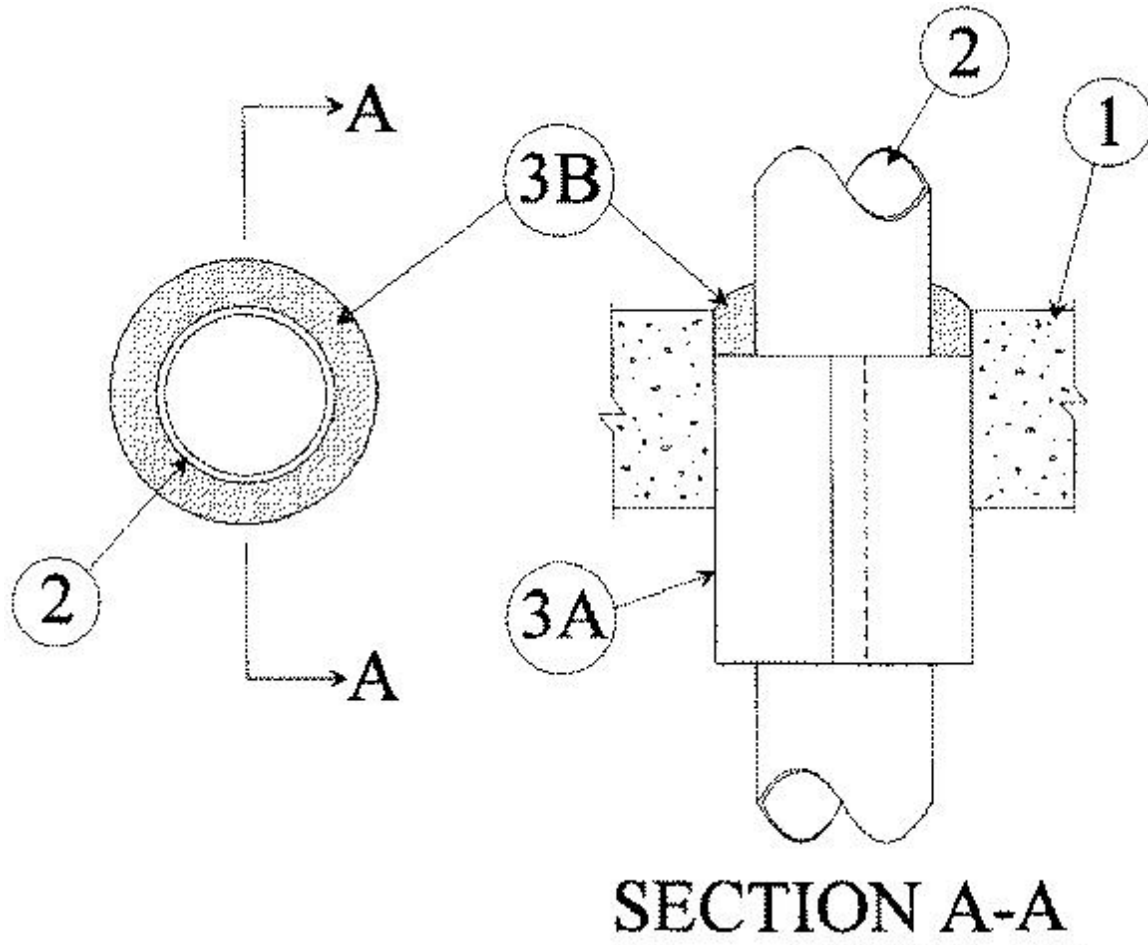


## System No. C-AJ-2173

March 09, 2011

F Ratings — 2 and 3 Hr (See Item 2)

T Ratings — 2 and 3 Hr (See Item 2)



**1. Floor or Wall Assembly** — Min 4-1/2 in. (114 mm) thick reinforced lightweight or normal weight (100-150 pcf or 1600-2400 kg/m<sup>3</sup>) concrete. Floor may also be constructed of any min 6 in. (152 mm) thick UL Classified hollow-core **Precast Concrete Units\***. Wall may also be constructed of any UL Classified **Concrete Blocks\***. Max diam of opening is 3 in. (76 mm).

See **Concrete Block (CAZT)** and **Precast Concrete Units (CFTV)** categories in the Fire Resistance Directory for names of manufacturers.

