

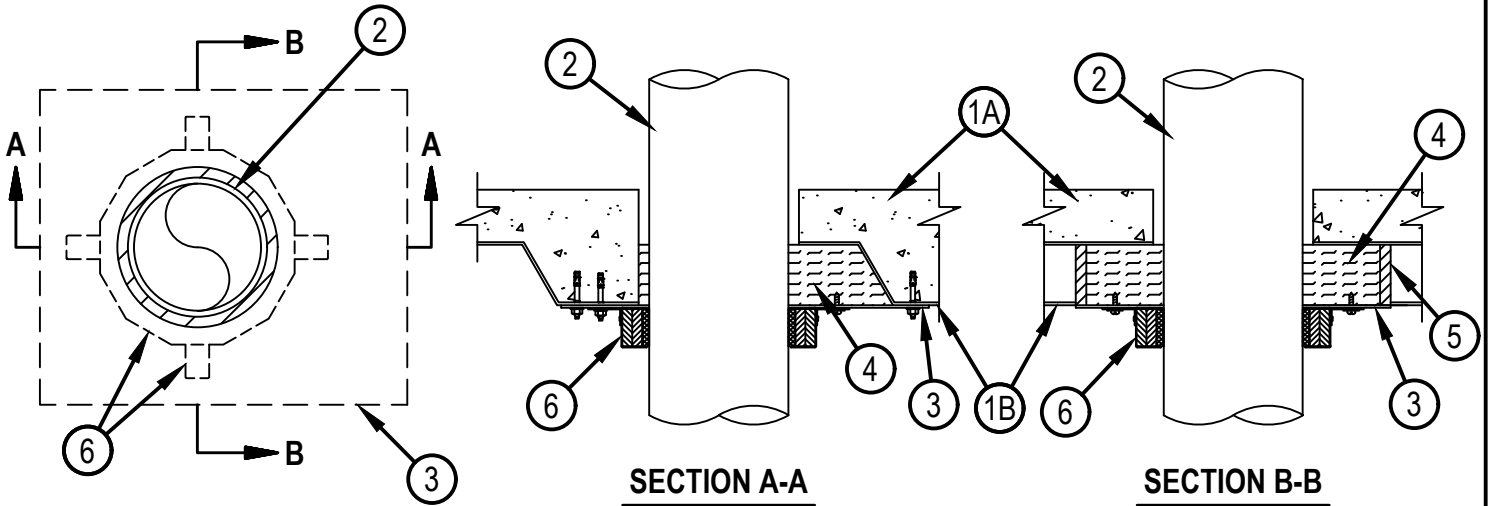


Classified by
Underwriters Laboratories, Inc.
to UL 1479

System No. F-A-2025

F Rating — 2 Hr
T Rating — 2 Hr

FA 2025



1. Floor Assembly — 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. Normal Weight Concrete — Min 2-1/2 in. (64 mm) thickness of lightweight or normal weight (100-150 pcf or 1600-2400 kg/m³) concrete topping as measured over the crests of the steel floor units.
- B. Steel Floor and Form Units* — Composite or noncomposite 3 in. (76 mm) deep fluted galv units as specified in the individual Floor-Ceiling design. Max diam of opening core-drilled through floor assembly is 8 in. (203 mm).

2. Through Penetrants — One nonmetallic pipe to be installed either concentrically or eccentrically within the firestop system. The annular space between pipe and periphery of opening shall be min 0 in. (0 mm, point contact) to max 1-1/2 in. (38 mm). Pipe to be rigidly supported on both sides of floor assembly. The following types and sizes of nonmetallic pipes may be used:

- A. Polyvinyl Chloride (PVC) Pipe — Nom 6 in. (152 mm) diam (or smaller) Schedule 40 solid-core or cellular core PVC pipe for use in closed (process or supply) or vented (drain, waste or vent) piping system.
- B. Chlorinated Polyvinyl Chloride (CPVC) Pipe — Nom 6 in. (152 mm) diam (or smaller) SDR13.5 CPVC pipe for use in closed (process or supply) piping systems.
- C. Acrylonitrile Butadiene Styrene (ABS) Pipe — Nom 6 in. (152 mm) diam (or smaller) Schedule 40 solid-core or cellular core ABS pipe for use in closed (process or supply) or vented (drain, waste or vent) piping systems.
- D. Flame Retardant Polypropylene (FRPP) Pipe — Nom 6 in. (152 mm) diam (or smaller) Schedule 40 FRPP pipe for use in closed (process or supply) or vented drain, waste or vent) piping systems.



