

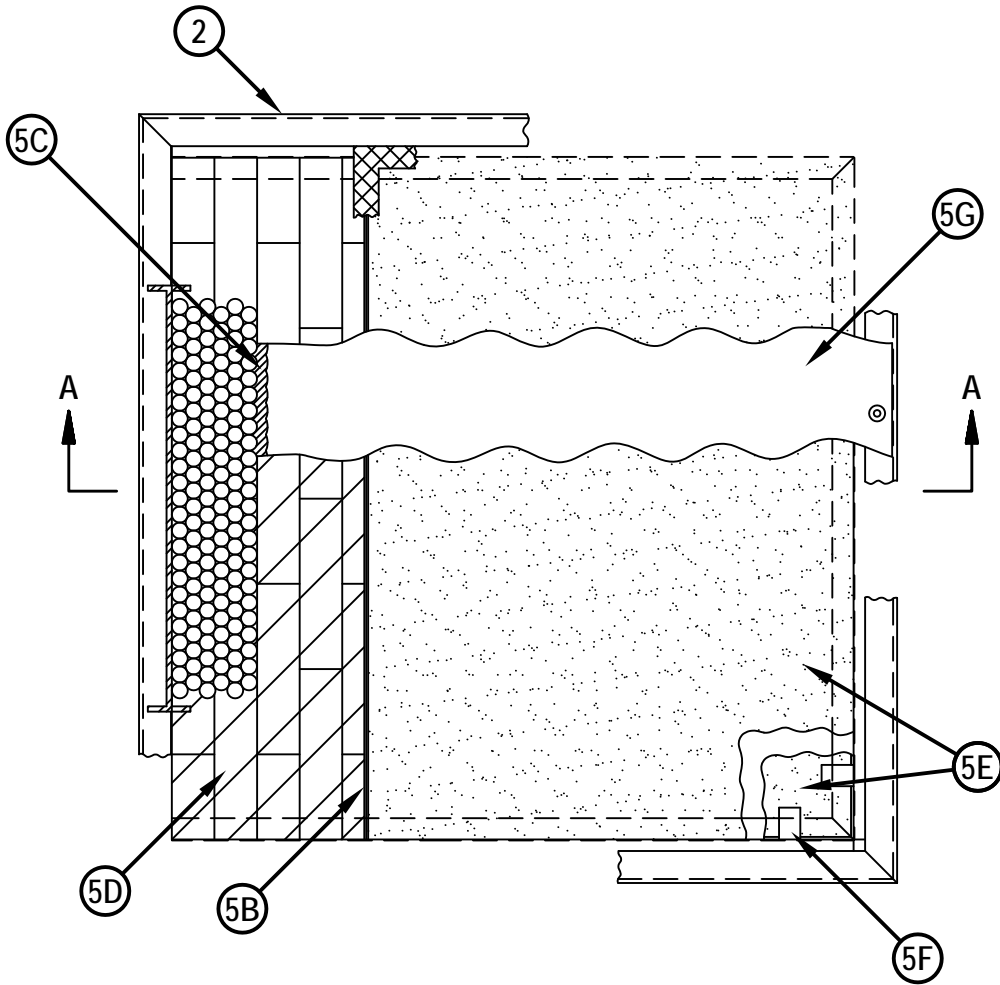


Classified by
Underwriters Laboratories, Inc.
to UL 1479 and CAN/ULC-S115

System No. F-B-4006

FB 4006

ANSI/UL1479 (ASTM E814)	CAN/ULC S115
F Rating — 2 Hr	F Rating — 2 Hr
T Rating — 1 Hr	FT Rating — 1 Hr
	FH Rating — 2 Hr
	FTH Rating — 1 Hr



