



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

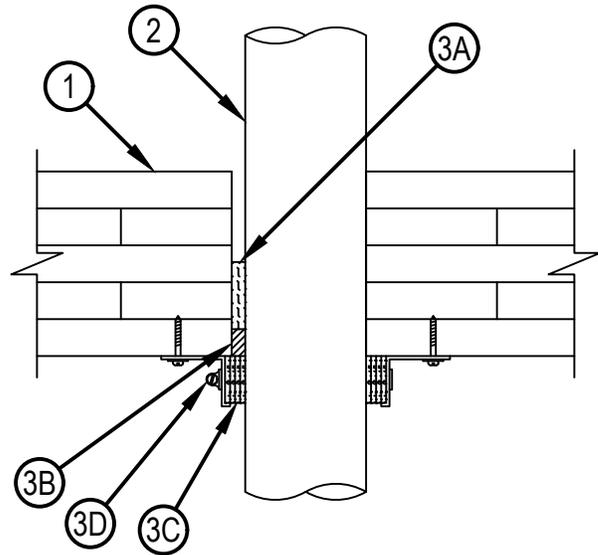
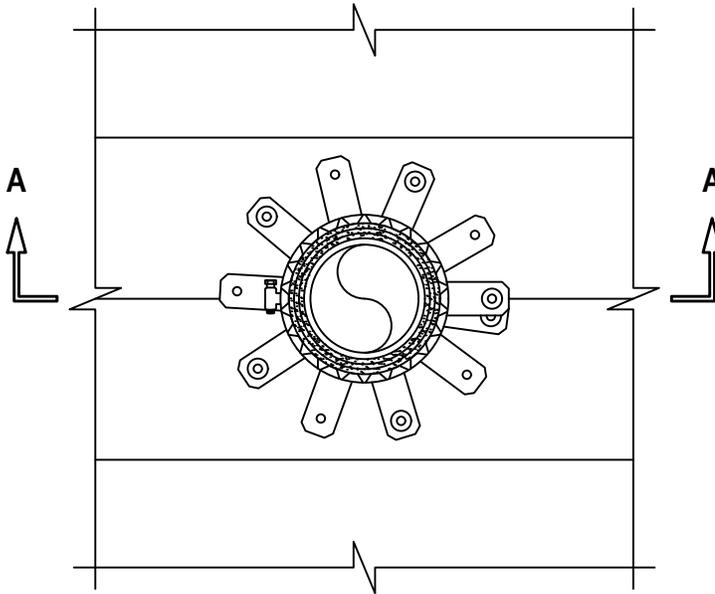
System No. F-G-2002

FG 2002

ANSI/UL1479 (ASTM E814)	CAN/ULC S115
F Rating — 2 Hr	F Rating — 2 Hr
T Ratings — 1-3/4 and 2 Hr (See Item 3C)	FT Ratings — 1-3/4 and 2 Hr (See Item 3C)
	FH Rating — 2 Hr
	FTH Ratings — 1-3/4 and 2 Hr (See Item 2)

BOTTOM VIEW

SECTION A-A



System No. F-G-2002

FG 2002

System tested with a pressure differential of 50 Pa between the exposed and the unexposed surfaces with the higher pressure on the exposed side.

1. Floor Assembly — Min 6-7/8 in. (175 mm) thick, 5 ply cross laminated timber (CLT) panel, labeled Grade E1 in accordance with ANSI/APA PRG 320 as required by Chapter 6 of International Building Code (IBC) for Type IVA, IVB or IVC construction. The required hourly rating of the CLT floor shall be determined in accordance with Chapter 16 of the National Design Specification (NDS). Additional information regarding the use of CLT as permitted in the IBC is located in the XHEZ Guide Information. The indicated or calculated fire resistance rating of the assembly (Type IV A, B or C) to meet or exceed the F rating of the firestop system. CLT Panel to have a max through opening diameter of 5 in. (127 mm) to accommodate the penetrant.
2. Through Penetrant — One nonmetallic pipe to be installed concentrically or eccentrically within the firestop system. Pipe to be rigidly supported on both sides of floor assembly. Annular space between pipe and periphery of opening to be min 0 in. (point contact), to max 1/2 in (13 mm). The T Ratings for the firestop system are dependent upon the type and size of nonmetallic pipe and number of layers of wrap strip as show in Table 3C. The following type and sizes of nonmetallic pipe may be used:
 - A. XFR Polyvinyl Chloride Pipe (XFR-PVC) — Nom 4 in. (102 mm) diam (or smaller) Schedule 40 PVC-XFR solid core 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. Packing Materials — Min 2 in. (51 mm) thickness of min 4 pcf (64 kg/m3) mineral wool batt insulation tightly packed into the opening as a permanent form. Packing material to be recessed from the bottom surface of floor to accommodate the required thickness of sealant (Item 3B).
 - B. Fill, Void or Cavity Materials* - Sealant — Min 1 in. (25 mm) thickness of fill material applied within the annulus, flush with bottom surface of floor.
HILTI CONSTRUCTION CHEMICALS, DIV OF HILTI INC — FS-ONE MAX Intumescent Sealant
 - C. 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 are continuously wrapped around the pipe with end held in place with tape. Wrap strip butted tightly against bottom surface of floor. The T Rating of the firestop system is dependent upon the type and max nom diam of the penetrant and the number of layers of wrap strip as shown in the table below.

Penetrant Type	Max Nom Diam of Penetrant in. (mm)	Number of layers of wrap strip	T Rating, Hr
2A	2 (51)	2	1-3/4
2A	4 (102)	4	2

HILTI CONSTRUCTION CHEMICALS, DIV OF HILTI INC — CP648-E W45/1-3/4" Firestop Wrap Strip

- D. Steel Collars — Steel collar fabricated from coils of precut min 0.016 in. (1.6 mm) thick (No. 28 gauge) galv steel available from fill material manufacturer. Collar shall be nom 1-3/4 in. (44 mm) deep with 1 in. (25 mm) wide by 2 in. (52 mm) long anchor tabs on 1-3/4 in. (44 mm) centers for securement to the underside of floor. The opposite side incorporates retainer tabs, 1/2 in. (13 mm) wide by 3/16 in. (5 mm) long, prebent toward the pipe surface. Collar shall be tightly wrapped over the wrap strip, overlapping min. 2 in (51 mm) at seam. A nom 1/2 in. (13 mm) wide stainless steel hose clamp shall be secured to the collar at its mid-height. Collar secured to the wood floor assembly at every other tab with 1/4 in. (6 mm) diam by min 3 in. (76 mm) long wood screws and 3/4 in. steel washers. Collars to be used at the bottom surface of floor.

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



Hilti Firestop Systems

Reproduced by HILTI, Inc. Courtesy of
Underwriters Laboratories, Inc.
October 05, 2023