Hilti Firestop Systems

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3. Metal Plate Enclosure — Min 18 ga steel. Width of plate to be min 12 in. (305 mm). Length of plate (transverse to steel floor unit direction) to extend to steel floor unit valley beyond each side of core-drilled hole with a min lap of 1-1/2 in. (38 mm) on the floor unit valley at each end. Both ends of plate perpendicular to floor unit valleys to be cut to permit the ends to be bent upwards 90 F deg to follow the contour of the floor unit, enclosing the packing material (Item 4) within the areas of the flutes. The contoured plate ends shall be such that the gap between the floor unit and the plate ends is no greater than 1/4 in. (6 mm). As an alternate to bending up ends of plate, min 1/4 in. (6 mm) thickness of fill material (Item 5) shall be applied to completely cover the surface of the mineral wool packing material within the flutes of the steel floor units, between the two ends of the metal enclosure plate and the steel floor units. Circular cutout in plate to tightly follow circumference of nonmetallic pipe with side edges of plate at least 3 in. (76 mm) from circular cutout on all sides. Slit made in plate to permit installation around the nonmetallic pipe to be located at end of plate beneath floor unit valley nearest to the circular cutout. Plate secured to valleys of floor unit using min 1/4 in. (6 mm) diam by 1-3/4 in. (45 mm) long steel expansion bolts, or equivalent, in conjunction with min 3/4 in. (19 mm) diam steel washers or min 0.145 in. (4 mm) diam by 1-1/4 in. (32 mm) long powder actuated fasteners utilizing a 1-7/16 in. (36 mm) diam by 1/16 in. (2 mm) thick steel washer. As alternates to the anchors specified above, Hilti 1/4 in. (6 mm) diam by 1-1/4 in. (32 mm) long KWIK-CON II+ concrete screw anchor, Hilti 1/4 in. (6 mm) diam by 1-3/4 in. (44 mm) long KWIK-BOLT 3 steel expansion anchor or Hilti X-DNI 27 P8 S15 powder actuated floor pin with integral nom 9/16 in. (15 mm) diam washer may be used. Fasteners to be located approx 1 in. (25 mm) from edges of plate at each corner, at each plate/valley intersection and at both sides of slit made to permit installation around nonmetallic pipe. Spacing of fasteners no to exceed 10 in. (254 mm) OC.
4. Packing Material — Mineral wool batt insulation having min density of 4 pcf (64 kg/m³), firmly packed into flutes of steel floor units above metal plate enclosure (Item 3) to completely fill cavities. When ends of metal plate enclosure perpendicular to floor unit valleys are not bent up to enclose packing material within flutes (see Item 3), packing material to be recessed from ends of plate to accommodate the required thickness of the fill material.
5. Fill, Void or Cavity Material* — Sealant — Nom 1/2 in. (13 mm) bead of fill material applied around the perimeter of the metal plate enclosure at the interface of the enclosure and steel deck. When ends of metal plate enclosure (Item 3) are not bent up to enclose packing material within flutes, min 1/4 in. (6 mm) thickness of fill material shall be applied to completely cover the surface of the mineral wool packing material within the flutes of the steel floor units, between the two ends of the metal enclosure plate and the steel floor units.
HILTI CONSTRUCTION CHEMICALS, DIV OF HILTI INC — FS-One Sealant or FS-ONE MAX Intumescent Sealant
6. Firestop Device* — Firestop Collar — Firestop collar shall be installed in accordance with the accompanying installation instructions. Collar to be installed and latched around the pipe and secured to the valley of the steel deck and to the metal plate enclosure using the anchor hooks provided with the collar. Min of two anchor hooks required for 1-1/2 and 2 in. (38 and 51 mm) diam pipes, min of three anchor hooks required for 3 and 4 in. (76 and 102 mm) diam pipes, and min of four anchor hooks required for 6 in. (152 mm) diam pipes. Where the anchor hooks are beneath the valley of the steel floor unit, the anchor tabs are to be secured with 1/4 in. (6 mm) diam by min 1-1/2 in. (38 mm) long steel expansion bolts, or equivalent, in conjunction with steel nuts and min 3/4 in. (19 mm) diam steel washers with one anchor bolt in each anchor hook. Where the anchor hooks are beneath the crest of the steel deck, the anchor hooks are to be secured to the metal enclosure with No. 10 by min 1/2 in. (13 mm) long self-drilling, self-tapping steel screws and min 3/4 in. (19 mm) diam steel washers.
HILTI CONSTRUCTION CHEMICALS, DIV OF HILTI INC — CP 643 50/1.5"N, CP 643 63/2"N, CP643 90/3"N, CP 643 110/4"N or CP 643 160/6"N Firestop Collar.

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