**1A. Steel Deck/Floor Assembly** — (Not Shown) — As an alternate to Item 1, the floor assembly may consist of a fluted steel deck/concrete floor assembly. The floor assembly shall be constructed of the materials and in the manner described in the individual Floor-Ceiling Design in the UL Fire Resistance Directory and shall include the following construction features:

**1. Steel Floor and Form Units\*** — 1-1/2 to 3 in. (38 to 76 mm) deep galv fluted units.

**2. Concrete** — Min 4-1/2 in. (114 mm) thick reinforced concrete, as measured from the top plane of the floor units.

**2. Through Penetrants** — One nonmetallic pipe or conduit to be centered within the firestop system. The annular space between the pipe or conduit and the periphery of the opening shall be nom 5/16 in. (8 mm). The pipe or conduit to be rigidly supported on both sides of floor or wall. The following types and sizes of pipes or conduits may be used:

A. **Polyvinyl Chloride (PVC) Pipe** — Nom 2 in. (51 mm) diam (or smaller) Schedule 40 cellular or 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 2 in. (51 mm) diam (or smaller) SDR 13.5 CPVC pipe for use in closed (process or supply) or vented (drain, waste or vent) piping systems.

C. **Rigid Nonmetallic Conduit+** — Nom 2 in. (51 mm) diam (or smaller) Schedule 40 PVC conduit installed in accordance with the National Electrical Code, (NFPA No. 70).

D. **Acrylonitrile Butadiene Styrene (ABS) Pipe** — Nom 2 in. (51 mm) diam (or smaller) Schedule 40 cellular or solid core ABS pipe for use in closed (process or supply) or vented (drain, waste or vent) piping systems.

E. **Flame Retardant Polypropylene (FRPP) Pipe** — Nom 2 in. (51 mm) diam (or smaller) Schedule 40 FRPP pipe for use in closed (process or supply) or vented (drain, waste or vent) piping systems.

F. **Polypropylene (PP) Pipe** — Nom 2 in. (51 mm) diam (or smaller) Schedule 40 PP pipe for use in closed (process or supply) or vented (drain, waste or vent) piping systems.

The T Rating of the firestop system is dependent upon the type of through penetrant used within the firestop system as shown in the table below:

Type of Through Penetrant	F Rating, Hr	T Rating, Hr
PVC Pipe, PVC Conduit or CPVC Pipe	3	3
ABS Pipe	3	2
FPPP Pipe or FP Pipe	2	2

**3. 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 outer circumference of through penetrant and installed through the annular space of the opening. The device shall be secured together by means of 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, spaced max 2 in. (51 mm) OC. In floors 8 in. (203 mm) or less, the top edge of the device shall be installed flush with the top surface of the floor and extend max 3-1/2 in. (89 mm) below the bottom surface of the floor or the bottom edge of the device may be installed flush with the bottom surface of the floor and extend max 3-1/2 in. (89 mm) above the top surface of the floor. For installation in floors greater than 8 in. (203 mm), the bottom edge of the device may be installed flush with the bottom surface of the floor or extend max 3-1/2 in. (89 mm) below the bottom surface of the floor. In walls having a nominal thickness of 8 in. (203 mm) or less, the device shall be centered within the wall and extend equally beyond each surface of the wall. In walls having a nominal thickness greater than 8 in. (203 mm) , two devices shall be installed within the opening with butted ends and extend equally beyond each surface of the wall.

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

B. **Fill, Void or Cavity Material\*** — **Sealant** — Min 1 in. (25 mm) thickness of fill material applied within the annulus, flush with top surface of floor or with both surfaces of wall. When the floor is constructed of hollow-core precast concrete units, fill material shall be installed symmetrically on both sides of floor, flush with both floor surfaces. Additional fill material to be installed such that a min 1/4 in. (6 mm) crown is formed around the through penetrant on top surface of floor or on both surfaces of wall and hollow-core precast concrete units.

**RECTORSEAL** — FS 1900, Metacaulk 1000 or Biostop 500+ Sealant

\*Bearing the UL Classification Marking

XHEZ.C-AJ-2173 C-AJ-2173 XHEZ 224 215 03NB/R11636 NO NO AFT 208 230 613495002 SYSTEM Active system revised YES 20110309  
20110309 613495002 613495002 secure text/sgml 224 215 01982 Lam 37042 Erickson 218 219 221 222 NO NO

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