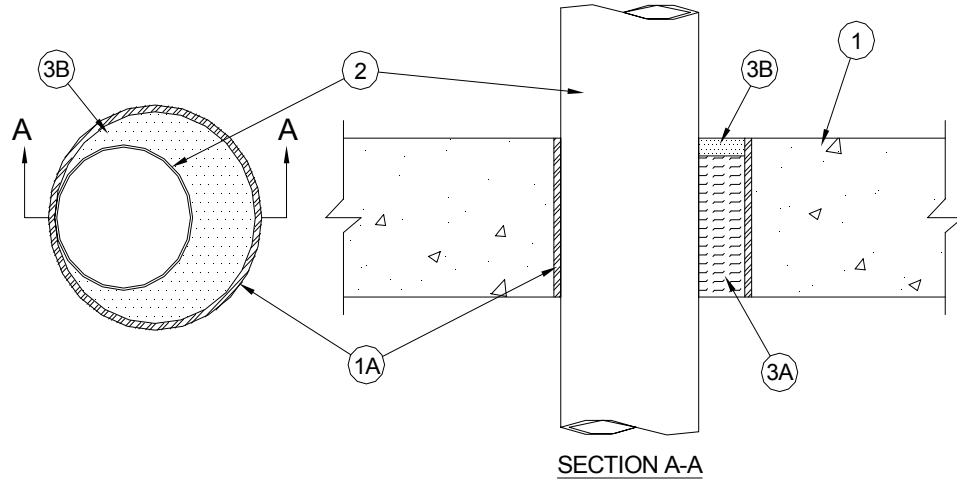
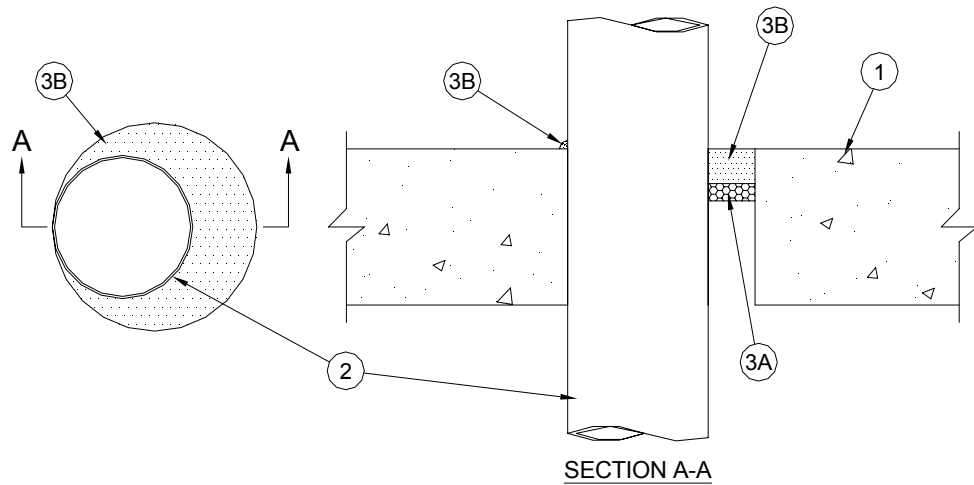


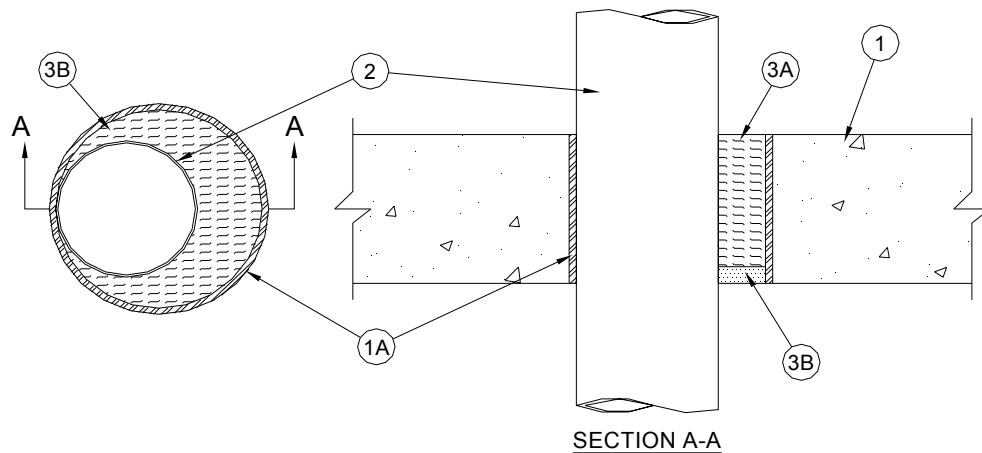
**Through-penetration Firestop Systems**  
**UL System No. C-AJ-1557**  
**F Ratings - 2 and 3 Hr (See Item 3)**  
**T Rating - 0 Hr**



