

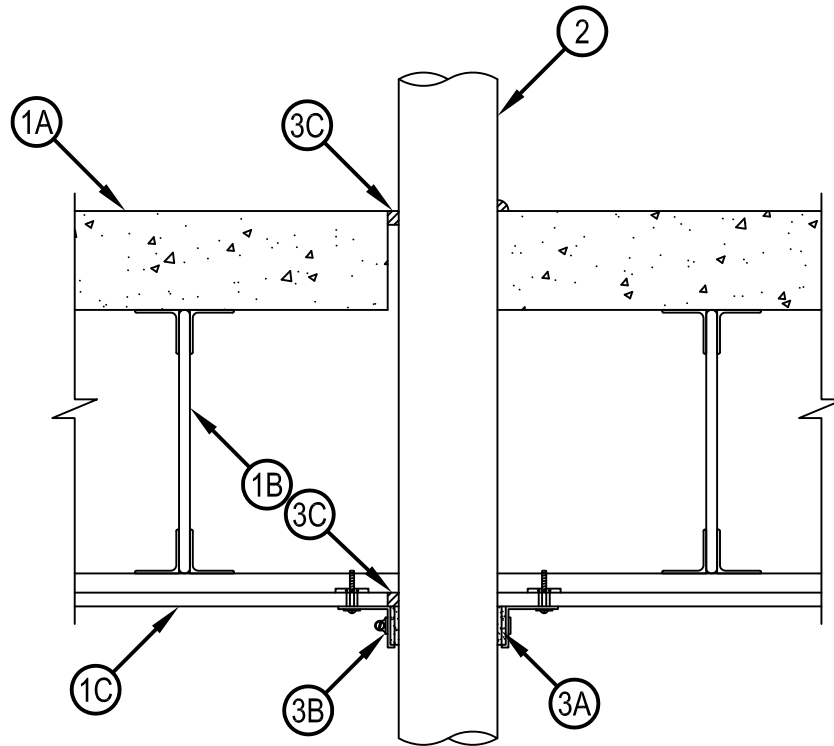


Classified by
Underwriters Laboratories, Inc.
to UL 1479

System No. F-E-2027

F Rating - 1 Hr
T Rating - 3/4 and 1 Hr (See Item 3)

FE 2027



1. Floor-Ceiling Assembly — The 1 hr fire rated concrete and steel joist Floor-Ceiling assembly shall be constructed of the materials and in the manner described in the individual G500 Series Design in the UL Fire Resistance Directory, as summarized below:
 - A. Concrete Floor — Normal weight or lightweight (100-150 pcf or 1600-2400 kg/m³) concrete over metal lath or steel deck as specified in the individual G500 Series Design. Max diam of floor opening is 5 in. (127 mm).
 - B. Joists — Steel joists or Structural Steel Members* as specified in the individual G500 Series Design
 - C. Gypsum Board* — Min 5/8 in. (16 mm) thick, screw-attached to furring channels as specified in the individual G500 Series Design. Max diam of ceiling opening is 5 in. (127 mm).
2. Through Penetrants — One nonmetallic pipe or conduit to be installed concentrically or eccentrically within the firestop system. Annular space between pipe or conduit and edge of opening to be min 0 in. (0 mm, point contact) to max 1/2 in. (13 mm). Pipe or conduit to be rigidly supported on both sides of floor-ceiling 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) Schedule 40 solid or cellular core PVC pipe for use in closed (process or supply) or vented (drain, waste or vent) piping systems.
 - B. Polyvinyl Chloride (PVC) Pipe — Nom 4 in. (102 mm) diam (or smaller) Schedule 40 solid or cellular core PVC pipe for use in closed (process or supply) or vented (drain, waste or vent) piping systems.
3. Firestop System — The firestop system shall consist of the following:
 - A. Fill, Void or Cavity Material* — Wrap Strip — Nom 3/16 in. (5 mm) thick by 1-3/4 in. (45 mm) wide intumescent wrap strip. Layers of wrap strip continuously wrapped around the pipe and held in place with tape. Wrap strip butted tightly against surface of ceiling.
HILTI CONSTRUCTION CHEMICALS, DIV OF HILTI INC — CP648-E-W45/1-3/4"



Hilti Firestop Systems

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January 21, 2015

System No. F-E-2027

FE 2027

Nom. Pipe Diameter in. (mm)	Number of Wrap Strips	Min/Max Annular Space in. (mm)	T-Rating Hr.
2 (51mm)	1	0 - 1/4 (0 - 6)	1
3 (76mm)	2	0 - 1/2 (0 - 13)	3/4
4 (102mm)	2	0 - 1/2 (0 - 13)	3/4

B. Steel Collar — Collar fabricated from coils of precut min 0.017 in. thick (No. 28 MSG) galv steel available from the sealant manufacturer. Collar shall be nom 1-3/4 in. deep with 1 in. wide by 2 in. long anchors tabs on 2 in. centers for securement to floor/ceiling assembly. The opposite side incorporates retainer tabs, 1/2 in. wide by 3/16 in. long, prebent toward the pipe surface. Collar shall be tightly wrapped over the wrap strip, overlapping min. 1 in at seam. A nom 1/2 in. wide stainless steel hose clamp shall be secured to the collar at its mid-height. Every other anchor tab of collar secured to gypsum ceiling with 1/4 in. diam by 1-1/2 in. long steel toggle bolts in conjunction with 1/4 in by 3/4 in diameter steel washers.

C. Fill, Void or Cavity Materials* — Sealant — Min 5/8 in. (16 mm) thickness of fill material applied within the annulus, flush with the bottom surface of the gypsum board ceiling. Min 5/8 in. (16 mm) thickness of fill material applied within the annulus, flush with the top surface of the floor. Min 1/2 in. (13 mm) diam bead of fill material applied at point contact location on top surface of floor.

HILTI CONSTRUCTION CHEMICALS, DIV OF HILTI INC — FS-ONE Sealant or FS-ONE-MAX Intumescent Sealant

4. Firestop System — (Optional, Not shown) — As an option to Item 3, the firestop system shall consist of the following:

A. Firestop Device* — Galv 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 the gypsum board ceiling with 3/16 in. (4.8 mm) diam by 1-1/2 in. (38 mm) long steel toggle bolts with 3/4 in. (19 mm) diam steel washers through hanger tabs provided. HILTI CONSTRUCTION CHEMICALS, DIV OF HILTI INC — CP 643 50/1.5"N, CP 643 63/2"N, CP 643 90/3"N or CP 643 110/4"N Firestop Collar.

B. Fill, Void or Cavity Materials* — Sealant — Min 5/8 in. (16 mm) thickness of fill material applied within the annulus, flush with the bottom surface of the gypsum board ceiling. Min 5/8 in. (16 mm) thickness of fill material applied within the annulus, flush with the top surface of the floor. Min 1/2 in. (13 mm) diam bead of fill material applied at point contact location on top surface of floor.

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.



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