitted by the National Electrical Code (NFPA 70).

ALFLEX CORP

- I. Max four aluminum conductor No. 2/0 AWG (or smaller) Type SER service entrance cable with cross-linked polyethylene insulation and PVC jacket.

The T Rating is 2 Hr except that the T Rating for Item A is 1-3/4 Hr and the T Rating for Items H and I is 0 Hr.

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 and recessed from top surface of floor or sole plate and bottom surface of ceiling or lower top plate of chase wall assembly to accommodate 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 forced into interstices of cable group to max extent possible and fill material to be installed such that a min 1/2 in. (13 mm) crown is formed around the cable group 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.**

+Bearing the UL Listing Mark

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