



System No. W-L-8005 XHEZ.W-L-8005 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

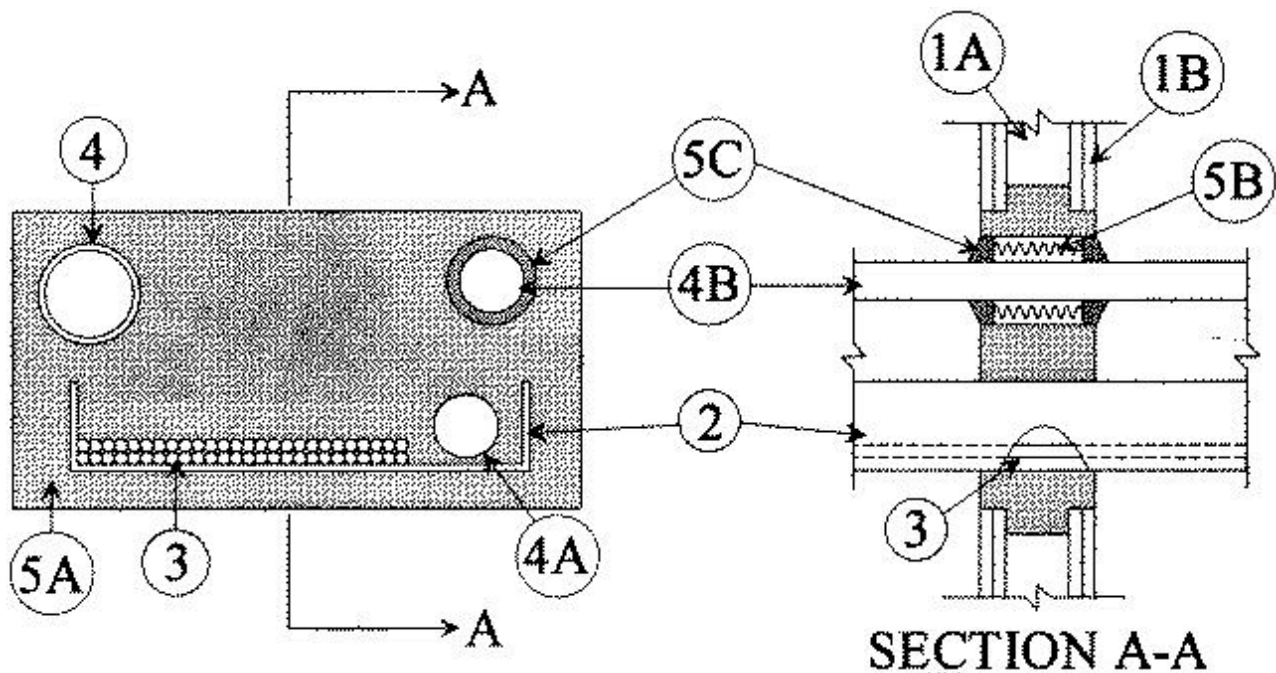
[See General Information for Through-penetration Firestop Systems](#)

System No. W-L-8005

October 22, 1994

F Rating — 1 and 2 Hr (See Item 1B)

T Rating — 0 Hr



1. Wall Assembly — The 1 or 2 h fire-rated gypsum wallboard/stud wall assembly shall be constructed of the materials and in the manner specified in individual U400 Series Wall or Partition Design in the UL Fire Resistance Directory and shall include the following construction features:

A. Studs — Wall framing to consist of steel channel studs, min 2-1/2 in. wide and spaced max 24 in. OC. Additional framing shall be installed horizontally so as to form a 22-5/8 in. wide by 11-13/16 in. high opening. The horizontal framing members shall be installed such that the flanges of the framing members are flush with the edges of the gypsum wallboard.

B. Gypsum Board* — 1/2 in. thick, 4 ft wide with square or tapered edges. The gypsum wallboard type, thickness, number of layers, fastener type and sheet orientation shall be as specified in the individual U400 Series Design in the UL Fire Resistance Directory. Max area of opening is 267.3 in. per square ft. with max dimensions of 22-5/8 in.

