

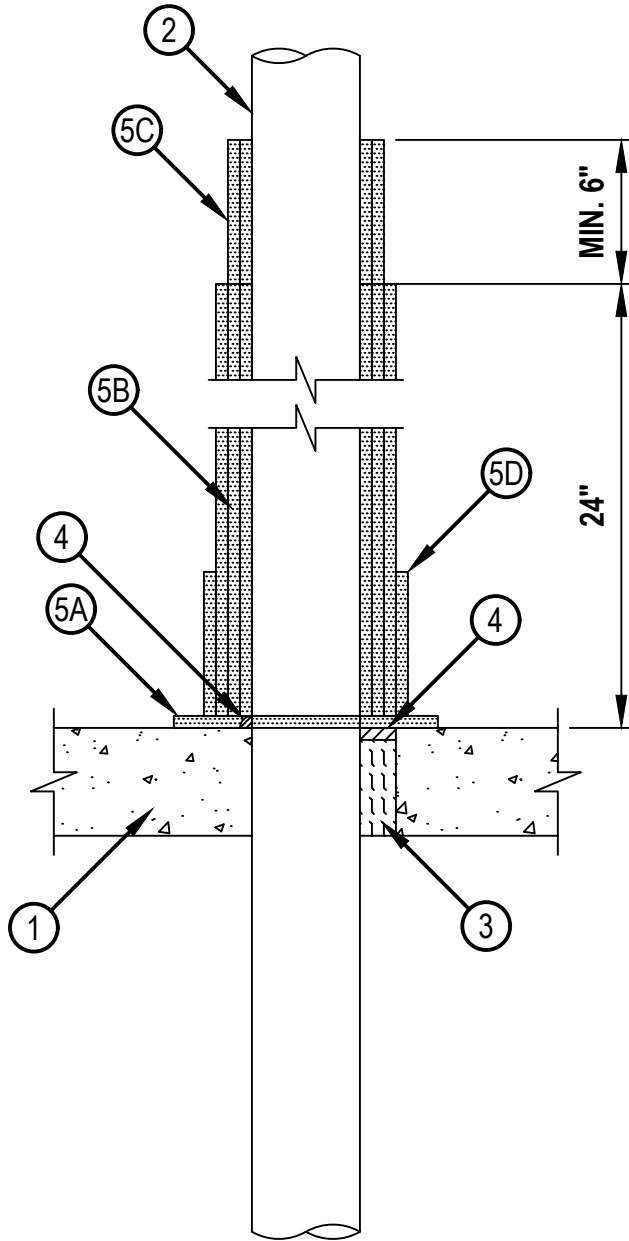


Classified by  
Underwriters Laboratories, Inc.  
to UL 1479 and CAN/ULC-S115

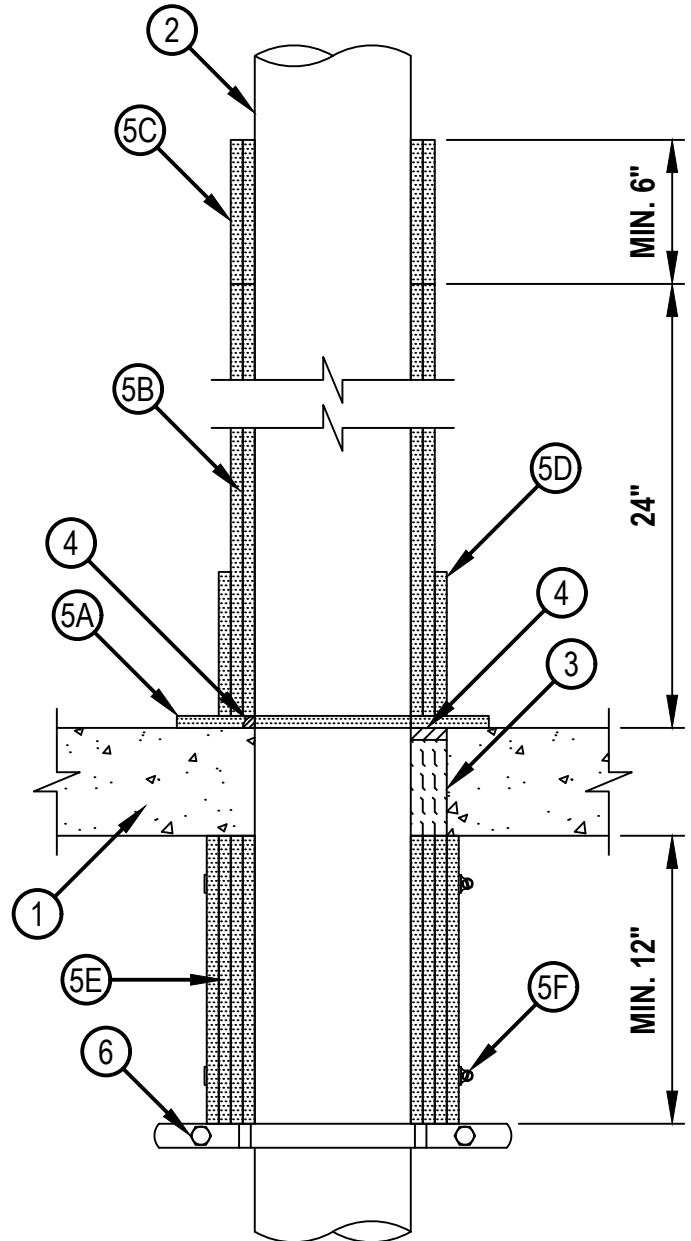
# System No. F-A-1217

FA 1217

ANSI/UL 1479 (ASTM E814)	CAN/ULC S115
F Rating — 3 Hr	F Rating — 3 Hr
T Rating — 3 Hr	FT Rating — 3 Hr
L Rating At Ambient — Less Than 1 CFM/sq ft	FH Rating — 3 Hr
L Rating At 400 F — less than 1 CFM/sq ft	FTH Rating — 3 Hr
W Rating — Class 1 (See Item 4)	L Rating at Ambient — Less than 5.1 L/s/m <sup>2</sup>
	L Rating at 204°C — Less than 5.1 L/s/m <sup>2</sup>



**CONFIGURATION A**



**CONFIGURATION B**



**Hilti Firestop Systems**

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December 12, 2022

1. Floor Assembly — Min 4-1/2 in. (114 mm) thick reinforced lightweight or normal weight (100-150 pcf or 1600-2400 kg/m<sup>3</sup>) concrete. Floor may also be constructed of any min 6 in. (152 mm) thick UL Classified hollow-core Precast Concrete Units\*. Max diam of opening is 12 in. (305 mm). If the firestop system is installed within a hollow-core precast concrete unit, max diam of opening shall be 7 in. (178 mm).  
See Precast Concrete Units (CFTV) categories in the Fire Resistance Directory for names of manufacturers.
2. Through Penetrants — One metallic pipe, conduit or tubing to be installed within the firestop system. Pipe, conduit or tubing to be rigidly supported on both sides of floor assembly. The annular space shall be 0 in. (point contact) to max 1-1/2 in. (38 mm). The following types and sizes of metallic pipes, conduits or tubing may be used:
  - A. Steel Pipe — Nom 10 in. (254 mm) diam (or smaller) Schedule 10 (or heavier) steel pipe.
  - B. Iron Pipe — Nom 10 in. (254 mm) diam (or smaller) cast or ductile iron pipe.
  - C. Conduit — Nom 4 in. (102 mm) diam (or smaller) steel electrical metallic tubing.
  - D. Conduit — Nom 6 in. (152 mm) diam (or smaller) rigid steel conduit.
3. Packing Material — Min 4 in. (102 mm) thickness of min 4 pcf (64 kg/m<sup>3</sup>) mineral wool batt insulation firmly packed into opening as a permanent form. Packing material to be recessed from top surface of floor or from both surfaces of hollow-core precast concrete unit as required to accommodate the required thickness of fill material.
