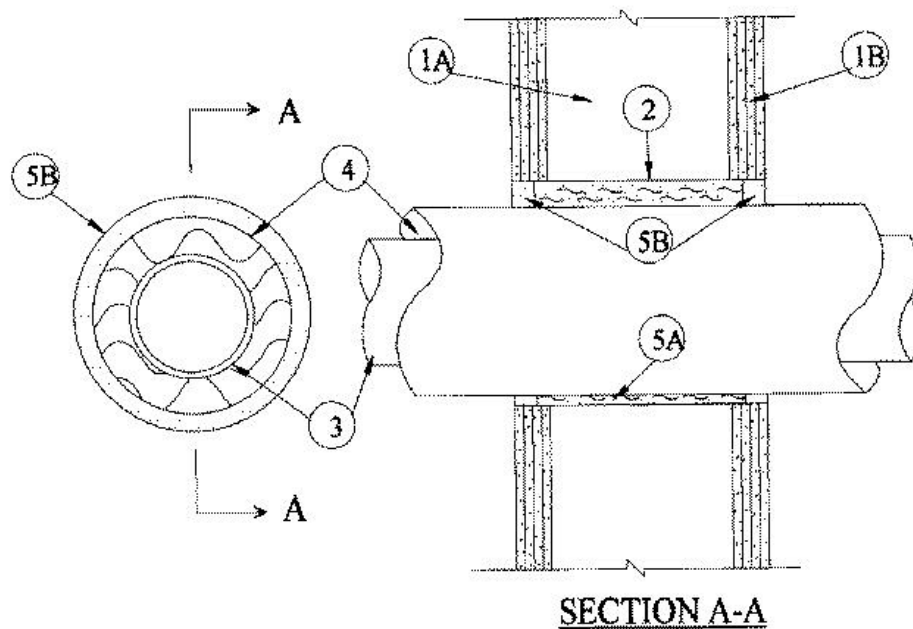


F Ratings — 3 and 4 Hr (See Item 1)  
T Rating — 2 Hr



1. **Wall Assembly** — The 3 or 4 hr fire-rated gypsum wallboard/stud wall assembly shall be constructed of the materials and in the manner specified in the individual U400 Series Wall and Partition Designs in the UL Fire Resistance Directory and shall include the following construction features:

A. **Studs** — Wall framing shall consist of steel channel studs. Steel studs to be min 1-5/8 in. wide and spaced max 24 in. OC.

B. **Gypsum Board\*** — Multiple layers of min 1/2 in. thick gypsum wallboard. The gypsum wallboard type, thickness, number of layers and orientation shall be as specified in the individual Wall and Partition Design. Max diam of opening is 16 in.

2. **Steel Wire Mesh** — Cylindrical sleeve fabricated from No. 8 steel wire mesh and having a min 3 in. lap along the longitudinal seam. Length of steel mesh to be 1 in. less than thickness of wall. Steel wire mesh to be centered and formed to fit periphery of through opening.

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 10 in. diam (or smaller) Schedule 40 (or heavier) steel pipe.

B. **Iron Pipe** — Nom 10 in. diam (or smaller) cast or ductile iron pipe.

C. **Copper Tubing** — Nom 4 in. diam (or smaller) Type L (or heavier) copper tubing.

D. **Copper Pipe** — Nom 4 in. diam (or smaller) Regular (or heavier) copper pipe.

4. **Pipe Covering\*** — Nom 1-1/2 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. The annular space between insulated pipe and periphery of opening shall be min 3/4 in. to max 1-1/2 in.

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 3-1/8 in. thickness of min 4 pcf mineral wool batt insulation firmly packed into opening as a permanent form. Packing material to be recessed from both surfaces of wall as required to accommodate the required thickness of fill material.

B. **Fill, Void or Cavity Material\*** — **Caulk** — Min 1-1/4 in. thickness of fill material applied within the annulus, flush with both

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surfaces of wall.

**RECTORSEAL** — [Metacaulk 1000](#)

\*,+ 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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