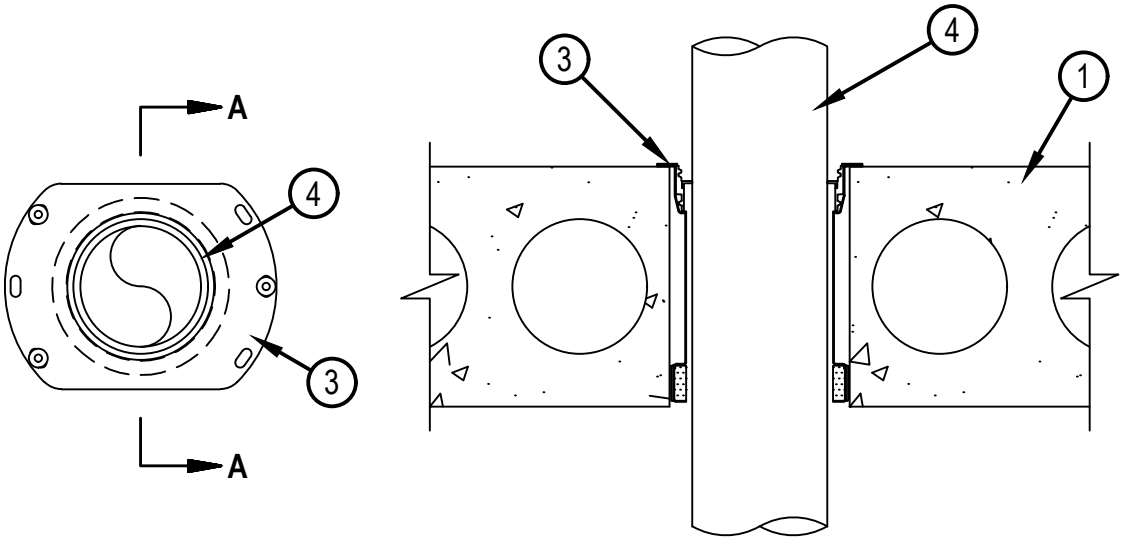
Classified by
Underwriters Laboratories, Inc.
to CAN/ULC-S115

CANADA ONLY

FB 2051

System No. F-B-2051

F Ratings —2 and 3 Hr (See Item 4)
FT Ratings — 0, 1/2 and 2 Hr (See Items 2 and 4)
FH Ratings - 2 and 3 Hr (See Item 4)
FTH Ratings — 0, 1/2 and 2 Hr (See Items 2 and 4)
L Rating At Ambient — Less Than 1.55 L/s/m (See Item 3A)
L Rating At 204°C — Less Than 1.55 L/s/m (See Item 3A)
W Rating — Class I (See Item 3A)



SECTION A-A

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 152 mm (6 in.) to max 318 mm (12-1/2 in.) thick UL Classified hollow core Precast Concrete Units*. Max diam of opening is 152 mm (6 in.).
   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. 152 mm (6 in.) to max. 318 mm (12-1/2 in.) thick reinforced lightweight or normal weight (100-150 pcf or 1600-2400 kg/m3) concrete.

2. Sheet Metal Sleeve — (Optional, Not Shown) - Nom 102, 127 or 152 mm (4, 5 or 6 in.) diam, min 26 ga galv steel and having a min 51 mm (2 in.) lap along the longitudinal seam, and may extend a max of 102 mm (4 in.) 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, FT and FTH Rating is 0 Hr.
   When sheet metal sleeve is used, FT and FTH 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 13 mm (1/2 in.) below the bottom surface of the floor or may be recessed a max of 13 mm (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 6 mm (1/4 in.) diam by min 32 mm (1-1/4 in.) long steel expansion bolts or screw anchors (installed in a triangular fashion through holes provided). As alternates to the anchors specified above, Hilti 6 mm (1/4 in.) diam by 32 mm (1-1/4 in.) long KWIK-CON II+ concrete screw anchor, Hilti 6 mm (1/4 in.) diam by 45 mm (1-3/4 in.) long KWIK-BOLT 3 steel expansion anchor or Hilti 6 mm (1/4 in.) by 19 mm (3/4 in.) long Metal HIT Anchor may be used. In addition, for nom 51 mm (2 in.), 76 mm (3 in.) and 102 mm (4 in.) firestop devices, four 18 mm (11/16 in.) 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:

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 51 mm (2 in.) 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 102 mm (4 in.) 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 102 mm (4 in.) 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 102 mm (4 in.) 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 102 mm (4 in.) diam (or smaller) Schedule 40 (or heavier) FRPP pipe for use in closed (process or supply) or vented (drain, waste or vent) piping systems.

E. Chlorinated Polyvinyl Chloride (CPVC) Pipe — Nom 102 mm (4 in.) diam (or smaller) SDR 11 CPVC for use in closed (process or supply) piping systems.

IPEX INC — AquaRise

F. XFR 15/50 Polyvinyl Chloride (PVC) Pipe — Nom 102 mm (4 in.) diam (or smaller) Schedule 40 solid core XFR-PVC pipe for use in closed (process or supply) or vented (drain, waste, or vent) piping systems.

FT and FTH Rating is 1/4 hr when Pipe D is used. F, FT, FH and FTH Rating is 2 hr when Pipe F 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.