Hilti Firestop Systems

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December 13, 2011

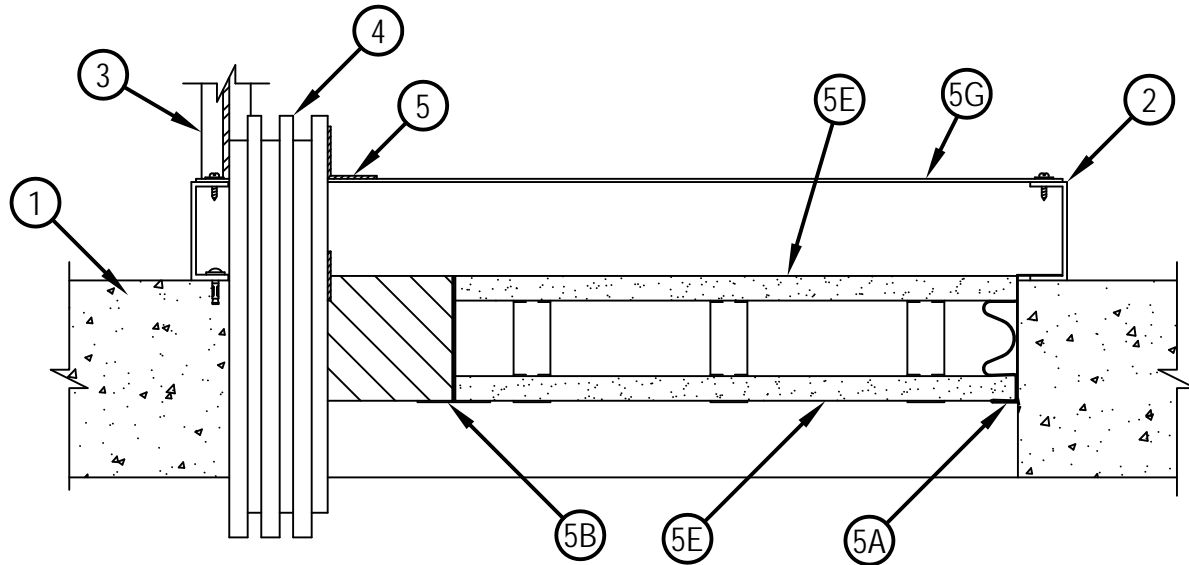


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SECTION A-A

1. Floor Assembly — Min 8 in. (203 mm) thick reinforced lightweight or normal weight (100-150 pcf or 1600-2400 kg/m³) concrete. Max area of opening is 6.25 ft² (0.58 m²) with a max dimension of 30 in. (762 mm).
2. Sheathing — Nominal 4 by 1-1/2 by 3/16 in. (102 by 38 by 5 mm) thick structural steel channel sheathing secured to top surface of concrete floor by means of nom 1/4 in. (6 mm) diam by 1-1/4 in. (32 mm) long concrete steel screw fasteners spaced max 10 in. (254 mm) OC.
3. Cable Rack — Max 20 in. (508 mm) wide open-ladder steel cable rack with nom 2 by 3/8 in. (51 by 10 mm) solid steel side rails. One cable rack installed per opening. Cable rack welded or bolted to sheathing along one side of opening on top surface of floor.
4. Cables — Max 4 in. (102 mm) cable loading depth on the cable rack. Any combination of the following types and sizes of copper conductor cables may be used:
 - A. Max 750 kcmil power cable or with polyvinyl chloride (PVC) jacket.
 - B. Max 300 pair No. 24 AWG telephone copper conductor cable with PVC jacket.
 - C. Max 150 pair No. 24 AWG telephone cable with PVC jacket.
5. Firestop System — The firestop system shall consist of the following:
 - A. Firestop Device* — Z-Frame — Z-frame cut to length for three sides of the opening. Each piece of Z-frame fastened to inside flange of steel sheathing by means of nom 3/16 in. (5 mm) by 1-1/4 in. (32 mm) long steel concrete screw anchors spaced max 12 in. (305 mm).
HILTI CONSTRUCTION CHEMICALS, DIV OF
HILTI INC — CP 675T Z-Frame
 - B. Firestop Device* — T-Bar — T-Bar shall be located with its centerline (stem) min 1-1/2 in. (38 mm) to max 5 in. (127 mm) from cables and directly adjacent to the fire blocks (Item 5D). T-Bar cut 1/4 in. (6 mm) shorter in length than opening and installed atop bottom flange of Z frame without attachment. As an option, T-bar may be fastened to bottom flange of firestop Z-Frame (Item 5A) using one nom 3/8 in. (10 mm) long by No. 8 steel screw at each end.



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HILTI CONSTRUCTION CHEMICALS, DIV OF
HILTI INC — CP 675T T-Bar

C. Fill, Void or Cavity Material* — Putty Pads — Single layer of putty pads applied on three visible surfaces of cable bundle and extending a min of 2 in. (51 mm) above and below the top surface of concrete floor.

After installation of Z Frame (Item 5A), nom 1/4 in. (6 mm) thick by 1 in. (25 mm) wide strip of putty material applied on the bottom flange of the Z-frame.

After installation of fire blocks (Item 5D), additional putty to be forced into interstices of cables, between cables and block and between blocks and periphery of opening to max extent possible.

Prior to installation of cover plate, additional min 1/4 in. (6 mm) thickness of putty shall be installed around the perimeter of the opening and overlapping a min of 1/2 in. (13 mm) onto the firestop board (Item 5E), Z-Frame (Item 5A) and fire blocks.

After installation of steel cover plate (Item 5H), additional min 1/4 in. (6 mm) thickness of putty installed around periphery of cable bundle to a min height of 2 in. (51 mm) above steel sheathing. Putty shall overlap onto the steel cover a min of 1/2 in. (13 mm).

HILTI CONSTRUCTION CHEMICALS, DIV OF

HILTI INC — CP 617 Firestop Putty Pad, CP 618 Firestop Putty Stick, and CP 619T Firestop Putty Roll

D. Fill, Void or Cavity Material* — Block — Min 5 in. (127 mm) depth to fill area between cable rack/cables, floor and T-bar. Blocks installed with 5 in. dimension projecting through opening and overlapping onto horizontal lip of Z-Frame (Item 4A) and firmly packed against T-Bar (Item 5B). Either one or a combination of the block types specified below may be used.

HILTI CONSTRUCTION CHEMICALS, DIV OF

HILTI INC — FS 657 Fire Block or CFS-BL Firestop Block

E. Firestop Device* — Board — Board cut to fit within opening with max 1/4 in. (6 mm) gap around perimeter. Board layers installed as described in items 5E1 and 5E2.

HILTI CONSTRUCTION CHEMICALS, DIV OF

HILTI INC — CP 675T Firestop Board

E1. Board - First Layer — First layer of board placed into opening with distance holders (Item 5F) against bottom flange of Z-frame (Item 5A) and putty (Item 5C).

E2. Board - Second Layer — Second layer of board placed into opening against back of distance holders (Item 5F).

F. Firestop Device* — Distance Holder — Distance holders clipped over perimeter of first layer of board (Item 5E1), spaced 8 in. (203 mm) OC.

HILTI CONSTRUCTION CHEMICALS, DIV OF

HILTI INC — CP 675T Distance Holders

G. Steel Cover Plate — Min 0.026 in. (0.66 mm) thick steel plate shall be cut to fit the contour of the cable bundle. Steel cover plate secured to the top surface of sheathing by means of nom 1/4 in. (6 mm) diam steel bolts or screws spaced max 12 in. (152 mm) OC. Annular space between cables and cover plate shall be 0 in. (0 mm, point contact) to max 1 in. (25 mm).

*Bearing the UL Classification Mark



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