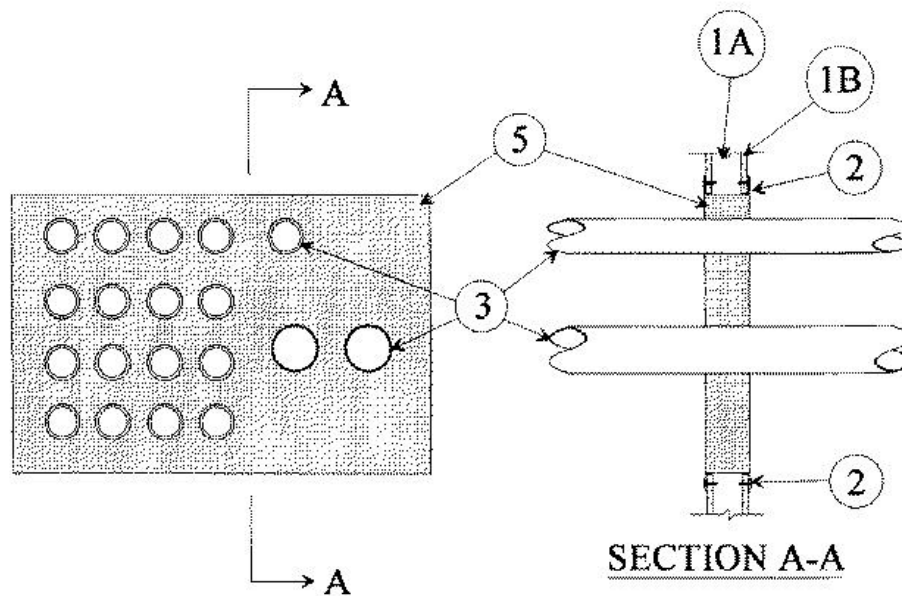


F Rating — 1 Hr
T Rating — 0 Hr



1. Wall Assembly — The fire-rated gypsum wallboard/stud wall assembly shall be constructed of the materials and in the manner specified in the individual U300 or U400 Series Wall and Partition Designs in the UL Fire Resistance Directory and shall include the following construction features:

A. **Studs** — Wall framing may consist of either wood studs or steel channel studs. Wood studs to consist of nom 2 by 4 in. lumber spaced 16 in. OC. Steel studs to be min 3-5/8 in. wide and spaced max 24 in. OC. Additional framing members to be installed in stud cavity containing the through penetrating item to form a rectangular box around the penetrants.

B. **Gypsum Board*** — One layer of nom 5/8 in. thick gypsum wallboard, as specified in the individual Wall and Partition Design. Max area of opening is 1024 sq in. with max dimension of 32 in. for steel stud walls. Max width of opening in wood stud walls is limited to 14-1/2 in.

2. Angle Clips — Nom 1-1/2 in. by 1-1/2 in. by No. 22 gauge (or heavier) steel angles attached to all four sides of the opening on both sides of the wall. The angle shall be attached to the wall with min 1-5/8 in. long Type S self-drilling, self-tapping bugle-head steel screws spaced max of 2 in. from each end and at a max of 5 in. OC.

3. Through Penetrants — The space between pipes, conduits or tubing shall be min 1 in. when diam of through penetrant is 1-1/2 in. or smaller and 2-1/2 in. when diam of through penetrant is larger than 1-1/2 in. The space between pipes, conduits or tubing and periphery of opening shall be min 1 in. when diam of through penetrant is 1-1/2 in. or smaller and 2-1/2 in. when diam of through penetrant is larger than 1-1/2 in. Pipe, conduit or tubing to be rigidly supported on both sides of wall assembly. The following types and sizes of metallic pipes, conduits or tubing may be used:

A. **Steel Pipe** — Nom 6 in. diam (or smaller) Schedule 10 (or heavier) steel pipe.

B. **Iron Pipe** — Nom 6 in. diam (or smaller) cast or ductile iron pipe.

C. **Conduit** — Nom 6 in. diam (or smaller) steel conduit or nom 4 in. diam (or smaller) steel electrical metallic tubing .

D. **Copper Tubing** — Nom 3 in. diam (or smaller) Type L (or heavier) copper tubing.

E. **Copper Pipe** — Nom 3 in. diam (or smaller) Regular (or heavier) copper pipe.

4. Forms — (Not Shown) — Used as a form to prevent leakage of fill material during installation. Forms to be a rigid sheet material, cut to fit the contour of the penetrating items and fastened to both sides of wall. Forms to be removed after fill material has cured.

5. Fill, Void or Cavity Material* — Mortar — Min 4-1/2 in. thickness of fill material applied within the annulus, centered witin the wall. Mortar is mixed at a rate of 2-1/2 parts dry mix to one part water by volume in accordance with the fill material manufacturers' installation instructions.

RECTORSEAL — [Metacaulk Fire Rated Mortar](#)



*,+ 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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