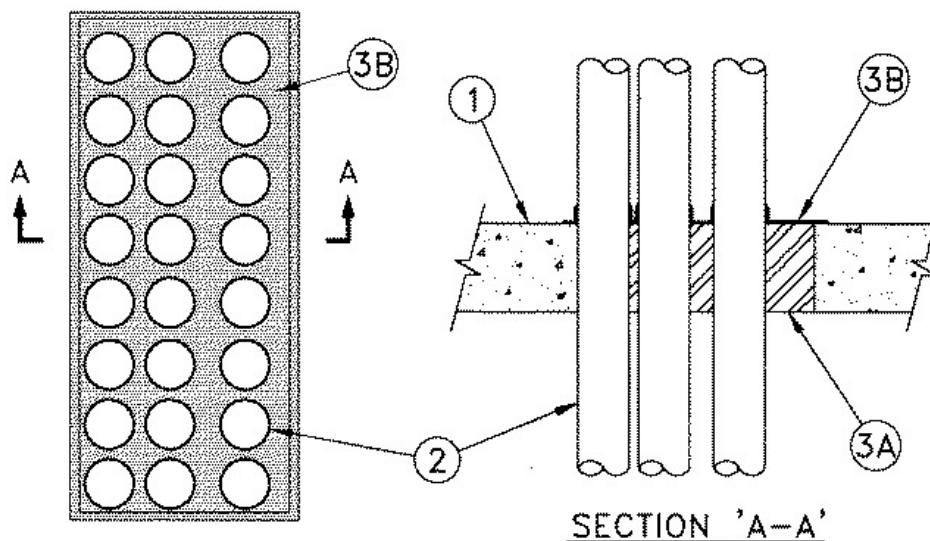


F Rating — 2 Hr  
 T Rating — 0 Hr  
 L Rating At Ambient — Less Than 1 CFM/sq ft (See Item 2)  
 L Rating At 400 F — Less Than 1 CFM/sq ft (See Item 2)



1. **Floor or Wall Assembly** — Min 4-1/2 in. (114 mm) thick reinforced light weight or normal weight (100-150 pcf or 1600-2400 kg/m<sup>3</sup>) concrete. Wall may also be constructed of any UL Classified **Concrete Blocks\***. Max area of opening is 864 sq. in. (0.56 m<sup>2</sup>) with max dimension of 48 in. (1.22 m).

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

2. **Through Penetrants** — A max of twenty-four pipes, conduit or tubing to be installed within the opening. The space between the pipes, conduit or tubing shall be within the range of 5/16 in. (8 mm) to 2-1/2 in. (64 mm). The space between pipes, conduit or tubing and periphery of opening shall be min 0 in. (0 mm, point contact) to max 2 in. (51 mm). **L Ratings apply only when the min annular space between the through penetrants and the edge of the opening is equal to or greater than 1/4 in. (6 mm).** Pipe, conduit or tubing to be rigidly supported on both sides of floor or wall. The following types and sizes of metallic pipes, conduits or tubing may be used:

- A. **Steel Pipe** — Nom 4 in. (102 mm) diam (or smaller) Schedule 5 (or heavier) steel pipe.
- B. **Iron Pipe** — Nom 4 in. (102 mm) diam (or smaller) cast or ductile iron pipe.
- C. **Conduit** — Nom 4 in. (102 mm) diam (or smaller) electrical metallic tubing or steel conduit.
- D. **Copper Tubing** — Nom 1-1/2 in. (38 mm) diam (or smaller) Type L (or heavier) copper tubing.

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

A. **Packing Material** — Min 4 in. (102 mm) thickness of min 4 pcf (64 kg/m<sup>3</sup>) mineral wool batt insulation firmly packed into opening and in between the penetrants as a permanent form. Packing material to be installed flush with top surface of floor or with both surfaces of wall .

B. **Fill, Void, or Cavity Materials\*** — Min 1/8 in. (3.2 mm) wet thickness of fill material applied to completely cover the mineral wool packing material and to lap min 1/2 in. (13 mm) onto the top surface of floor or onto both surfaces of wall. Spray to lap a min of 1/2 in. (13 mm) onto penetrant surfaces on the top surface of the floor or on both surfaces of the wall .

**RECTORSEAL** — FlameSafe FS3000, **Metacaulk 1200, 1500** or Biostop 750, 800 Spray

\*,+ 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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