



Classified by  
Underwriters Laboratories, Inc.  
to UL 1479

# System No. F-B-2050

F Rating — 3 Hr

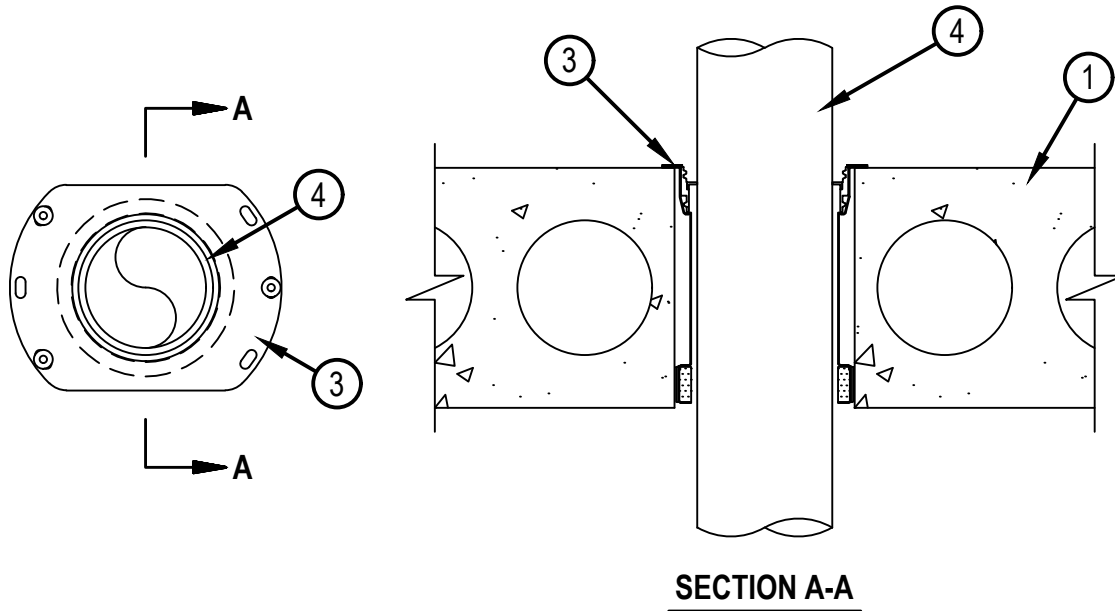
T Ratings — 0 and 1/4 Hr (See Items 2 and 4)

L Rating At Ambient — Less Than 1 CFM/sq ft (See Item 3A)

L Rating At 400 F — 1 CFM/sq ft (See Item 3A)

W Rating — Class I (See Item 3A)

FB 2050



1. Floor Assembly — Min 6 in. (152 mm) to max 12-1/2 in. (318 mm) thick UL Classified hollow core Precast Concrete Units\*. Max diam of opening is 6 in. (152 mm).

See Precast Concrete Units (CFTV) categories in the Fire Resistance Directory for names of manufacturers.

1A. Floor Assembly – (Optional – Not Shown) – As an alternate to Item 1, min. 6 in. (152 mm) to max. 12-1/2 in. (318 mm) thick reinforced lightweight or normal weight (100-150 pcf or 1600-2400 kg/m<sup>3</sup>) concrete.

2. Sheet Metal Sleeve — (Optional, Not Shown) - Nom 4, 5 or 6 in. (102, 127 or 152 mm) diam, min 26 ga galv steel and having a min 2 in. (51 mm) lap along the longitudinal seam, and may extend a max of 4 in. (102 mm) below the bottom of the deck and flush with the top surface of the concrete floor. Sleeve installed by coiling the sheet steel to a diam smaller than the through opening, inserting the coil through the openings and releasing the coil to let it uncoil against the opening.

When sheet metal sleeve is used, T Rating is 0 Hr.

