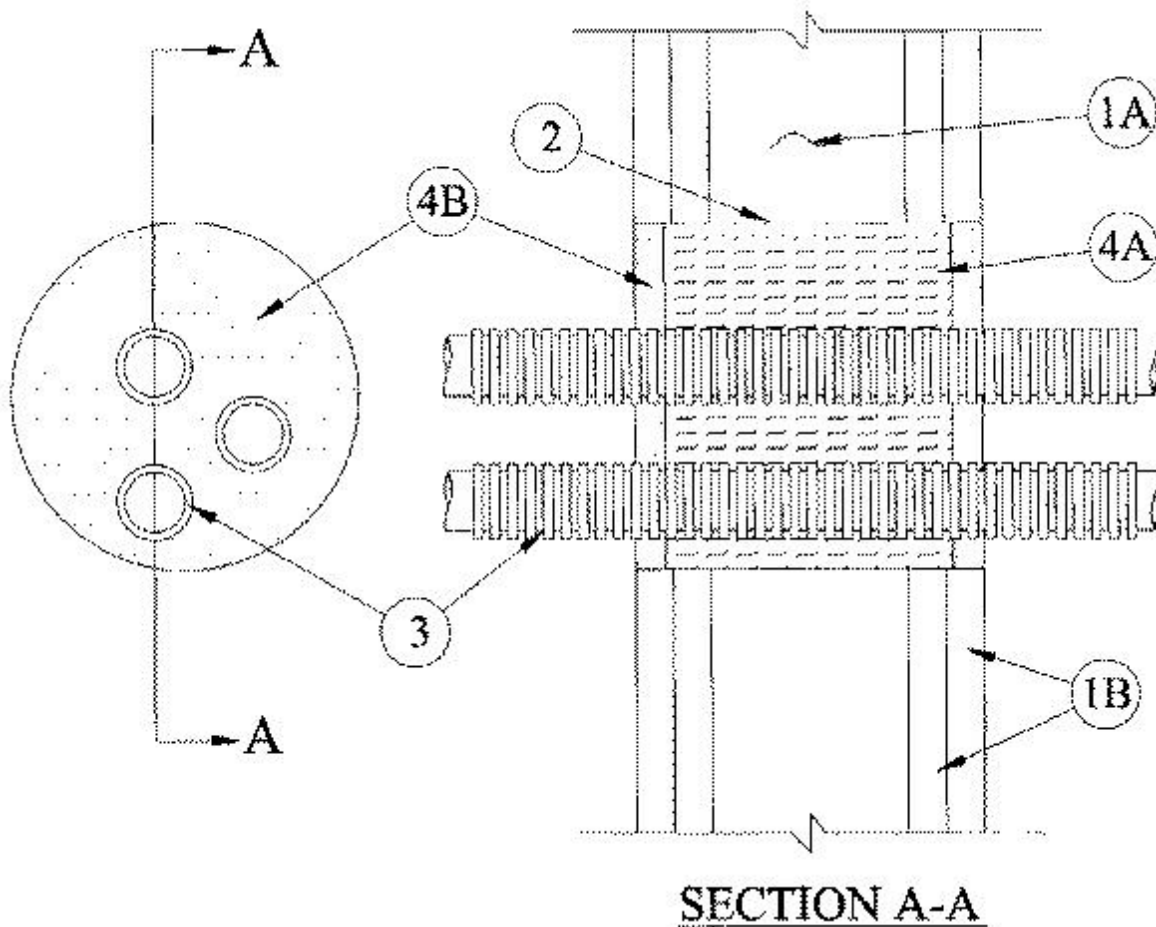


System No. W-L-2193

December 03, 1999

F Ratings — 1 and 2 Hr (See Item 1)

T Ratings — 1 and 2 Hr (See Item 1)



1. **Wall Assembly** — The 1 or 2 hr 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 shall consist of either wood or steel channel studs. Wood studs to consist of nom 2 by 4 in. lumber spaced 16 in. OC. Steel studs to be min 3-1/2 in. wide and spaced max 24 in. OC.

B. Gypsum Board* — Min 5/8 in. thick, 4 ft wide with square or tapered edges. The gypsum wallboard type, thickness, number of layers and orientation shall be as specified in the individual U300 or U400 Wall and Partition Design. Max diam of opening is 6 in.

The hourly F and T Ratings of the firestop system is equal to the hourly fire rating of the wall assembly in which it is installed.

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

3. **Nonmetallic Penetrants** — A max of three nonmetallic penetrants may be installed within the opening. Min separation between nonmetallic penetrants is 1 in. The annular space between nonmetallic penetrants and periphery of opening shall be min 1 in. to max 2 in. Through-penetrants shall be rigidly supported on both sides of wall assembly. Any combination of

the following types and sizes of nonmetallic penetrants may be used:

A. **Electrical Nonmetallic Tubing (ENT)+** — Nom 1 in. diam (or smaller) **Electrical Nonmetallic Tubing**. ENT installed in accordance with Article 331 of the National Electrical Code (NFPA No. 70).

See **Electrical Nonmetallic Tubing** (FKHU) category in the Electrical Construction Material Directory for names of manufacturers.

B. **Optical Fiber Raceways+** — Nom 1 in. diam (or smaller) **Optical Fiber Raceways**. Optical fiber raceways installed in accordance with Article 770 of the National Electrical Code (NFPA No. 70).

See **Optical Fiber Raceways** (QAZM) category in the Electrical Construction Material Directory for names of manufacturers.

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

A. **Packing Material** — Min 3-3/4 or 5 in. thickness of min 4 pcf mineral wool batt insulation firmly packed into opening as a permanent form for 1 or 2 hr rated walls, respectively. 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 1/2 in. thickness of fill material applied within the annulus, flush with both surfaces of wall.

RECTORSEAL — Biostop 500+ Caulk

*Bearing the UL Classification Mark