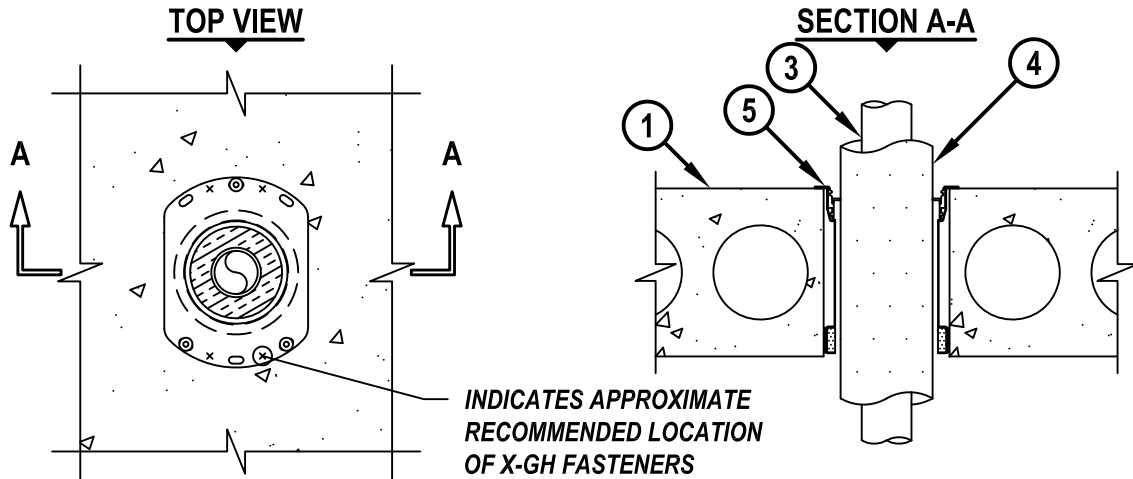


**INSULATED METAL PIPE THROUGH HOLLOW-CORE CONCRETE FLOOR ASSEMBLY**

F-RATING = 3-HR.

T-RATING = 0-HR. OR 2-HR.

FB5005b.012319



1. ANY UL CLASSIFIED PRECAST HOLLOW-CORE FLOOR ASSEMBLY (MINIMUM 6" TO MAXIMUM 12-1/2" THICK) (3-HR. FIRE-RATING).
2. [OPTIONAL - NOT SHOWN] NOMINAL 4", 5", OR 6" DIAMETER GALVANIZED STEEL SLEEVE (MIN. 26 GA.), HAVING A MINIMUM 2" LAP ALONG THE LONGITUDINAL SEAM, INSERTED INTO THE OPENING. SLEEVE MAY EXTEND A MAXIMUM 4" BELOW BOTTOM SURFACE OF FLOOR AND SIT FLUSH WITH TOP SURFACE OF FLOOR.
3. PENETRATING ITEM TO BE ONE OF THE FOLLOWING :
  - A. MAXIMUM 2" NOMINAL DIAMETER STEEL PIPE (SCHEDULE 10 OR HEAVIER).
  - B. MAXIMUM 2" NOMINAL DIAMETER CAST IRON PIPE.
  - C. MAXIMUM 2" NOMINAL DIAMETER COPPER PIPE OR TUBING.
4. ONE OF THE FOLLOWING PIPE COVERS TO BE USED :
  - A. NOMINAL 3/4" OR 1" THICK AB/PVC PIPE INSULATION (SEE TABLE BELOW).
  - B. NOMINAL 1" OR 1-1/2" THICK GLASS-FIBER PIPE INSULATION.
5. HILTI CFS-DID FIRESTOP DROP-IN DEVICE INSERTED INTO OPENING (SEE TABLE BELOW) AND SECURED TO TOP OF FLOOR WITH THREE HILTI 1/4" (6mm) DIAMETER BY 1-1/4" (32mm) LONG KWIK-CON II+ CONCRETE SCREW ANCHORS, HILTI 1/4" (6mm) DIAMETER BY 1-3/4" (45mm) LONG KWIK BOLT 3 STEEL EXPANSION ANCHORS, OR HILTI 1/4" (6mm) BY 3/4" (19mm) LONG METAL HIT ANCHORS (INSTALLED IN A TRIANGULAR FASHION THROUGH HOLES PROVIDED). IN ADDITION, FOR NOMINAL 2", 3", AND 4" DEVICES, FOUR 11/16" (18mm) LONG HILTI X-GH P18 MX STEEL FASTENERS MAY BE INSTALLED THROUGH THE STEEL FLANGE, TWO ON EACH SIDE.

