

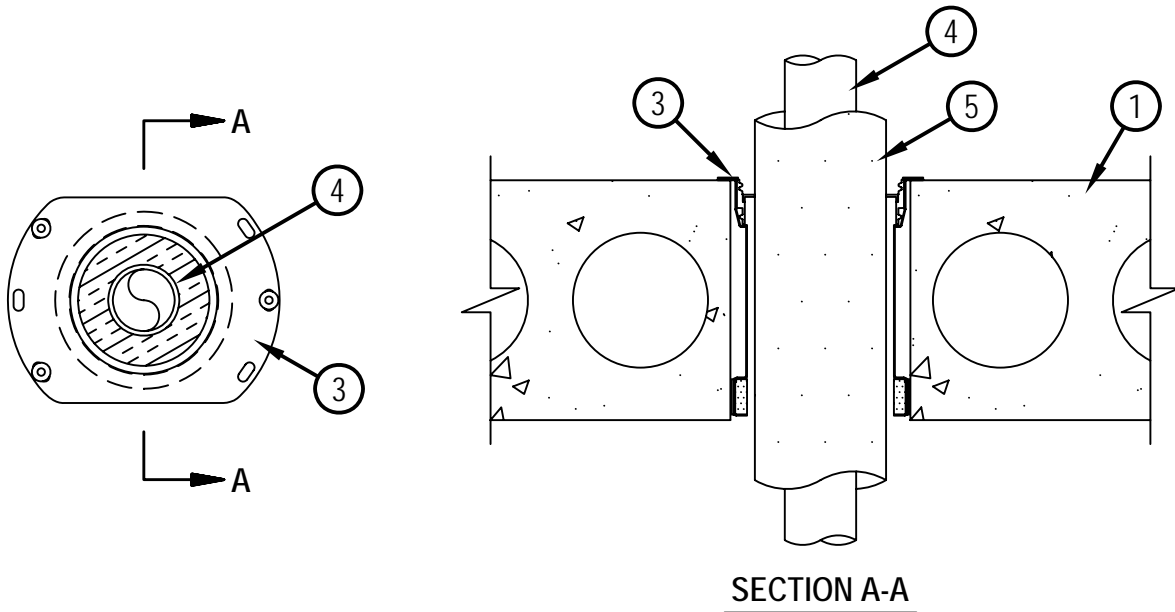


Classified by
Underwriters Laboratories, Inc.
to UL 1479 and CAN/ULC-S115

System No. F-B-5005

F Rating — 3 Hr
T Ratings — 0 and 2 Hr (See Item 2)

FB 5005



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.

