



### System No. W-L-2185

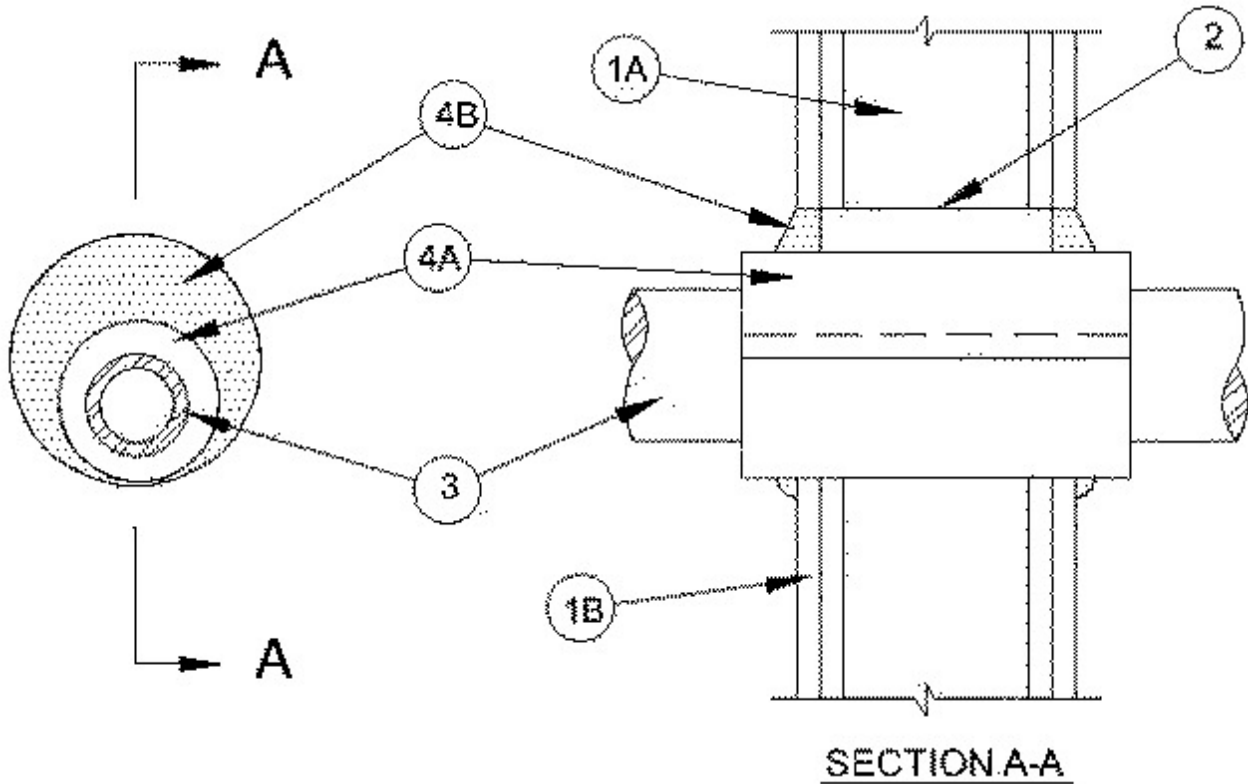
March 10, 2011

F Ratings — 1 and 2 Hr (See Item 1B)

T Ratings — 1, 1-1/2 and 2 Hr (See Item 1B)

L Rating at Ambient - Less than 1 CFM/sq ft (See Item 3)

L Rating at 400° F - Less than 1 CFM/sq ft (See Item 3)



1. **Wall Assembly** — The 1 or 2 hr fire-rated gypsum board/stud wall assembly shall be constructed of the materials and in the manner described in the individual U300, U400 or V400 Series Wall and Partition Design 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. (51 by 102 mm) lumber spaced 16 in. (406 mm) OC. Steel studs to be min 3-5/8 in. (92 mm) wide and spaced max 24 in. (610 mm) OC.

