

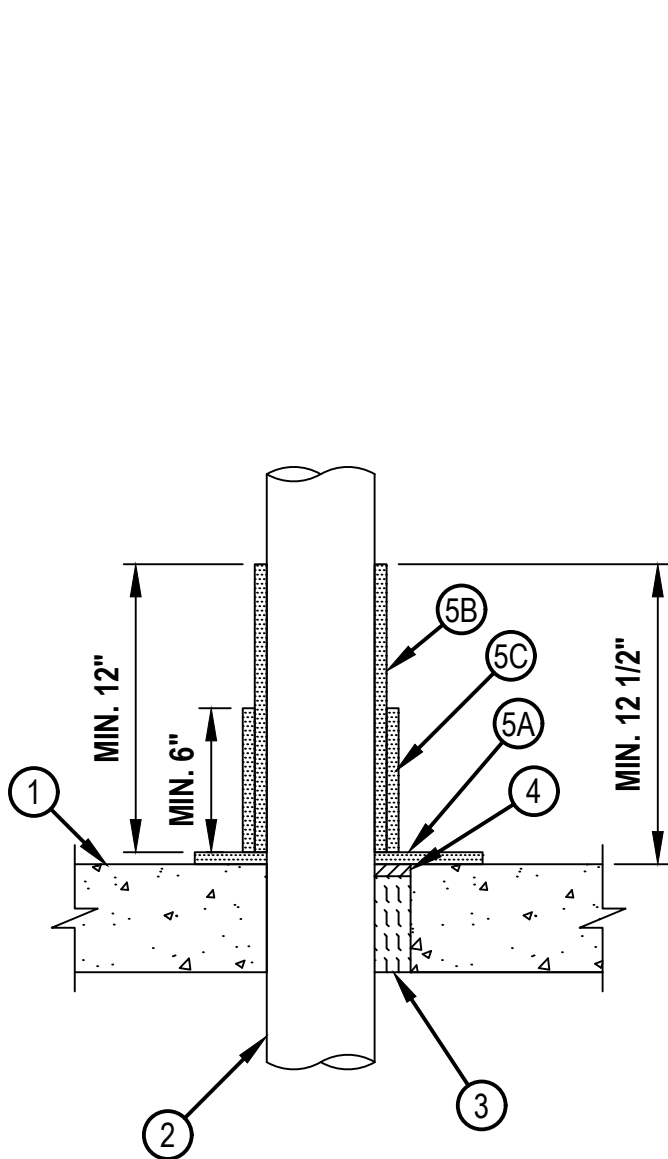


Classified by Underwriters Laboratories, Inc. to UL 1479 and CAN/ULC-S115

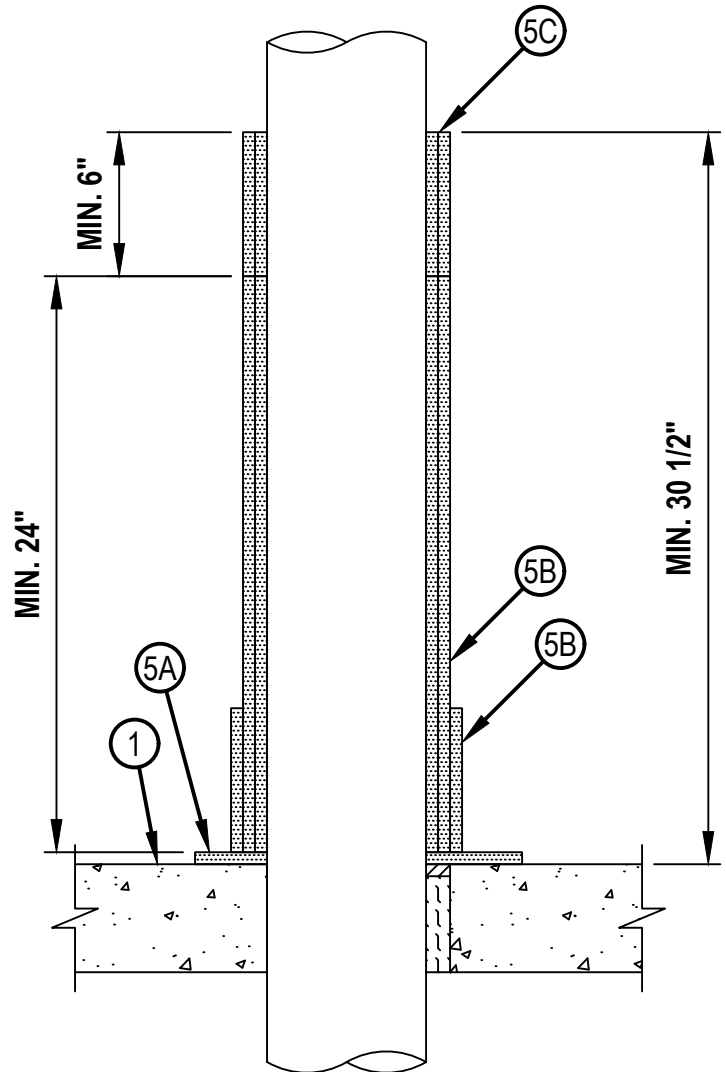
System No. F-A-1218

FA 1218

ANSI/UL 1479 (ASTM E814)	CAN/ULC S115
F Ratings - 1 or 2 Hr (See Item 5)	F Ratings - 1 or 2 Hr (See Item 5)
T Ratings - 1 or 2 Hr (See Item 5)	FT Ratings - 1 or 2 Hr (See Item 5)
	FH Ratings - 1 or 2 Hr (See Item 5)
	FTH Ratings - 1 or 2 Hr (See Item 5)



CONFIGURATION A



CONFIGURATION B



Hilti Firestop Systems

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1. Floor Assembly — Min 4-1/2 in. (114 mm) thick reinforced lightweight or normal weight (100-150 pcf or 1600-2400 kg/m³) 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/m³) 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 penetrant and concrete, a min 1/2 in. (13 mm) diam bead of fill material shall be applied at the concrete/penetrant interface on the top surface of floor prior to installation of surface insulation (Items 5A, 5D). 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 top and bottom surfaces of floor.
HILTI CONSTRUCTION CHEMICALS, DIV OF HILTI INC — CFS-S SIL GG, CFS-S SIL SL, CP 606 or FS-ONE MAX Intumescent Sealant.
5. Pipe Covering Material* — Nom 1/2 in. (12.7 mm) thick 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. In addition to the FSK tape along the entire vertical seams, an optional No. 16 gauge steel wire may be installed centered on the vertical height seam along the outside of the collar.

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 insulation is to be cut in a circular or rectangular pattern that is sized min 3 in. (76 mm) larger than the outer diam of the penetrant at any circumferential point of the penetrant. A concentric opening to be sized and cut to the penetrant outer diam with a max of 1/4 in. (6 mm) annular space. Insulation to be sized to have min 1-1/2 in. (38 mm) overlap onto the floor.