3. Firestop Device\* — Drop-in firestop device installed in core-drilled or sleeved opening in concrete floor assembly in accordance with accompanying installation instructions. The firestop device shall extend a max 1/2 in. (13 mm) below the bottom surface of the floor or may be recessed a max of 1/2 in. from the bottom surface of the floor. The firestop device flange should be secured to the top surface of the floor with three 1/4 in. (6 mm) diam by min 1-1/4 in. (32 mm) long steel expansion bolts or screw anchors (installed in a triangular fashion through holes provided). As alternates to the anchors specified above, Hilti 1/4 in. (6 mm) diam by 1-1/4 in. (32 mm) long KWIK-CON II+ concrete screw anchor, Hilti 1/4 in. (6 mm) diam by 1-3/4 in. (45 mm) long KWIK-BOLT 3 steel expansion anchor or Hilti 1/4 in. (6 mm) by 3/4 in. (19 mm) long Metal HIT Anchor may be used. In addition, for nom 2 in. (51 mm), 3 in. (76 mm) and 4 in. (102 mm) firestop devices, four 11/16 in. (18 mm) long Hilti X-GH P18 MX steel fasteners may be installed through the steel flange, two on each side. The firestop devices shall be installed as detailed in the following table:



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Core Hole or Sleeve Diam, In. (mm)	Firestop Device	Nom Diam of Through Penetrant, In. (mm)	Min-Max Floor Thickness In. (mm)
4 (102)	CFS-DID 2"C	2 (51) or smaller+	6 - 6-1/2 (152 - 165)
5 (102)	CFS-DID 3"C	3 (76)	6 - 6-1/2 (152 - 165)
6 (152)	CFS-DID 4"C	4 (102)	6 - 6-1/2 (152 - 165)
4 (102)	CFS-DID 2" HC8	2 (51) or smaller+	7-1/2 - 8-1/2 (191 - 216)
5 (102)	CFS-DID 3" HC8	3 (76)	7-1/2 - 8-1/2 (191 - 216)
6 (152)	CFS-DID 4" HC8	4 (102)	7-1/2 - 8-1/2 (191 - 216)
4 (102)	CFS-DID 2" HC10	2 (51) or smaller+	9-1/2 - 10-1/2 (241 - 267)
5 (102)	CFS-DID 3" HC10	3 (76)	9-1/2 - 10-1/2 (241 - 267)
6 (152)	CFS-DID 4" HC10	4 (102)	9-1/2 - 10-1/2 (241 - 267)
4 (102)	CFS-DID 2" HC12	2 (51) or smaller+	11-1/2 - 12-1/2 (292 - 318)
5 (102)	CFS-DID 3" HC12	3 (76)	11-1/2 - 12-1/2 (292 - 318)
6 (152)	CFS-DID 4" HC12	4 (102)	11-1/2 - 12-1/2 (292 - 318)

+ For pipe smaller than nom 2 in. (51 mm) diam, Adapter and Top Seal Plug is required to be used.

HILTI CONSTRUCTION CHEMICALS, DIV OF HILTI INC — CFS-DID 2"C, CFS-DID 3"C, CFS-DID 4"C, CFS-DID 2"HC8, CFS-DID 3"HC8, CFS-DID 4"HC8, CFS-DID 2"HC10, CFS-DID 3"HC10, CFS-DID 4"HC10, CFS-DID 2"HC12, CFS-DID 3"HC12, CFS-DID 4"HC12

3A. Firestop Device\* - Water Barrier Module — (Optional, Not Shown) - Used in combination with the CFS-DID device and supplied by device manufacturer. Module is threaded onto top of device.

W Rating and L Rating apply only when water barrier module is used.

HILTI CONSTRUCTION CHEMICALS, DIV OF HILTI INC — Water Barrier Module

4. Through Penetrant — One nonmetallic pipe to be installed within the firestop device. Pipe to be rigidly supported on both sides of floor assembly. The following types of pipe may be used:

- A. Polyvinyl Chloride (PVC) Pipe — Nom 4 in. (102 mm) diam (or smaller) Schedule 40 solid core or cellular core PVC pipe for use in closed (process or supply) or vented (drain, waste or vent) piping system.
- B. Acrylonitrile Butadiene Styrene (ABS) Pipe — Nom 4 in. (102 mm) diam (or smaller) Schedule 40 solid core or cellular core ABS pipe for use in closed (process or supply) or vented (drain, waste or vent) piping system.
- C. Chlorinated Polyvinyl Chloride (CPVC) Pipe — Nom 4 in. (102 mm) diam (or smaller) SDR 13.5 CPVC pipe for use in closed (process or supply) or vented (drain, waste or vent) piping system.
- D. Flame Retardant Polypropylene (FRPP) Pipe — Nom 4 in. (102 mm) diam (or smaller) Schedule 40 (or heavier) FRPP pipe for use in closed (process or supply) or vented (drain, waste or vent) piping systems.

T Rating is 1/4 hr when Pipe D is used.

\* 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**

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