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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Nom Pipe or Tube (Item 4) Diam, In. (mm)	Insulation Type (Item 5 or 5A) and Thickness, In. (mm)	Firestop Device	Core Hole or Sleeve Diam, In. (mm)	Min-Max Floor Thickness In. (mm)
1/2 (13)	3/4 or 1 (19 or 25) AB/PVC	CFS-DID 2"C	4 (102)	6 - 6-1/2 (152 - 185)
1 (25)	3/4 or 1 (19 or 25) AB/PVC	CFS-DID 3"C	5 (127)	6 - 6-1/2 (152 - 185)
2 (51)	3/4 or 1 (19 or 25) AB/PVC	CFS-DID 4"C	6 (152)	6 - 6-1/2 (152 - 185)
1/2 (13)	1 (25) Glass Fiber	CFS-DID 2"C	4 (102)	6 - 6-1/2 (152 - 185)
1 (25)	1 (25) Glass Fiber	CFS-DID 3"C	5 (127)	6 - 6-1/2 (152 - 185)
1 (25)	1-1/2 (38) Glass Fiber	CFS-DID 4"C	6 (152)	6 - 6-1/2 (152 - 185)
2 (51)	1 (25) Glass Fiber	CFS-DID 4"C	6 (152)	6 - 6-1/2 (152 - 185)
1/2 (13)	3/4 or 1 (19 or 25) AB/PVC	CFS-DID 2" HC8	4 (102)	7-1/2 - 8-1/2 (191 - 216)
1 (25)	3/4 or 1 (19 or 25) AB/PVC	CFS-DID 3" HC8	5 (127)	7-1/2 - 8-1/2 (191 - 216)
2 (51)	3/4 or 1 (19 or 25) AB/PVC	CFS-DID 4" HC8	6 (152)	7-1/2 - 8-1/2 (191 - 216)
1/2 (13)	1 (25) Glass Fiber	CFS-DID 2" HC8	4 (102)	7-1/2 - 8-1/2 (191 - 216)
1 (25)	1 (25) Glass Fiber	CFS-DID 3" HC8	5 (127)	7-1/2 - 8-1/2 (191 - 216)
1 (25)	1-1/2 (38) Glass Fiber	CFS-DID 4"HC8	6 (152)	7-1/2 - 8-1/2 (191 - 216)
2 (51)	1 (25) Glass Fiber	CFS-DID 4"HC8	6 (152)	7-1/2 - 8-1/2 (191 - 216)
1/2 (13)	3/4 or 1 (19 or 25) AB/PVC	CFS-DID 2" HC10	4 (102)	9-1/2 - 10-1/2 (241 - 267)
1 (25)	3/4 or 1 (19 or 25) AB/PVC	CFS-DID 3" HC10	5 (127)	9-1/2 - 10-1/2 (241 - 267)
2 (51)	3/4 or 1 (19 or 25) AB/PVC	CFS-DID 4" HC10	6 (152)	9-1/2 - 10-1/2 (241 - 267)
1/2 (13)	1 (25) Glass Fiber	CFS-DID 2" HC10	4 (102)	9-1/2 - 10-1/2 (241 - 267)
1 (25)	1 (25) Glass Fiber	CFS-DID 3" HC10	5 (127)	9-1/2 - 10-1/2 (241 - 267)
1 (25)	1-1/2 (38) Glass Fiber	CFS-DID 4"HC10	6 (152)	9-1/2 - 10-1/2 (241 - 267)
2 (51)	1 (25) Glass Fiber	CFS-DID 4"HC10	6 (152)	9-1/2 - 10-1/2 (241 - 267)
1/2 (13)	3/4 or 1 (19 or 25) AB/PVC	CFS-DID 2" HC12	4 (102)	11-1/2 - 12-1/2 (292 - 318)
1 (25)	3/4 or 1 (19 or 25) AB/PVC	CFS-DID 3" HC12	5 (127)	11-1/2 - 12-1/2 (292 - 318)
2 (51)	3/4 or 1 (19 or 25) AB/PVC	CFS-DID 4" HC12	6 (152)	11-1/2 - 12-1/2 (292 - 318)
1/2 (13)	1 (25) Glass Fiber	CFS-DID 2" HC12	4 (102)	11-1/2 - 12-1/2 (292 - 318)
1 (25)	1 (25) Glass Fiber	CFS-DID 3" HC12	5 (127)	11-1/2 - 12-1/2 (292 - 318)
1 (25)	1-1/2 (38) Glass Fiber	CFS-DID 4"HC12	6 (152)	11-1/2 - 12-1/2 (292 - 318)
2 (51)	1 (25) Glass Fiber	CFS-DID 4"HC12	6 (152)	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



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4. Through Penetrant — One metallic pipe or tubing to be installed within the firestop device. Pipe or tubing to be rigidly supported on both sides of floor assembly. The following types of pipe or tubing may be used:
- A. Steel Pipe — Nom 2 in. (51 mm) diam (or smaller) Schedule 10 (or heavier) steel pipe.
 - B. Iron Pipe — Nom 2 in. (51 mm) diam (or smaller) cast or ductile pipe.
 - C. Copper Tubing — Nom 2 in. (51 mm) diam (or smaller) Type L (or heavier) copper tubing.
 - D. Copper Pipe — Nom 2 in. (51 mm) diam (or smaller) Regular (or heavier) copper pipe.
5. Tube Insulation - Plastics+ — Nom 3/4 or 1 in. (19 or 25 mm) thick acrylonitrile butadiene/polyvinyl chloride (AB/PVC) flexible foam furnished in the form of tubing.
See Plastics+ (QMFZ2) Category in the Plastics Recognized Component Directory for names of manufacturers. Any Recognized Component tube insulation material meeting the above specifications and having a UL94 Flammability Classification of 94-5VA may be used.
- 5A. Pipe Covering* — Nom 1 or 1-1/2 in. (25 or 38 mm) thick hollow cylindrical heavy density (min 3.5 pcf or 56 kg/m³) glass fiber units, jacketed on the outside with an all service jacket. Longitudinal joints sealed with metal fasteners or factory-applied SSL tape. Transverse joints secured with metal fasteners or with butt tape supplied with the product.
See Pipe and Equipment Covering-Materials (BRGU) category in the Building Materials Directory for names of manufacturers. Any pipe covering material meeting the above specifications and bearing the UL Classification Marking with a Flame Spread Index of 25 or less and a Smoke Developed Index of 50 or less may be used.
- *Bearing the UL Classification Mark



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