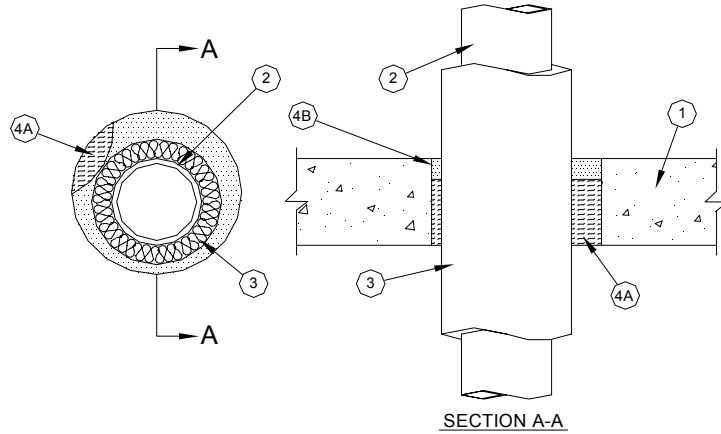


**Through-penetration Firestop Systems**  
**UL System No. C-AJ-5303**  
**F Ratings - 1-1/2 and 2 Hr (See Item 4)**  
**T Ratings - 1/2 & 1 Hr (See Item 4)**



1. **Floor or Wall Assembly** - Min. 3-1/2 in. (89 mm) thick reinforced lightweight or normal weight (100-150 pcf (1600-2400 kg/m<sup>3</sup>)) concrete floor or min. 4 in. (102 mm) thick reinforced lightweight or normal weight concrete wall. Wall may also be constructed of any UL Classified **Concrete Blocks\***. Max. dia. of opening is 12 in. (305 mm). See Concrete Blocks (CAZT) category in the Fire Resistance Directory for names of manufacturers.
2. **Through Penetrants** - One metallic pipe or tubing to be installed either concentrically or eccentrically within the firestop system. Pipe or tubing to be rigidly supported on both sides of floor or wall assembly. The following types and sizes of metallic pipes or tubing may be used:
  - A. **Steel Pipe** - Nom. 8 in. (203 mm) dia. (or smaller) Schedule 40 (or heavier) steel pipe.
  - B. **Iron Pipe** - Nom. 8 in. (203 mm) dia. (or smaller) cast or ductile iron pipe.
  - C. **Copper Tubing** - Nom. 4 in. (102 mm) dia. (or smaller) Type L (or heavier) copper tubing.
  - D. **Copper Pipe** - Nom. 4 in. (102 mm) dia. (or smaller) Regular (or heavier) copper pipe.
3. **Pipe Covering\*** - Nom. 1 in. (25 mm) thick hollow cylindrical heavy density (min. 3.5 pcf (56 kg/m<sup>3</sup>)) 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. The annular space is specified in the table below.

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.

**UL System C-AJ-5303 continued...**

**4. Firestop System** - The F and T Ratings of the system are dependent upon the thickness of concrete, type of pipe, annular space, packing material type and thickness as shown in the table below:

Min Thk of Concrete Floor In. (mm)	Min Thk of Concrete Wall In. (mm)	Type of Pipe	Annular Space In. (mm)	Packing Mtl Type	Packing Mtl Thk In. (mm)	F Rating Hr	T Rating Hr
4-1/2 (114)	5 (127)	Steel Pipe	1/2 to 1 (13 to 25)	Mineral Wool	4 (102)	2	1
4-1/2 (114)	5 (127)	Iron Pipe	1/2 to 1 (13 to 25)	Mineral Wool	4 (102)	2	1
4-1/2 (114)	5 (127)	Copper Tube	3/8 to 1-1/2 (9.5 to 38)	Mineral Wool	4 (102)	2	1/2
4-1/2 (114)	5 (127)	Copper Pipe	3/8 to 1-1/2 (9.5 to 38)	Mineral Wool	4 (102)	2	1/2
3-1/2 (89)	4 (102)	Steel Pipe	1/4 to 5/8 (6 to 16)	Ceramic Blanket	3 (76)	1-1/2	1/2
3-1/2 (89)	4 (102)	Iron Pipe	1/4 to 5/8 (6 to 16)	Ceramic Blanket	3 (76)	1-1/2	1/2
3-1/2 (89)	4 (102)	Copper Tube	1/4 to 5/8 (6 to 16)	Ceramic Blanket	3 (76)	1-1/2	1/2
3-1/2 (89)	4 (102)	Copper Pipe	1/4 to 5/8 (6 to 16)	Ceramic Blanket	3 (76)	1-1/2	1/2

A. **Packing Material** - Min. 4 in. (102 mm) thickness of min 4.0 pcf (64 kg/m<sup>3</sup>) mineral wool batt insulation or min. 3 in. (76 mm) thickness of min. 6 pcf (96 kg/m<sup>3</sup>) ceramic fiber blanket insulation firmly packed into opening as a permanent form as specified in the table above. 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. 1/2 in. (13 mm) thickness of fill material applied within the annulus, flush with top surface of floor or with both surfaces of wall.

**A/D FIRE PROTECTION SYSTEMS INC** - A/D FIREBARRIER Intumescent Sealant or  
A/D FIREBARRIER Acrylic Sealant

\*Bearing the UL Classification Mark