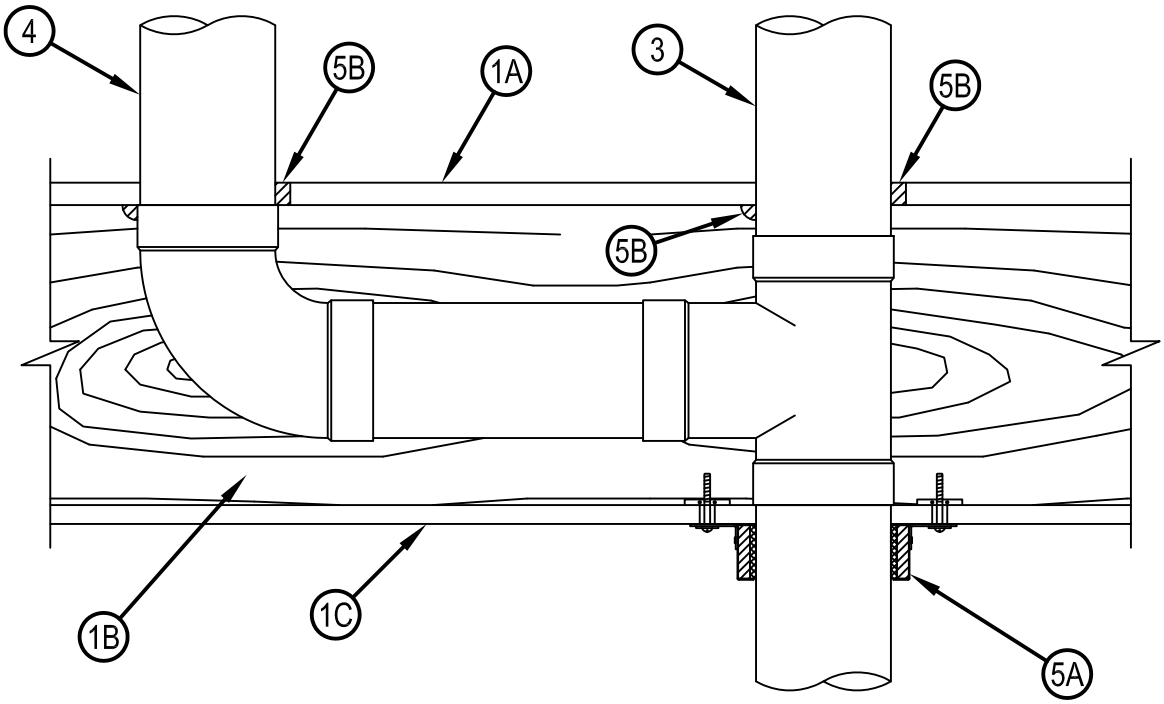
Classified by
Underwriters Laboratories, Inc.
to UL 1479

