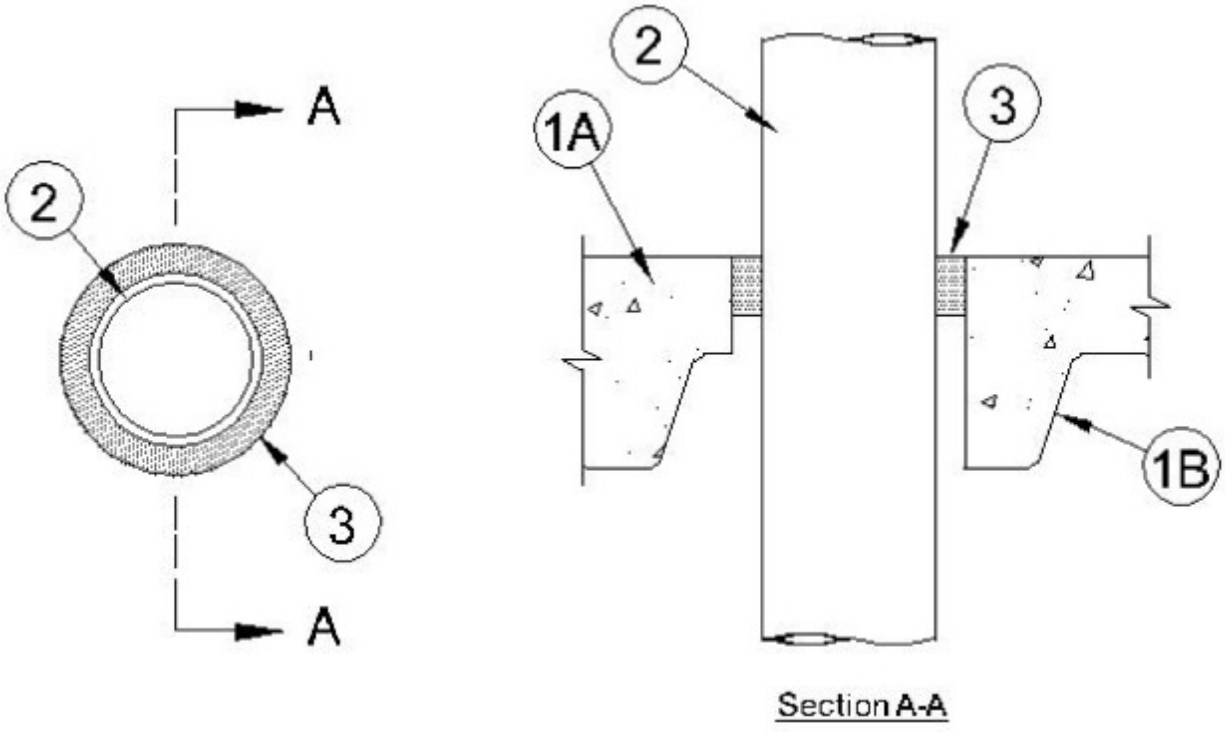
System No. F-A-2171

February 23, 2007

F Rating — 2 Hr

T Rating — 1/4 Hr



Section A-A

1. **Floor Assembly —** The fire-rated unprotected concrete and steel or concrete floor assembly shall be constructed of the materials and in the manner described in the individual D900 Series Floor-Ceiling Design in the UL Fire Resistance Directory and shall include the following construction features:

A. **Concrete —** Min 2-1/2 in. (64 mm) thick reinforced lightweight or normal weight (100-150 pcf, 1600-2400 kg/m^3) concrete.

B. **Steel Floor and Form Units* —** Composite or noncomposite max 3 in. (76 mm) deep galv steel fluted units as specified in the individual Floor-Ceiling design. Max diam of opening is 3 in. (76 mm).

1A. **Floor Assembly —** As an option, floor may be constructed of min 2-1/2 in. (64 mm) thick reinforced lightweight or normal weight (100-150 pcf, 1600-2400 kg/m^3) concrete. Max diam of opening is 3 in. (76 mm).

2. **Through Penetrants —** One nonmetallic penetrant installed concentrically within the firestop system. Pipe to be rigidly supported on both sides of the floor assembly. The following types and sizes of nonmetallic pipes may be used:

A. **Polyvinyl Chloride XFR (PVC-XFR) Pipe —** Nom 51 mm (2 in.) diam Schedule 40 solid core PVC-XFR pipe for use in closed (process or supply) or vented (drain, waste or vent) piping system. The annular space between pipe and periphery of opening shall be 1/8 in. to 1/2 in. (3 to 13 mm)

B. **Chlorinated Polyvinyl Chloride (CPVC) —** Pipe Nom 2 in. (51mm) diam (or smaller) SDR 13.5 CPVC pipe for use in closed (process or supply) piping systems. The annular space between pipe and periphery of opening shall be 1/8 to 1/2 in. (3 to 13 mm)

C. **Cross-Linked Polyethylene (PEX) Tubing —** Nom 1-1/2 in. (38 mm) diam (or smaller) SDR9 PEX tubing for used in closed (process or supply) piping systems. The annular space

between pipe and periphery of opening shall be 0 in. (point contact) to 7/8 in. (0 to 22 mm)

3. **Fill, Void or Cavity Material* — Caulk —** thickness of sealant applied within the annulus, flush with top surface of steel deck or concrete floor as prescribed per the table below.

Penetrant	Depth in. (mm)	Thickness of bead at point contact.
A, B	1-1/2 (38)	NA
C	2 (51)	1/2 (13 mm)

RECTORSEAL — Metacaulk1000

*Bearing the UL Classification Mark