4. Fill, Void or Cavity Material\* — Sealant — Min 1/2 in. (13 mm) thickness of fill material applied within the annulus, flush with the top surface of floor. At the point of contact location between pipe and concrete, a min 1/2 in. (13 mm) diam bead of fill material shall be applied at the concrete/pipe interface on the top surface of floor. When CFS-S SIL SL is installed the 1/2 in. (13 mm) bead of sealant is not required. When installing in hollow-core, a min 1/2 in. (13 mm) thickness of fill material applied within the annulus, flush with the bottom surface of floor.  
W Rating applies only when CFS-S SIL GG, CFS-S SIL SL, CP601S sealant or FS-ONE MAX Intumescent Sealant is used.  
HILTI CONSTRUCTION CHEMICALS, DIV OF HILTI INC — CP601S, CFS-S SIL GG, CFS-S SIL SL, CP606 or FS-ONE MAX Intumescent Sealant.
5. Pipe Covering Material\* — Nom 1/2 in. (12.7 mm) flexible sheet material, to be installed in layers as detailed below. At the intersection of various insulation components, the layers shall have vertical seams that are offset a min of 2 in. (51 mm) from adjacent layers. When layers are permitted to be wrapped continuously, the final layer shall overlap a min 2 in. (51 mm) beyond the start of the previous layer. Seams to be sealed with nom 3 in. (76 mm) wide FSK tape centered on and covering vertical and horizontal seams.  
Config A — For penetrants having a nom diam less than or equal to 4 in. (102 mm).
  - A. Surface Insulation — A single layer of insulation to be installed on top of sealant (Item 4). The layer is to be cut in a circular pattern that is min 7 in. (178 mm) larger than the penetrant diam. A concentric opening to be sized and cut to the penetrant diam with a max of 1/4 in. (6 mm) annular space. Insulation to be sized to have a min of 2 in. (51 mm) overlap onto the floor.
  - B. Initial Layers — Pipe covering shall be continuously wrapped a min three times around the penetrant (See Table 1). Initial insulation installed butted to the surface insulation (Item 5A).
  - C. Adjacent Layers — Pipe covering shall be continuously wrapped a min two times around the penetrant (See Table 1). Adjacent layers shall be butted tightly to the initial layers (Item 5B).
  - D. Collars — Single layer shall be continuously wrapped around the initial layers (See Table 1). Collars to be butted to the surface insulation (Item 5A).