System No. F-C-2382

F Rating — 1 Hr
T Rating — 1 Hr



1. Floor-Ceiling Assembly — The 1 hr fire-rated solid or trussed lumber joist floor-ceiling assembly shall be constructed of the materials and in the manner specified in the individual L500 Series Floor-Ceiling Designs in the UL Fire Resistance Directory. The general construction features of the floor-ceiling assembly are summarized below:
   A. Flooring System — Lumber or plywood subfloor with finish floor of lumber, plywood or Floor Topping Mixture* as specified in the individual Floor-Ceiling Design. Diam of opening hole-sawed in flooring shall be min 1/2 in. (13 mm) to max 1 in. (25 mm) larger than diam of through penetrant (Item 3). Diam of opening hole-sawed in flooring shall be min 0 in. (continuous point contact) to max 1 in. (25 mm) larger than diam of branch piping (Item 4).
   B. Wood Joists* — Nom 10 in. (254 mm) deep (or deeper) lumber, steel or combination lumber and steel joists, trusses or Structural Wood Members* with bridging as required and with ends firestopped.
   C. Gypsum Board* — Nom 4 ft (1.22 m) wide by 5/8 in. (16 mm) thick as specified in the individual Floor-Ceiling Design. Diam of opening in ceiling shall be min 0 in. (continuous point contact) to max 1/2 in. (13 mm) larger than diam of through penetrant (Item 3).
2. Chase Wall — (Optional, Not Shown) - The through-penetrant (Item 3) may be routed through a 1 hr fire rated wood stud/gypsum board chase wall constructed of the materials and in the manner specified in the individual U300 Series Wall and Partition Designs in the UL Fire Resistance Directory and which includes the following construction features:
   A. Studs — Nom 2 by 6 in. (51 by 152 mm) lumber studs.
   B. Sole Plate — Nom 2 by 6 in. (51 by 152 mm) lumber plate. Diam of opening hole-sawed in sole plate to be min 1/2 in. (13 mm) to max 1 in. (25 mm) larger than diam of through penetrant (Item 3).
   C. Top Plate — The double top plate shall consist of two nom 2 by 6 in. (51 by 152 mm) lumber plates. Diam of opening shall be min 0 in. (continuous point contact) to max 1/2 in. (13 mm) larger than diam of through penetrant (Item 3).
   D. Gypsum Board* — Thickness, type, number of layers and fasteners shall be as specified in the individual Wall and Partition Design.

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3. Through Penetrants — One nonmetallic pipe to be installed within the firestop system. Pipe to be rigidly supported on both sides of floor-ceiling assembly. The annular space between pipe and periphery of opening shall be min 0 in. (point contact) to max 1/2 in. (13 mm). Pipe may be installed with continuous point contact where it passes through gypsum board ceiling. The following types and sizes of nonmetallic pipes may be used:
   A. 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 system.
   B. 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 system.
4. Branch Piping — (Optional)—One nonmetallic pipe with or without nom 4 in. (102 mm) diam (or smaller) toilet flange (not shown) connected to through penetrant (Item 3) within concealed space above ceiling and centered within opening in subfloor. The annular space between pipe and periphery of opening shall be min 0 in. (continuous point contact) to max 1/2 in. (13 mm). Branch piping may terminate in a max 4 in. (102 mm) diam toilet flange that corresponds to the type of branch piping. The following types and sizes of nonmetallic pipes may be used:
   A. 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 system.
   B. 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 system.
5. Firestop System — The details of the firestop system shall be as follows:
   A. Firestop Device* — Firestop Collar — Steel collar lined with an intumescent material sized to fit the specific diam of pipe shall be installed in accordance with the accompanying installation instructions. Collar to be installed and latched around the pipe and secured to underside of ceiling or chase wall top plate (Item 2C) using the anchor hooks provided with the collar. Min two anchor hooks required for 1-1/2 (38 mm) and 2 in. (51 mm) diam pipes and min three anchor hooks required for 3 in. (76 mm) and 4 in. (102 mm) diam pipes. The anchor hooks are to be secured to the ceiling with 1/4 in. (6 mm) diam by 1-1/2 in. (38 mm) long steel toggle bolts in conjunction with min 3/4 in. (19 mm) diam steel washers. The anchor hooks are to be secured to the chase wall top plate with min No. 12 by min 1-1/2 in. (38 mm) long steel wood screws in conjunction with min 3/4 in. (19 mm) diam steel washers.
   HILTI CONSTRUCTION CHEMICALS, DIV OF HILTI INC — CP 643 50/1.5"N, CP643 63/2"N, CP 643 90/3"N or CP643 110/4"N Firestop Collar
   B. Fill, Void or Cavity Material* - Sealant — Min 3/4 in. (19 mm) thickness of fill material applied within the annulus, flush with the top surface of the floor. Min 1/4 in. (6 mm) diam bead of sealant applied at point contact locations on underside of plywood flooring at pipe/floor interface and the pipe/plate interface. As an option, at non-continuous point contact locations, the bead of sealant can be applied at top of floor at pipe/floor interface and pipe/plate interface.
   HILTI CONSTRUCTION CHEMICALS, DIV OF HILTI INC — FS-ONE Sealant or FS-ONE-MAX Intumescent Sealant

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