



## XHEZ.C-AJ-5294 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 Listed or Classified 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 as Classified, Listed, or Recognized.

## Through-penetration Firestop Systems

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

### System No. C-AJ-5294

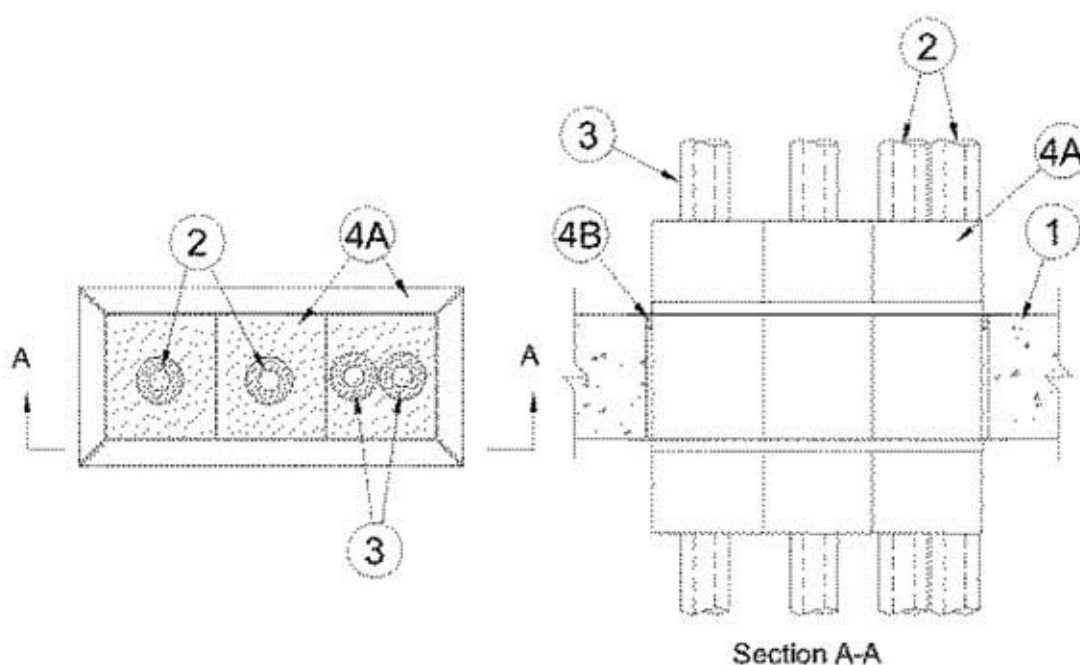
August 06, 2009

**F Rating — 2 Hr**

**T Ratings — 1/2 and 3/4 Hr (See Item 1)**

**L Rating At Ambient — Less Than 1 CFM/Device**

**L Rating At 400 F — Less Than 1 CFM/Device**



**1. Floor or Wall Assembly** — Min 2-1/2 in. (64 mm) thick reinforced lightweight or normal weight (100-150 pcf or 1600-2400 kg/m<sup>3</sup>) concrete. Wall may also be constructed of any UL Classified **Concrete Blocks\***. Max area of opening is 56 in.<sup>2</sup> (363 cm<sup>2</sup>) with a max dimension of 12-1/2 in. (318 mm) for square devices. Max diam of opening is 2-1/2 in. (64 mm) for 2 in. (51 mm) round devices. Max diam of opening is 4-1/2 in. (114 mm) for 4 in. (102 mm) round devices. **When thickness of floor or wall assembly is less than 4-1/2 in. (114 mm), T Rating is 1/2 Hr. When thickness of floor or wall assembly is 4-1/2 in. (114 mm) or greater, T Rating is 3/4 hr.**

See **Concrete Blocks** (CAZT) category in Fire Resistance Directory for names of manufacturers.

**2. Through Penetrant** — One or more metallic pipe or tubing with tube insulation may be installed concentrically or eccentrically within each firestop device (Item 4A). Through penetrant to be rigidly supported on both sides of floor or wall assembly. The following types and sizes of through penetrants may be used:

A. **Steel Pipe** — Nom 3/4 in. (19 mm) diam (or smaller) Schedule 10 (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 3/4 in. (19 mm) diam (or smaller) Type L (or heavier) copper tube.

D. **Copper Pipe** — Nom 3/4 in. (19 mm) diam (or smaller) Regular (or heavier) copper pipe.

**3. Tube Insulation - Plastic+** — Nom 1/2 in (13 mm) thick or smaller) acrylonitrile butadiene/polyvinyl chloride (AB/PVC) flexible foam furnished in the form of tubing with skin may be used on the copper tubes. If multiple insulated through penetrants are installed within the firestop device, the insulated through penetrants may be bundled together.

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.

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

A. **Firestop Device\*** — A max of three square firestop devices may be ganged together. As an alternate, one round device may be centered within a round opening. Each device consists of a nom 2-1/2 by 2-1/2 by 10 in. (64 by 64 by 254 mm), a nom 4 by 4 by 10 in. (102 by 102 by 254 mm), a nom 2-in. (51 mm) diam by 10 in. (254 mm), or a nom 4 in. (102 mm) diam by 10 in. (254 mm) powder coated steel transit incorporating internal intumescent material, foam plugs and mounting flanges. Firestop device to be centered within opening and installed with ends projecting an equal distance beyond each surface of the floor or wall assembly in accordance with the accompanying installation instructions. The annular space between the firestop device(s) and the periphery of the opening shall be max 1/4 in. (6 mm). Firestop devices secured in place by means of fill material (Item 4B) and steel split mounting flanges sized to accommodate the firestop device. Steel split mounting flanges installed on both sides of floor or wall after installation of fill material and secured to together with supplied steel set screws. Nom 1-1/2 in. (38 mm) thick pre-cut foam plugs sized to accommodate the insulated through penetrant(s) installed flush with each end of device on both sides of floor or wall assembly.

**ABESCO LTD** — CT 120/R or CT120 Cable Transit

B. **Fill, Void or Cavity Materials\* - Caulk** — Min 1/8 in. (3 mm) thickness of fill material applied within the annulus, flush with top surface of floor or with both surfaces of wall prior to the installation of the mounting flanges. An additional bead of caulk shall be placed between ganged devices on both sides of floor or wall when multiple devices are used.

**ABESCO LTD** — CP310 FR Acrylic Intumescent Caulk

\*Bearing the UL Classification Mark

Last Updated on 2009-08-06

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