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Config B — For penetrants having a nom diam greater than 4 in. (102 mm) and less than or equal to 10 in. (254 mm).

- A. Surface Insulation — A single layer of insulation to be installed on top of sealant (Item 4). The layer is to be cut in a circular pattern that is min 7 in. (178 mm) larger than the penetrant diam. A concentric opening to be sized and cut to the penetrant diam with a max of 1/4 in. (6 mm) annular space. Insulation to be sized to have a min of 2 in. (51 mm) overlap onto the floor.
- B. Initial Layers — Pipe covering shall be continuously wrapped a min two times around the penetrant (See Table 1).
- C. Adjacent Layers — Pipe covering shall be continuously wrapped a min two times around the penetrant (See Table 1). Adjacent layers shall be butted tightly to the initial layers (Item 5B).
- D. Collars — Single layer of pipe covering shall be continuously wrapped around the initial layers (See Table 1). Collars to be butted to the surface insulation (Item 5A).
- E. Bottom Insulation — Pipe covering shall be individually wrapped a min of four layers around the penetrant (See Table 1). Layers shall be butted tightly against the bottom of the floor assembly (Item 1) and extend a min of 12 in. (305 mm) below the floor. Each layer to be installed with butted seams that are offset a min of 2 in. (51 mm) from preceding layers. After the FSK tape is applied, layers to be secured with two hose clamps (Item 5F).
- F. Hose Clamps — Bottom insulation, pipe covering to be secured in position using two, nom 1/2 in. (13 mm) wide stainless steel hose clamps. Top hose clamp located 2 in. (51 mm) from bottom surface of floor. Bottom hose clamp located 2 in. (51 mm) from lower edge of pipe covering.

HILTI CONSTRUCTION CHEMICALS, DIV OF HILTI INC — CFP-ES Endo-Shield

Penetrant  Nom Diam, in. (mm)	Initial Insulation		Adjacent Insulation		Collar	
	Layers, Min	Height, in. (mm)	Layers, Min	Height, in. (mm)	Layers, Min	Height, in. (mm)
≤ 4 (102)	3	24 (610)	2	11 (279)	1	6 (152)
> 4 (102) ≤ 10 (254)	2	24 (610)	2	6 (152)	1	6 (152)

6. Riser Clamp — Required for use with Config B, metallic riser clamps sized to fit the outer circumference of the penetrant and installed in accordance with the manufacturer's installation instructions. The clamp to be installed flush with the exposed edge of the pipe covering material below floor.

\* 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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