The hourly F Rating of the firestop system is equal to the hourly fire rating of the wall assembly in which it is installed.

2. Cable Tray* — Max 18 in. wide by max 3-1/2 in. deep open ladder cable tray with channel-shaped side rails formed of min 0.065 in. thick steel with 3-1/2 in. wide by 1/2 in. deep rungs spaced 14-1/2 in. OC. One cable tray to be installed in the opening. The annular space between the cable tray and the periphery of the opening shall be min 1-1/2 in. to max 5-13/16 in. Cable tray to be rigidly supported on both sides of floor or wall assembly.

3. Cables — Aggregate cross-sectioned area of cables in cable tray to be max 40 percent of the cross-sectional area of the tray based on a max 3 in. cable loading depth within the cable tray. Any combination of the following types of copper conductor cables may be used:

A. Max of 1/C-500 kcmil (or smaller) cable with cross-linked polyethylene insulation and jacket.

B. Max of 100 pair No. 24 AWG telephone cable with polyvinyl chloride (PVC) insulation and jacket.

C. Max RG 11/U coaxial cable (or smaller) with fluorinated ethylene propylene insulation and jacket.

D. Max 2/C — No. 12 AWG (or smaller) cable with (PVC) insulation and jacket.

4. Through-Penetrants — Two pipes, conduits or tubes to be installed within the opening. The space between pipes, conduits or tubes shall be nom 11-5/8 in. The space between pipes, conduits or tubes and periphery of opening shall be min 1 in. to max 5-7/16 in. The space between the pipes and cable tray shall be nom 1/2 in. Pipe, conduit or tubes to be rigidly supported on both sides of wall assembly. The following types and sizes of metallic pipes, conduits or tubing may be used:

A. **Steel Pipe** — Nom 4 in. diam (or smaller) Schedule 40 (or heavier) steel pipe.

B. **Iron Pipe** — Nom 4 in. diam (or smaller) cast or ductile iron pipe.

C. **Conduit** — Nom 4 in. diam (or smaller) electrical metallic tubing or steel conduit.

D. **Copper Pipe** — Nom 4 in. diam (or smaller) Regular (or heavier) copper pipe.

E. **Copper Tubing** — Nom 4 in. diam (or smaller) Type M (or heavier) copper tubing.

Of the two through-penetrants, only one through-penetrant shall have a nom diam greater than 3 in. In addition, one nom 2 in. diam (or smaller) electrical metallic tubing or steel conduit may be installed within the cable tray (Item 2). The conduit or tubing shall be spaced a nom 1 in. from the side rail of the cable tray and a min 1 in. from the cable bundles.

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

A. **Fill, Void or Cavity Material* — Mortar** — For 2 h fire-rated assemblies, min 4-1/2 in. thickness of fill material installed flush with both surfaces of wall. For 1 h fire-rated assemblies, min 3-1/2 in. thickness of fill material installed flush with both surfaces of wall. Mortar to be mixed at a rate of 2.7 parts dry mixture to one part water by weight in accordance with the installation instructions supplied with the product.

A/D FIRE PROTECTION SYSTEMS INC — A/D FireBarrier Mortar.

B. **Packing Material** — (Not shown) — As an option, in 2 h fire-rated assemblies, one 3-1/8 in. diameter hole can be drilled through the mortar (Item 5A). After the mortar cures, on nom 2 in. diam EMT (or smaller) shall be centered within the opening. A min 4 in. thickness of 4 pcf mineral wool batt insulation shall be firmly packed into opening as a permanent form. Packing material to be recessed from both surfaces of wall as required to accommodate the required thickness of fill material (Item 6D).

C. **Fill, Void or Cavity Material — Caulk** — (Not shown) — Min 1/4 in. thickness of fill material applied within annulus on both surfaces of wall. Additional fill material to be installed such that a min 1/4 in. crown is formed around the penetrating item.

A/D FIRE PROTECTION SYSTEMS INC — A/D FireBarrier Silicone

*** 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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