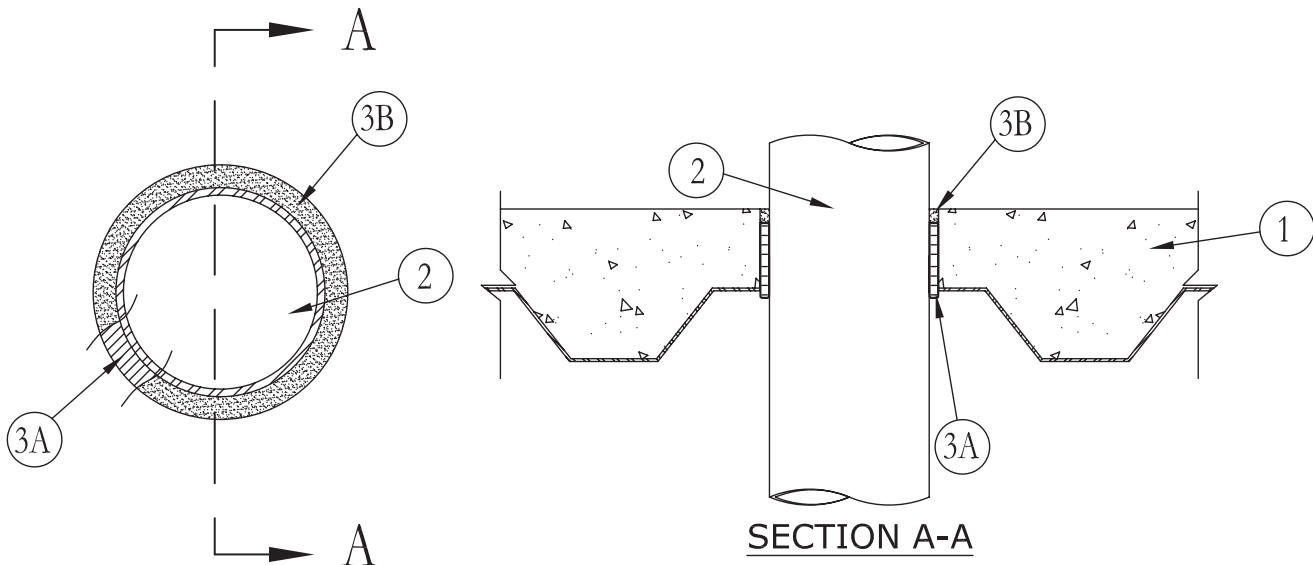


September 12, 2018

F Rating — 2 & 3 Hr (See Item 2)

T Rating — 1-1/2 Hr



1. **Wall Assembly** – Min 4-1/2 in. (114 mm) thick reinforced lightweight or normal weight (100-150 pcf) concrete. Wall may also be constructed of any UL Classified **Concrete Blocks\***. Wall may also be constructed of any UL Classified **Concrete Blocks\***. Floor assembly may also be constructed of any min 6 in. (152 mm) thick UL Classified hollow-core **Precast Concrete Units\***. Max diam of opening is 5 in. (127 mm).

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

- 1A. **Floor Assembly (As an alternate to Item 1)** – The fire-rated unprotected concrete and steel floor assembly shall be constructed of the materials and in the manner specified in the individual D900 Series designs in the UL Fire Resistance Directory and as summarized below:

- A. **Concrete** – Min 2 1/2 in. (64 mm) thick reinforced lightweight or normal weight (100-150 pcf or 1600-2400 kg/m<sup>3</sup>) concrete topping, as measured from the top of the steel floor units.
- B. **Steel Floor and Form Units\*** – Composite or noncomposite 1-1/2, 2 or 3 in. (38, 51 or 76 mm) deep fluted galv units as specified in the individual Floor-Ceiling design. Diam of opening through floor to be 1/2 to 5/8 in. (13 to 16 mm) larger than the outside diam of through-penetrant (Item 2). Max diam of opening is 5 in. (127 mm).

2. **Through Penetrants** – One nonmetallic pipe or conduit to be installed concentrically within the firestop system. The annular space between the pipe or conduit and the periphery of the opening shall be 1/4 in. (6 mm). Circular opening size must be 1 in. (25 mm) larger than the nominal pipe size. Pipe or conduit to be rigidly supported on both sides of the floor or wall assembly. The following types and sizes of nonmetallic pipes or conduits may be used:

- A. **Polyvinyl Chloride (PVC) Pipe** – Nom 4 in. (102 mm) diam (or smaller) SDR13.5 CPVC pipe for use in closed (process or supply) or vented (drain, waste or vent) piping systems. (See Item 3C below.)
- B. **Chlorinated Polyvinyl Chloride (CPVC) Pipe** – Nom 4 in. (102 mm) diam (or smaller) SDR13.5 CPVC pipe for use in closed (process or supply) piping systems. (See Item 3C below.)
- C. **Fire 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.
- D. **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).

Cellular core PVC pipe (Item 2A) limited to a maximum 2 Hr F Rating.

**3. Firestop System** – The firestop system shall consist of the following:

- A. Fill, Void or Cavity Materials\* – Wrap Strip** – Min 3/16 in. (5 mm) thick intumescent material supplied in 2-1/2 in. (64 mm) wide strips. Single layer of pre-cut wrap strip tightly wrapped around nonmetallic pipe and secured with the adhesive closure tab. When installed in floors, wrap strip is to be recessed within the opening such that the bottom of the wrap strip layer is min 1/4 in. (6 mm) below the bottom surface of floor. For wall assemblies, wrap strip is to be installed on both sides of wall and installed in the wall such that the wrap strip is extending 5/8 in. (16 mm) from both surfaces of wall.

**3M COMPANY 3M FIRE PROTECTION PRODUCTS** – Tuck-In Wrap Strip WS 200, WS 300 or WS 400

- B. Fill, Void or Cavity Materials\* – Caulk or Sealant** – Min 1/4 in. (6 mm) thickness of sealant applied within annular space, flush with top surface of floor. When hollow-core Precast concrete units are used, min 1/2 in. (13 mm) thickness of sealant applied within annular space, flush with top and bottom surfaces of floor. Wall assemblies are to have a min 1/4 in. (6 mm) diam bead of sealant applied to concrete or concrete block/wrap strip interface on both sides of wall.

**3M COMPANY 3M FIRE PROTECTION PRODUCTS** – IC 15WB+ Caulk, CP 25WB+ Caulk, or 3000 WT Sealant (CP 25WB+ not suitable for use with CPVC pipes)

- C. Foil Tape** – (Not Shown) — Required only when CPVC penetrant (Item 2B) is used. Nom 4 in. (102 mm) wide, 3 mil thick aluminum tape installed around pipe prior to installation of wrap strip. Foil tape is to be positioned such that it will be centered under the wrap strip material with adhesive side out.

Through Penetrations

Non-Metallic Pipes

2000 Series

Concrete

CAJ



\*Indicates such products shall bear the UL or cUL Certification Mark for jurisdictions employing the UL or cUL Certification (such as Canada), respectively.