



XHEZ.C-AJ-8321 - Through-penetration Firestop Systems

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.

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See General Information for Through-penetration Firestop Systems

System No. C-AJ-8321

July 09, 2020

ANSI/UL1479 (ASTM E814)

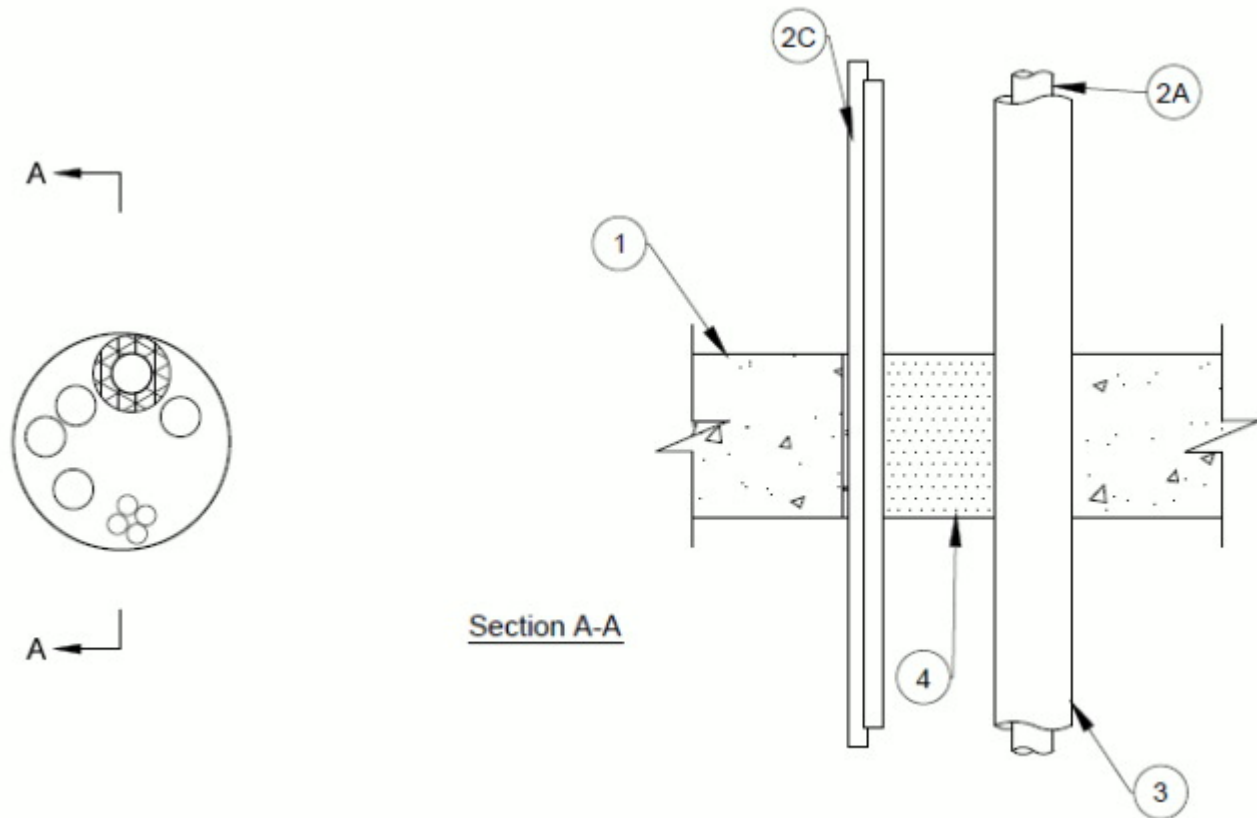
F Rating — 2 Hr
T Rating — 1/4, 3/4 and 2 Hr (See Items 2 and 3)

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1. Floor or Wall Assembly — Min 4-1/2 in. (114 mm) thick reinforced lightweight or normal weight (100-150 pcf or 1600-2400 kg/m³) concrete. Wall may also be constructed of any UL Classified **Concrete Blocks***. Max diam of opening is 6 in. (0.15 m).

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

2. Through-Penetrant — A max of five pipes, conduits or tubes and a max of four cables to be installed within the opening. The space between penetrants and between penetrants and periphery of opening shall be min. 0 in. (point contact) to max 2 in.

Penetrants to be rigidly supported on both sides of floor or wall assembly. The following types and sizes of penetrants may be used:

A. Metallic Pipes — A max of four metallic penetrants may be used. The following types and sizes of metallic pipes, conduits or tubing may be used:

A1. **Copper Tubing** — Nom 1 in. (25 mm) diam (or smaller) Type L (or heavier) copper tube.

A2. **Copper Pipe** — Nom 1 in. (25 mm) diam (or smaller) Regular (or heavier) copper pipe.

A3. **Steel Pipe** — Nom 1 in. (25 mm) diam (or smaller) Schedule 5 (or heavier) steel pipe.

A4. **Conduit** — Nom 1 in. (25 mm) diameter (or smaller) electrical metallic tubing or steel conduit.

The hourly T Rating shall not exceed 1/4 hr when metallic pipe or tubing is used with no pipe insulation.

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B. Nonmetallic Pipes — (Not Shown) — A max of one nonmetallic pipe or conduit may be used. The following types and sizes of nonmetallic pipes or conduits may be used:

B1. **Polyvinyl Chloride (PVC) Pipe** — Nom 1 in. (25 mm) diameter (or smaller) Schedule 40 solid core PVC pipe for use in closed (process or supply) or vented (drain, waste or vent) piping systems.

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B2. **Chlorinated Polyvinyl Chloride (CPVC) Pipe** — Nom 1 in. (25 mm) diameter (or smaller) SDR 13.5 CPVC pipe for use in closed (process or supply) or vented (drain, waste or vent) piping systems.

B3. **Rigid Nonmetallic Conduit** — Nom 1 in. (25 mm) diameter (or smaller) Schedule 40 PVC conduit installed in accordance with Article 347 of the National Electrical Code (NFPA No. 70).

C. **Cables** — A max of four cables may be used. The following types and sizes of cables may be used:

C1. Max 1/C No. 12 AWG power and control cables.

C2. Max four pair No. 18 AWG (or smaller) thermostat cable with polyvinyl chloride (PVC) insulation and jacket materials.

3. **Pipe Insulation** — (Optional) — The following types of pipe insulation may be used:

A. **Tube Insulation-Plastics+++** — Nom 1/2 in. (13 mm) thick (or thinner) acrylonitrile butadiene/polyvinyl chloride (AB/PVC) flexible foam furnished in the form of tubing. The hourly T Rating shall not exceed 3/4 hr when metallic pipe or tubing is used with this tube insulation.

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. **Fill, Void or Cavity Material*** — Min 4-1/2 in. (114 mm) thickness of material to fill opening within the annulus.

TENMAT INC — Fire Protection Foam FF360

+++Bearing the UL Recognized Component Marking

*** Indicates such products shall bear the UL or cUL Certification Mark for jurisdictions employing the UL or cUL Certification (such as Canada), respectively.**

Last Updated on 2020-07-09

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