B. **Gypsum Board\*** — 5/8 in. (16 mm) thick, 4 ft (1.2 m) wide with square or tapered edges, The gypsum board type, thickness, number of layers, fastener type and sheet orientation shall be as specified in the individual U300, U400 or V400 Series Design in the UL Fire Resistance Directory. Max diam of opening is 10-1/2 in. (267 mm).

The hourly F and T Ratings of the firestop system are dependent on the hourly fire rating of the wall assembly in which it is installed as shown in the table below:

Rating of Wall, Hr	Pipe Diameter, in.	F Rating, Hr	T Rating, Hr
2	8	2	1-1/2
1	8	1	1

2	6 in. or smaller	2	2
1	6 in. or smaller	1	1

2. **Metallic Sleeve** — (Optional) Cylindrical sleeve fabricated from min 0.018 in. (0.46 mm) thick (28 gauge) galv sheet steel and having a min 1 in. (25 mm) lap along the longitudinal seam. Sheet steel coiled to a diam less than circular cutouts in wall assembly, inserted through both sides of wall and allowed to uncoil against the circular cutouts in the wall assembly. Sleeve to be installed flush with or extending max 1 in. (25 mm) beyond each surface of the wall assembly.

2A. **Metallic Sleeve** — (Optional, Not Shown) - As an alternate to Item 2A, steel sleeve may consist of Schedule 5 (or heavier) steel pipe, rigid steel conduit or EMT friction-fitted into wall assembly flush with or extending a max 4 in. (102 mm) beyond each surface of the wall assembly.

3. **Through Penetrants** — One nonmetallic pipe or conduit to be installed either concentrically or eccentrically within the firestop system. Pipe to be rigidly supported on both sides of the wall assembly. The following types and sizes of nonmetallic pipes may be used:

A. **Polyvinyl Chloride (PVC) Pipe** — Nom 8 in. (203 mm) diam (or smaller) Schedule 40 solid core PVC pipe for use in closed (process or supply) or vented (drain, waste or vent) piping systems.

B. **Chlorinated Polyvinyl Chloride (CPVC) Pipe** — Nom 8 in. (203 mm) diam (or smaller) SDR 13.5 CPVC pipe for use in closed (process or supply) piping systems.

C. **Rigid Nonmetallic Conduit+** — Nom 6 in. (152 mm) diam (or smaller), Schedule 40, PVC conduit installed in accordance with Article 347 of the National Electrical Code (NFPA No. 70).

The required annular space is dependent upon the nom diam of the through penetrant as shown in the table below.

Nom Diam of Through Penetrant, In. (mm)	Min and Max Annular Space, In. (mm)
2 (51)	1/4, 1-1/8 (6, 29)
3 (76)	1/2, 1-1/8 (13, 29)
4 (102)	1/2, 1-1/8 (13, 29)
6 (152)	3/4, 1-1/8 (19, 29)
8 (203)	3/4, 1-1/8 (19, 29)

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

A. **Firestop Device\*** — Galv steel sleeve lined with an intumescent material sized to fit the specific diam of the through penetrant. Device to be wrapped around the outer circumference of through penetrant and installed through the annular space of the opening in accordance with the installation instructions provided with the product. The device shall extend min 2 in. (51 mm) beyond each wall surface for an 8 in. pipe and a min 3/4 in. for 6 in. pipes or smaller. The device may be secured together by means of min 1/2 in. (13 mm) wide by 0.028 in. (0.71 mm) thick stainless steel hose clamps or with 3/4 in. (19 mm) wide by 0.007 in. (0.18 mm) thick glass cloth electrical tape continuously wrapped twice around the outer circumference of through penetrant and spaced max 2 in. (51 mm) OC.

**RECTORSEAL** — FlameSafe® Intumescent Sleeve, Metacaulk Intumescent Sleeve or Biostop Intumescent Sleeve

B. **Fill, Void or Cavity Material\*—Sealant** — Min 5/8 in. (16 mm) thickness of fill material applied within annulus, flush with both surfaces of wall. Additional fill material to be installed such that a min 3/8 in. (10 mm) thick crown is formed around the firestop device on both sides of the wall.

**RECTORSEAL** — FlameSafe® FS900+, MC 150+ or BF-150+

\*Bearing the UL Classification Mark