- B. Initial Layers — Pipe covering shall be continuously wrapped a min one time around the penetrant (See Table 1). Initial insulation installed and butted to the surface insulation (Item 5A).
- C. Collar — Collar shall be continuously wrapped a min one time around the initial layers. The use of the collar is dependent upon the diameter of the penetrant and the F, T, FT, FH, FTH Ratings of the firestop system as shown in Table 1. Collar 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 or rectangular pattern that is min 7 in. (178 mm) larger than the penetrant outer diam at any circumferential point of the penetrant. A concentric opening to be sized and cut to the penetrant outer 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). Initial insulation installed and butted to the surface insulation (Item 5A).
- C. Adjacent Layers — Pipe covering shall be continuously wrapped a min two times around the outer diam of the penetrant. The use of the adjacent layers is dependent upon the diameter of the penetrant and the F, T, FT, FH, FTH Ratings of the firestop system as shown in Table 1.
 - 1. Adjacent layers shall be butted tightly to the initial layers (Item 5B).
- D. Collar — Collar shall be continuously wrapped around the initial layers (See Table 1). Collar to be butted to the surface insulation (Item 5A).
 HILTI CONSTRUCTION CHEMICALS, DIV OF HILTI INC — CFP-ES Endo-Shield

Table 1

Penetrant Nom Diam, in. (mm)	Initial Insulation		Adjacent Insulation		Collar		UL 1479	ULC S115
	Layers, Min	Height, in. (mm)	Layers, Min	Height, in. (mm)	Layers, Min	Height, in. (mm)	F, T Ratings, Hr	F, FT, FH, FTH Ratings, Hr
≤ 4 (102)	1	12 (305)	N/A	N/A	1	6 (152)	2	2
≤ 4 (102)	1	12 (305)	N/A	N/A	N/A	N/A	1	1
> 4 (102) ≤ 10 (254)	2	24 (610)	2	6 (152)	1	6 (152)	2	2
> 4 (102) ≤ 10 (254)	2	24 (610)	N/A	N/A	1	6 (152)	1	1

* 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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