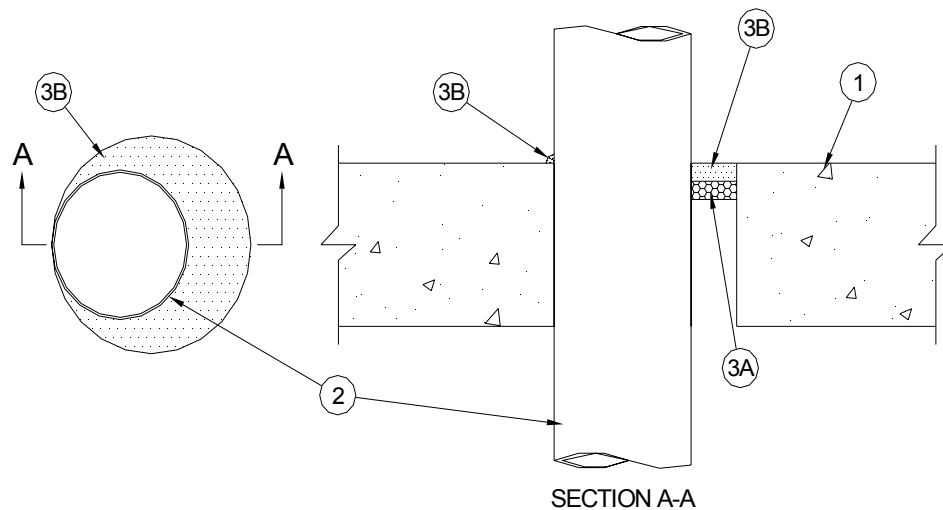
CONFIGURATION A



CONFIGURATION B



CONFIGURATION C



CONFIGURATION D

1. **Floor or Wall Assembly** - Min. 4-1/2 in. (114 mm) thick reinforced lightweight or normal weight (100-150 pcf (1600-2400 kg/m<sup>3</sup>)) concrete floor or min 4-1/2 in. (114 mm) thick reinforced lightweight or normal weight concrete wall. The min. thickness of the wall is dependent upon the firestop configuration as shown in Item 3. Wall may also be constructed of any UL Classified **Concrete Blocks\***. Floor may also be constructed of any min. 6 in. (152 mm) thick UL Classified hollow-core **Precast Concrete Units\***. If the firestop system is installed within a hollow-core precast concrete unit, max. dia. of opening shall be 7 in. (203 mm). Otherwise, max. dia. of opening is 15-1/4 in. (391 mm).

See **Concrete Blocks** (CAZT) and Precast Concrete Units (CFTV) categories in the Fire Resistance Directory for names of manufacturers.

1A. **Metallic Sleeve** - (Optional) -Nom. 14 in. (356 mm) dia. (or smaller) Schedule 10 (or heavier) steel sleeve cast or grouted into floor or wall assembly, flush with floor or wall surfaces. As an option, sleeve may extend max- 2 in. (51 mm) above top surface of floor or beyond one or both surfaces of wall. The use of the steel sleeve is dependent upon the firestop configuration as shown in Item 3.

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2. **Through Penetrants** - One metallic pipe, conduit or tubing to be installed either concentrically or eccentrically within the firestop system. The annular space the between pipe, conduit or tubing and periphery of opening is dependent upon the type and max diam of through penetrant and the firestop configuration as shown in Item 3. Pipe, conduit or tubing to be rigidly supported on both sides of floor or wall assembly. The following types and sizes of metallic pipes, conduits or tubing may be used:
- A. **Steel Pipe** - Nom. 12 in. (305 mm) dia. (or smaller) Schedule 10 (or heavier) steel pipe.
  - B. **Iron Pipe** - Nom. 12 in. (305 mm) dia. (or smaller) cast or ductile iron pipe.
  - C. **Conduit** - Nom. 4 in. (102 mm) dia. (or smaller) steel electrical metallic tubing or nom 6 in. diam (or smaller) steel conduit.
  - D. **Copper Tubing** - Nom. 6 in. (152 mm) dia. (or smaller) Type L (or heavier) copper tubing.
  - E. **Copper Pipe** - Nom. 6 in. (152 mm) dia. (or smaller) Regular (or heavier) copper pipe.
3. **Firestop System** - The F Rating of the firestop system is dependent upon the min thickness of the wall, type and max. nom. dia. of the through penetrant, min. and max. annular space within the firestop system and the firestop configuration as shown in the table below:

Min Thickness of Wall, in. (mm)	Type of Through Penetrant	Max Nom Dia. of Through Penetrant, in. (mm)	Use of Steel Sleeve	Min, Max Annular, In. (mm)	Firestop Configuration	F Rating, Hr
4-3/4 (121)	Steel Pipe & Iron Pipe	12 (305)	Optional	0, 2 (0, 51)	A	3
4-3/4 (121)	Steel Conduit,	6 (152)	Optional	0, 2 (0, 51)	A	3
	Copper Tube& Copper Pipe					
4-3/4 (121)	Steel EMT	4 (102)	Optional	0, 2 (0, 51)	A	3
4-1/2 (114)	Steel Pipe & Iron Pipe	12	Not Applicable	0, 2 (0, 51)	B	2
4-1/2 (114)	Steel Conduit, Copper Tube	6 (152)	Not Applicable	0, 2 (0, 51)	B	2
	& Copper Pipe					
4-1/2 (114)	Steel EMT	4 (102)	Not Applicable	0, 2 (0, 51)	B	2
5-1/4 (131)	Steel Pipe	8 (203)	Optional	0, 2 (0, 51)	C	3
	& Iron Pipe					

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5-1/4 (131)	Steel Conduit,	4 (102)	Optional	0, 2 (0, 51)	C	3
	Copper Tube, Copper Pipe & Steel EMT					
4-1/2 (114)	Steel Pipe & Iron Pipe	8 (203)	Not Applicable	0, 7/8 (0, 22)	D	2
4-1/2 (114)	Steel Conduit, Copper Tube,	4 (102)	Not Applicable	0, 7/8 (0, 22)	D	2
	Copper Pipe & Steel EMT					

The firestop system shall consist of the following:

**Configuration A**

- A. **Packing Material** - Min. 4-1/4 in (108 mm) thickness of 4 pcf (64 kg/m<sup>3</sup>) mineral wool batt insulation firmly packed into opening as a permanent. Packing material to be recessed from top surface of floor *or top end of sleeve* or from both surfaces of wall and hollow-core precast concrete units *or ends of sleeve* as required to accommodate the required thickness of fill material.
- B. **Fill, Void or Cavity Material\* - Caulk** - Min. 1/4 in. (6 mm) of fill material applied within the annulus, flush with top surface of floor *or top end of sleeve*, or with both surfaces of wall and hollow-core precast concrete units *or ends of sleeve*.

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**Configuration B**

- A. **Packing Material** - Foam backer rod firmly packed into opening as a permanent form. Packing material to be recessed from top surface of floor or both surfaces of wall and hollow-core precast concrete units as required to accommodate the required thickness of fill material.
- B. **Fill, Void or Cavity Material\* - Caulk** - Min. 1 in. (25 mm) thickness of fill material applied within the annulus, flush with top surface of floor or with both surfaces of wall and hollow-core precast concrete units. A min. 1/4 in. (6 mm) bead of fill material shall be applied at point contact location on top surface of floor and both surfaces of wall or hollow-core precast concrete units.

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**Configuration C**

- A. **Packing Material** - Min. 3-3/4 in. (95 mm) thickness of 4 pcf (64 kg/m<sup>3</sup>) mineral wool batt insulation firmly packed into opening as a permanent form. Packing material shall be recessed 3/4 in. from bottom of floor or both surfaces of wall *or ends of sleeve* to accommodate the required thickness of fill material.
- B. **Fill, Void or Cavity Material\* - Caulk** - Min. 3/4 in. (19 mm) *thickness* of fill material applied within the annulus, flush with bottom surface of floor or with both surfaces of wall *or ends of sleeve*.

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**UL System C-AJ-1557 continued...**

**Configuration D**

- A. **Packing Material** - Foam backer rod firmly packed into opening as a permanent form. Packing material to be recessed from top surface of floor or both surfaces of wall and hollow-core precast concrete units as required to accommodate the required thickness of fill material.
- B. **Fill, Void or Cavity Material\* - Caulk** - Min. 1/2 in. (13 mm) thickness of fill material applied within the annulus, flush with top surface of floor or with both surfaces of wall and hollow-core precast concrete units. A min. 1/4 in. (6 mm) bead of fill material shall be applied at point contact location on top surface of floor and both surfaces of wall or hollow-core precast concrete units.

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\*Bearing the UL Classification Mark