

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.

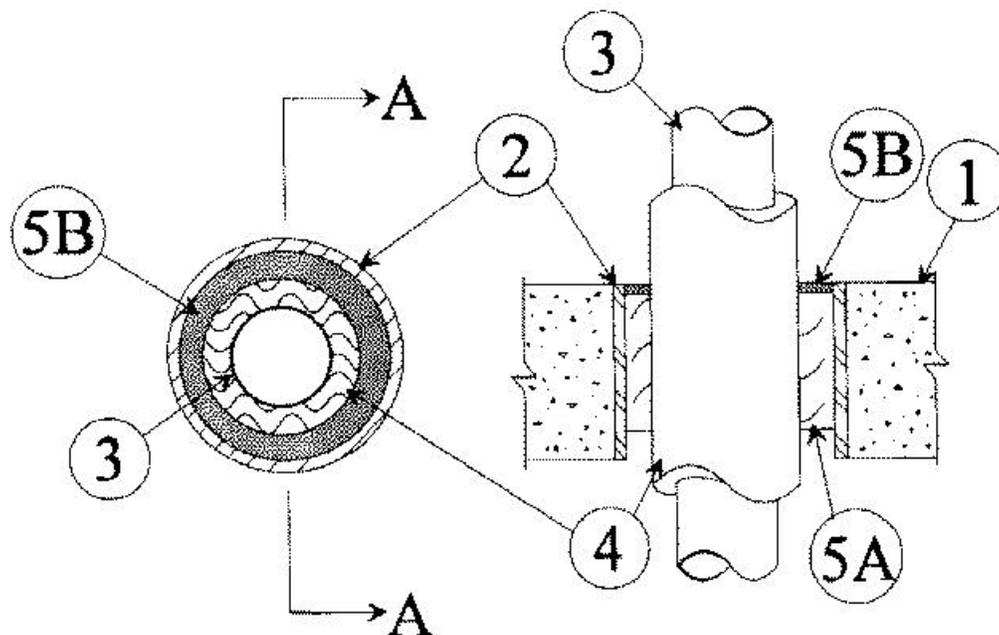
XHEZ - Through-penetration Firestop Systems

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

System No. C-AJ-5109

September 17, 2021

F Rating — 3 Hr
T Ratings — 1 and 1-1/2 Hr (See Item 2)
L Rating at Ambient — Less Than 1 CFM/sq ft
L Rating at 400 F — 3 CFM/sq ft
W Rating — Class 1 (See Item 4A)



SECTION A-A

1. **Floor or Wall Assembly** — Min 4-1/2 in. thick reinforced lightweight or normal weight (100-150 pcf) concrete. Wall may also be constructed of any UL Classified **Concrete Blocks***. Max diam of opening is 6 in.

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

2. **Sleeves** — (Optional) — The following sleeves may be used:

- A. **Metallic Sleeve** — Nom 6 in. diam (or smaller) steel Schedule 40 (or heavier) pipe cast or grouted into floor or wall assembly, flush with floor or wall surfaces. **T Rating is 1 Hr when metallic sleeve is used.**
- B. **Nonmetallic Sleeve** — Nom 6 in. diam (or smaller) Schedule 40 polyvinyl chloride (PVC) pipe cast or grouted into floor or wall assembly, flush with floor or wall surfaces. **T Rating is 1-1/2 Hr when PVC sleeve or no sleeve is used.**

3. **Through-Penetrants** — One metallic pipe or tubing to be centered within the firestop system. Pipe or tubing to be rigidly supported on both sides of floor or wall assembly. The following types of tubing or pipe may be used:

- A. **Copper Tubing** — Nom 3 in. diam (or smaller) Type M (or heavier) copper tubing.

- B. **Steel Pipe** — Nom 4 in. diam (or smaller) Schedule 10 (or heavier) steel pipe.

4. **Pipe Covering*** — Nom 1 in. thick hollow cylindrical heavy density (min 7.0 pcf) mineral fiber units 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. A min annular space of 3/8 in. is required within the firestop system.

See **Pipe and Equipment Covering — Materials** (BRGU) category in the Building Materials Directory for names of manufacturers. Any pipe covering 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.

- 4A. **PVC Jacket+** — (Optional, Not Shown) - An additional PVC jacket, supplied in sheet form, shall be tightly wrapped around the all service jacket on the pipe covering with the longitudinal seam continuously sealed using the adhesive supplied with the jacket. The jacket is to be nom 48 in. (1.22 m) wide by nom 20 or 30 mil (0.5 or 0.8 mm) thick. The jacket shall extend downward into and/or through the opening from a point 36 to 40 in. (0.91 to 1.02 m) above the top surface of the floor assembly. **The PVC jacket must be used for the W Rating to apply. The W Rating applies only with floor assemblies.**

See **Plastics** (QMFZ2) category in the Plastics Recognized Component Directory for names of manufacturers. Any Recognized Component plastic material meeting the above specifications and having a UL 94 Flammability Classification of 94-5VA may be used.

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

- A. **Packing Material** — Min 3-3/4 in. thickness of min 4.5 pcf mineral wool batt insulation tightly packed into opening as a permanent form. Packing material to be recessed from top surface of floor or from both surfaces of wall as required to accommodate the required thickness of fill material.

- B. **Fill, Void or Cavity Material*** — **Caulk** — Min 1/4 in. thickness of fill material applied within the annulus, flush with the top surface of floor or with both surfaces of wall.

RECTORSEAL — [Metacaulk 835+](#)

* 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 Recognized Component Mark