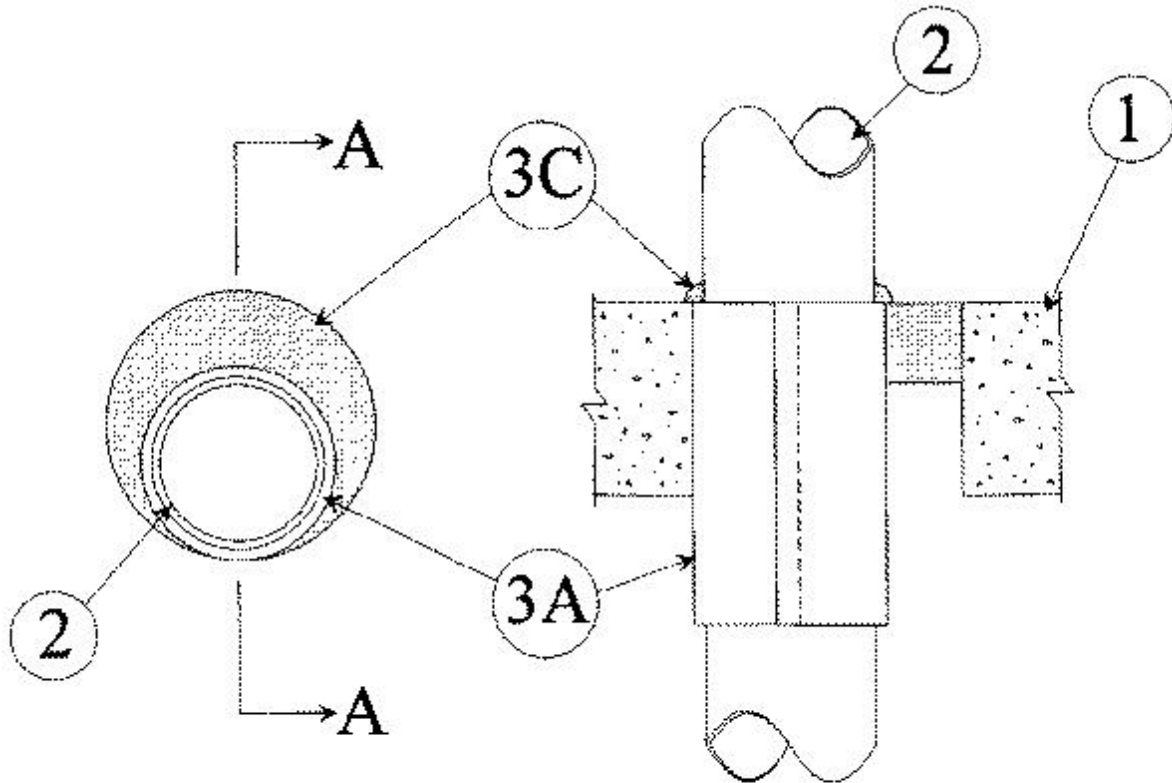


## System No. C-AJ-2174

March 09, 2011

F Rating — 3 Hr

T Ratings — 0 and 1 Hr (See Item 3)



### SECTION A-A

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. Wall may also be constructed of any UL Classified **Concrete Blocks**\*. Floor may also be constructed of any min 6 in. (114 mm) thick UL Classified hollow-core **Precast Concrete Units**\*. Max diam of opening is 6 in. (152 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. **Metallic Sleeve** — (Optional) - Nom 6 in. (152 mm) diam (or smaller) Schedule 10 (or heavier) steel sleeve cast or grouted into floor or wall assembly, flush with floor or wall surfaces. The use of the steel sleeve is dependent upon the type of fill material and through penetrant used as tabulated in Items 3 and 4C.

**3. Through Penetrants** — One nonmetallic pipe or conduit to be installed either concentrically or eccentrically within the firestop system. The annular space between the pipe or conduit and the periphery of the opening is dependent upon the nom diam of the pipe or conduit. If the nom diam of the pipe or conduit is 2 in. (51 mm) or less, the annular space shall be a min of 1/4 in. (6 mm) to a max 1 in. (25 mm) If the nom diam of the pipe or conduit is greater than 2 in. (51 mm), the annular space shall be a min of 1/2 in. (13 mm) to a max 1 in. (25 mm). The pipe or conduit to be rigidly supported on both sides of floor or wall. The following types and sizes of pipes and conduits may be used:

**A. Acrylonitrile Butadiene Styrene (ABS) Pipe** — Nom 4 in. (102 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.

**B. Chlorinated Polyvinyl Chloride (CPVC) Pipe** — Nom 4 in. (102 mm) diam (or smaller) SDR 13.5 CPVC pipe for use in closed (process or supply) piping systems.

**C. Rigid Nonmetallic Conduit+** — Nom 4 in. (102 mm) diam (or smaller) Schedule 40 PVC conduit installed in accordance with Article 347 of the National Electrical Code, (NFPA No. 70).

**D. Polyvinyl Chloride (PVC) Pipe** — Nom 4 in. (102 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.

**E. Flame Retardant Polypropylene (FRPP) Pipe** — Nom 4 in. (102 mm) diam (or smaller) Schedule 40 FRPP 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. If a FRPP pipe is used, the T Rating is 0 Hr. If a PVC pipe, PVC conduit, CPVC pipe, or ABS pipe is used, the T Rating is 1 hr.

The use of the use steel sleeve is dependent upon the type of through penetrant used. If a FRPP pipe is used, the steel sleeve is not permitted. If a PVC pipe, PVC conduit, CPVC pipe, or ABS pipe is used, the steel sleeve is optional.

**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 outer circumference of through penetrant and installed through the annular space of the opening. The device may be secured together by means of min 1/2 in. (13 mm) wide by 0.028 in. (0.7 mm) thick stainless steel hose clamps or min 1/8 in. (3 mm) diam by 1/2 in. (13 mm) long steel pop rivets spaced max 4 in. (102 mm) OC. As an option, the device may be secured together by means of 3/4 in. (19 mm) wide by 0.007 in. (0.2 mm) thick glass cloth electrical tape continuously wrapped twice around the outer circumference of through penetrant, spaced a max 2 in. (51 mm) OC. In floors 8 in. or less, the top edge of the device may be installed flush with the top surface and extend a 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. For installations 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 a 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. Packing Material** — (Not Shown) — Min 1 in. (25 mm) diam backer rod friction fitted into the opening as a form. Packing material to be recessed from top surface of floor or from both surfaces of wall as required to accommodate the required thickness of fill material. When the floor is constructed of hollow-core precast concrete units, packing material shall be recessed from both surfaces of floor to accommodate the required thickness of fill material. In floors, the packing material may be removed after the fill material cures.

**C. 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. The use of the steel sleeve (Item 2) is dependent upon the type of sealant used within the firestop system.

If FS 900+ Sealant is used, the steel sleeve is optional. If FS 900 Sealant is used, the steel sleeve is not permitted.

**RECTORSEAL** — FS 900, FS 900+, MC150+ or BF-150+ Sealant

\*Bearing the UL Classification Marking

+Bearing the UL Listing Mark

Last Updated on 2011-03-09

XHEZ.C-AJ-2174 C-AJ-2174 XHEZ 224 215 03NB/R11636 NO NO AFT 208 230 613495002 BASICUS 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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