System No. W-L-8006
XHEZ.W-L-8006
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

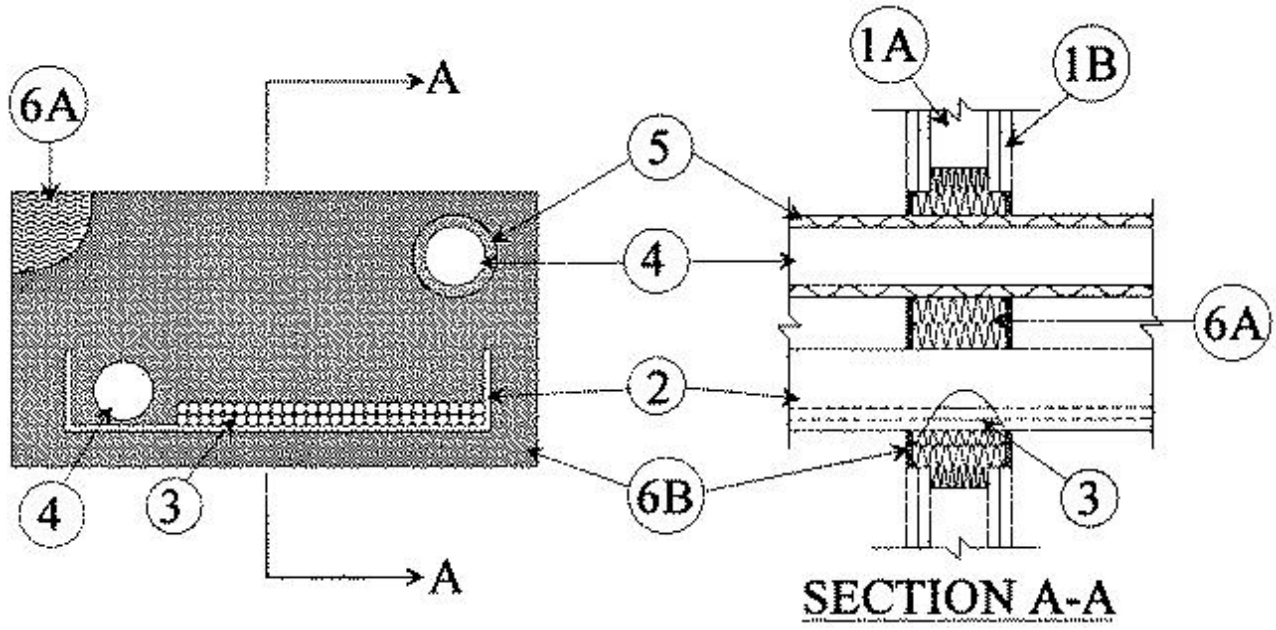
See General Information for Through-penetration Firestop Systems

System No. W-L-8006

December 11, 2001

F Rating — 1-1/2 Hr

T Rating — 0 Hr



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

A. **Studs —** Wall framing to consist of min 2-1/2 in. wide steel channel studs spaced 24 in. OC. Additional framing shall be installed horizontally so as to form a nom 22-5/8 in. wide by 11-13/16 in. high opening.

The horizontal framing members shall be installed in such that the flanges of the framing members are flush with the edges of the gypsum board opening.

B. **Gypsum Board* —** Two layers of nom 1/2 in. thick gypsum board, as specified in the individual Wall and Partition Design. Max area of opening is 267.3 sq in. with max dimensions of 22-5/8 in.

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 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 —** One pipe, conduit or tube to be installed within the opening. The space between pipe, conduit or tubing and periphery of opening shall be min 1 in. to max 6-3/4 in. The space between the pipe 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 3 in. diam (or smaller) Schedule 40 (or heavier) steel pipe.

B. **Copper Pipe —** Nom 3 in. diam (or smaller) Regular (or heavier) copper pipe.

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

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. **Pipe Covering* —** The following types of pipe coverings may be used on the steel pipe (Item 4A):

A. **Pipe and Equipment Covering — Materials* —** Nom 1 in. thick hollow cylindrical heavy density (min 3.5 pcf) glass fiber units jacketed on the outside 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.

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

B. **Pipe Covering Materials* —** Nom 1 in. thick unfaced mineral fiber pipe insulation sized to the outside diam of pipe or tube. Pipe insulation secured with min 8 AWG steel wire spaced max 12 in. OC.

INDUSTRIAL INSULATION GROUP L L C — High Temperature Pipe Insulation 1200, High Temperature Pipe Insulation BWT or High Temperature Pipe Insulation Thermaloc

C. **Sheathing Material* —** (Not Shown) — Used in conjunction with Item 5B. Foil-scrim-kraft or all service jacket material shall be wrapped around the outer circumference of the pipe insulation (Item 3B) with the kraft side exposed. Longitudinal joints and transverse joints sealed with metal fasteners or with butt tape.

See **Sheathing Materials** (BVDV) category in the Building Materials Directory for names of manufacturers. Any sheathing material 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.

The space between the insulated pipe and the periphery of the opening shall be a min 2 in. to a max 6-1/2 in. The insulated pipe shall be a nom 1/2 in. from the cable tray (Item 2).

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

A. **Packing Material —** Min 4 in. thickness of min 4 pcf mineral wool batt insulation 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.

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

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.**

Last Updated on 2001-12-11