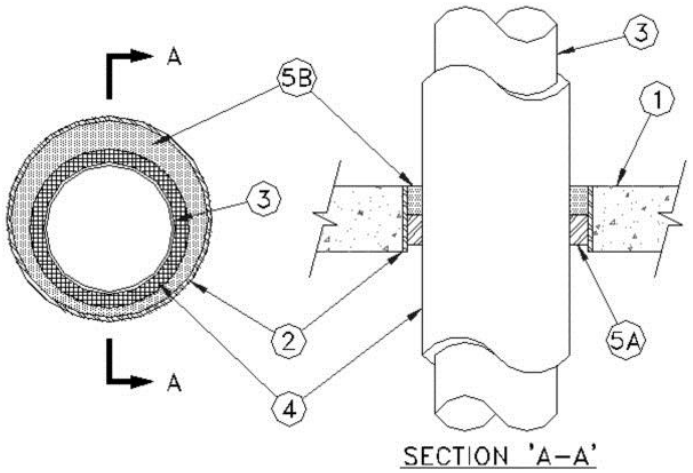
Through-penetration Firestop Systems

System No. C-AJ-5322

July 02, 2008

F Rating — 2 Hr

T Rating — 3/4 Hr and 1 Hr (See Item 5)



1. **Floor or Wall Assembly —** Min 4-1/2 in. thick reinforced light weight or normal weight (100-150 pcf) concrete floor or min 6 in. thick reinforced light weight or normal weight concrete wall. Floor may also be constructed of any min 6 in. thick UL Classified hollow core **Precast Concrete Units***. When precast concrete units are used, the max diam of opening is 7 in. Wall may also be constructed of any UL Classified **Concrete Units***. Max diam of opening is 29-1/2 in.

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

2. **Metallic Sleeve —** (Optional) — Nom 30 in. diam (or smaller) Schedule 10 (or heavier) steel sleeve cast or grouted into floor or wall assembly, flush with floor or wall surfaces.
3. **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 24 in. diam (or smaller) Schedule 20 (or heavier) steel pipe.
B. **Iron Pipe —** Nom 24 in. diam (or smaller) cast or ductile iron pipe.
C. **Copper Tubing —** Nom 4 or 6 in. diam (or smaller) Type L (or heavier) copper tubing. See table below.
D. **Copper Pipe —** Nom 4 or 6 in. diam (or smaller) Regular (or heavier) copper pipe. See table below.

4. **Pipe Covering* —** Nom 2 in. thick hollow cylindrical glass fiber units, of min 4.5 pcf density, 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 between insulated pipe and periphery of the opening 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.

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

A. **Packing Material —** Min 2 in. thickness of min 4 pcf mineral wool batt insulation or nom 1 in. diam foam backer rod (see table below) firmly 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 Materials* - Sealant —** Min 1, 1-3/4 or 2 in. thickness (see table below) of fill material applied within the annulus, flush with top surface of floor or with both surfaces of wall.

Type of Pipe	Nom Pipe Diam, in.	Annular Space, in.	Type of Packing Material	Thickness of Sealant, in.	F Rating Hr.	T Rating Hr.
Steel and Iron Pipe	24	5/8 to 1-1/4	Mineral Wool	2	2	3/4
Copper Tube and Pipe	4	5/8 to 1-1/4	Mineral Wool	2	2	3/4
Steel and Iron Pipe	24	5/8 to 1-1/4	Mineral Wool	2	2	1
Copper Tube and Pipe	6	5/8 to 1-1/2	Mineral Wool	1	2	1
Steel and Iron Pipe	12	5/8 to 1-1/2	Mineral Wool	1	2	1
Steel and Iron Pipe	12	1/2 to 3/4	Foam Backer Rod	1-3/4	2	3/4

ACCUMETRIC L L C — Boss 816

*Bearing the UL Classification Mark