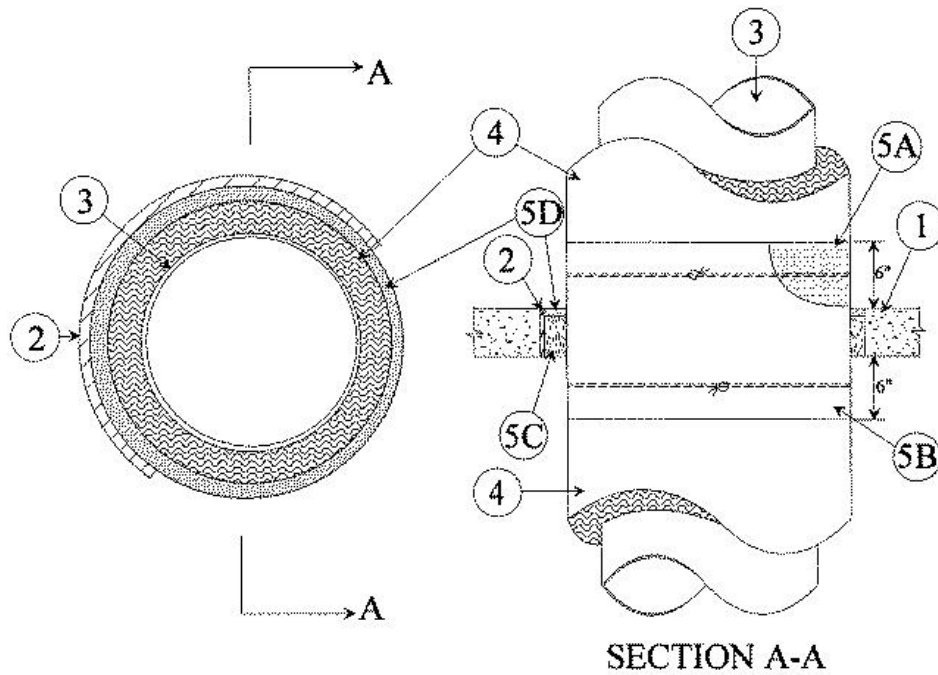


F Rating — 3 Hr  
T Rating — 1/2 Hr



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

2. **Metallic Sleeve** — (Optional) — Nom 30 in. diam (or smaller) Schedule 10 (or heavier) steel pipe, conduit or EMT cast or grouted into floor or wall assembly, flush with floor or wall surfaces.

3. **Through Penetrants** — One metallic pipe or tubing to be either concentrically or eccentrically within the firestop system. Pipe or tube 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 20 in. diam (or smaller) Schedule 10 (or heavier) steel pipe.

B. **Copper Tubing** — Nom 6 in. diam (or smaller) Type L (or heavier) copper tubing.

4. **Pipe Covering** — Max 3 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. Pipe covering to terminate 6 in. from each side of floor or wall assembly.

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. **Pipe Covering Materials\*** — Nom 3 in. thick unfaced mineral fiber pipe insulation having a nom density of 5.0 pcf (or heavier) sized to the outside diam of pipe or tube and extending min 6 in. beyond each surface of floor or wall. Pipe insulation secured with min 18 AWG steel wire 3 in. beyond each surface of floor or wall. The annular space shall be min 1/4 in. to max of 3 in., or when steel sleeve is used, min 1 in. to max 2-1/4 in.

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

B. **Sheathing Material\*** — All service jacket material shall be wrapped around the outer circumference of the pipe covering material (Item 5A) with kraft facing exposed. Longitudinal joints sealed with metal fasteners.

See **Sheathing Material** (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.

C. **Packing Material** — Min 3 in. thickness of min 4.0 pcf mineral wool batt insulation 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.

D. **Fill, Void or Cavity Material\*** — **Sealant** — Min 3/4 in. thickness of fill material applied within the annulus, flush with top surface of floor or with both surfaces of wall.

**RECTORSEAL** — [Metacaulk 950](#)

\*,+ Indicates such products shall bear the UL or cUL Certification Mark for jurisdictions employing the UL or cUL Certification (such as Canada), respectively.

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