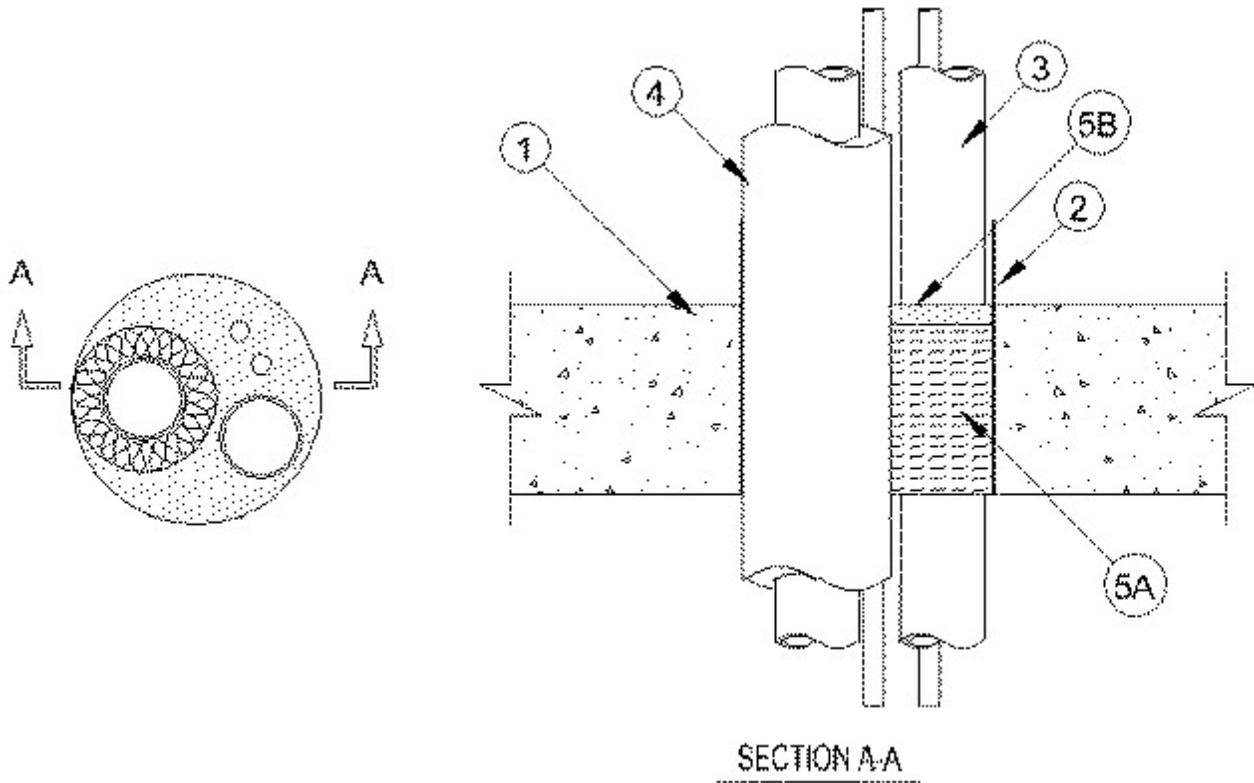


System No. C-AJ-8156

August 31, 2004

F Rating — 2 Hr

T Rating — 3/4 Hr



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

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

2. **Steel Sleeve** — (Optional) - Cylindrical sleeve fabricated from 0.036 in. thick (No. 20 gauge) galv sheet steel and having a min 1 in. lap along the longitudinal seam. Steel sleeve to project max 2 in. beyond the top surface of the floor or both surfaces of the wall. Sleeve cast or grouted in the concrete floor or wall.

3. **Through Penetrants** — A max of two pipes, conduits or tubes and a max of two cable lengths to be installed within the opening. Annular space between the penetrants and the periphery of the 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 metallic pipes, conduits or tubing may be used:

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

A1. **Steel Pipe** — Nom 2 in. diam (or smaller) Schedule 5 (or heavier) steel pipe.

A2. **Conduit** — Nom 2 in. diam (or smaller) electrical metallic tubing or rigid steel conduit.

A3. **Copper Tubing** — Nom 2 in. diam (or smaller) Type L (or heavier) copper tubing.

A4. **Copper Pipe** — Nom 2 in. diam (or smaller) Regular (or heavier) copper pipe.

C. **Cables** — A max of two cables may be used. One length of max 8/C No. 12 AWG power and control cable; XLPE or PVC insulation with XLPE or PVC jacket. One length of max 1/C No. 12 AWG power and control cable; XLPE or PVC insulation with XLPE or PVC jacket.

4. **Tube Insulation - Plastics++** — Nom 3/4 in. thick acrylonitrile butadiene/polyvinyl chloride (AB/PVC) flexible foam furnished in the form of tubing. Required for copper tubes greater than 1 in. diam.

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 UL94 Flammability Classification of 94-5VA may be used.

5. **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 tightly 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* - Caulk** — Min 1/2 in. thickness of caulk applied within the annulus, flush with both surfaces of floor or wall. Min 1/4 in. diam bead of caulk shall be applied to the penetrant / surface interface at the point contact location on top of floor or both sides of wall.

RECTORSEAL — BF 150+

*Bearing the UL Classification Mark