| NOM PIPE OR TUBE (ITEM 3) DIAM | INSULATION TYPE (ITEM 4A OR 4B) AND THICKNESS | FIRESTOP DEVICE | CORE HOLE OR SLEEVE DIAM | FLOOR THICKNESS (MIN. MAX.) |
|--------------------------------|---|-----------------|--------------------------|-----------------------------|
| 1/2"                           | 3/4" OR 1" AB/PVC                             | CFS-DID 2" C    | 4"                       | 6" to 6-1/2"                |
| 1"                             | 3/4" OR 1" AB/PVC                             | CFS-DID 3" C    | 5"                       | 6" to 6-1/2"                |
| 2"                             | 3/4" OR 1" AB/PVC                             | CFS-DID 4" C    | 6"                       | 6" to 6-1/2"                |



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Sheet 1 of 2  
Scale 7/64" = 1"  
Date Jan. 23, 2019

Drawing No.  
**FB 5005b**

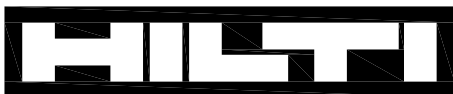
**INSULATED METAL PIPE THROUGH HOLLOW-CORE CONCRETE FLOOR ASSEMBLY**

F-RATING = 3-HR.

T-RATING = 0-HR. OR 2-HR.

FB5005b.012319

| NOM PIPE OR TUBE (ITEM 3) DIAM | INSULATION TYPE (ITEM 4A OR 4B) AND THICKNESS | FIRESTOP DEVICE | CORE HOLE OR SLEEVE DIAM | FLOOR THICKNESS (MIN. MAX.) |
|--------------------------------|---|-----------------|--------------------------|-----------------------------|
| 1/2"                           | 1" GLASS FIBER                                | CFS-DID 2" C    | 4"                       | 6" to 6-1/2"                |
| 1"                             | 1" GLASS FIBER                                | CFS-DID 3" C    | 5"                       | 6" to 6-1/2"                |
| 1"                             | 1-1/2" GLASS FIBER                            | CFS-DID 4" C    | 6"                       | 6" to 6-1/2"                |
| 2"                             | 1" GLASS FIBER                                | CFS-DID 4" C    | 6"                       | 6" to 6-1/2"                |
| 1/2"                           | 3/4" OR 1" AB/PVC                             | CFS-DID 2" HC8  | 4"                       | 7-1/2" to 8-1/2"            |
| 1"                             | 3/4" OR 1" AB/PVC                             | CFS-DID 3" HC8  | 5"                       | 7-1/2" to 8-1/2"            |
| 2"                             | 3/4" OR 1" AB/PVC                             | CFS-DID 4" HC8  | 6"                       | 7-1/2" to 8-1/2"            |
| 1/2"                           | 1" GLASS FIBER                                | CFS-DID 2" HC8  | 4"                       | 7-1/2" to 8-1/2"            |
| 1"                             | 1" GLASS FIBER                                | CFS-DID 3" HC8  | 5"                       | 7-1/2" to 8-1/2"            |
| 1"                             | 1-1/2" GLASS FIBER                            | CFS-DID 4" HC8  | 6"                       | 7-1/2" to 8-1/2"            |
| 2"                             | 1" GLASS FIBER                                | CFS-DID 4" HC8  | 6"                       | 7-1/2" to 8-1/2"            |
| 1/2"                           | 3/4" OR 1" AB/PVC                             | CFS-DID 2" HC10 | 4"                       | 9-1/2" to 10-1/2"           |
| 1"                             | 3/4" OR 1" AB/PVC                             | CFS-DID 3" HC10 | 5"                       | 9-1/2" to 10-1/2"           |
| 2"                             | 3/4" OR 1" AB/PVC                             | CFS-DID 4" HC10 | 6"                       | 9-1/2" to 10-1/2"           |
| 1/2"                           | 1" GLASS FIBER                                | CFS-DID 2" HC10 | 4"                       | 9-1/2" to 10-1/2"           |
| 1"                             | 1" GLASS FIBER                                | CFS-DID 3" HC10 | 5"                       | 9-1/2" to 10-1/2"           |
| 1"                             | 1-1/2" GLASS FIBER                            | CFS-DID 4" HC10 | 6"                       | 9-1/2" to 10-1/2"           |
| 2"                             | 1" GLASS FIBER                                | CFS-DID 4" HC10 | 6"                       | 9-1/2" to 10-1/2"           |
| 1/2"                           | 3/4" OR 1" AB/PVC                             | CFS-DID 2" HC12 | 4"                       | 11-1/2" to 12-1/2"          |
| 1"                             | 3/4" OR 1" AB/PVC                             | CFS-DID 3" HC12 | 5"                       | 11-1/2" to 12-1/2"          |
| 2"                             | 3/4" OR 1" AB/PVC                             | CFS-DID 4" HC12 | 6"                       | 11-1/2" to 12-1/2"          |
| 1/2"                           | 1" GLASS FIBER                                | CFS-DID 2" HC12 | 4"                       | 11-1/2" to 12-1/2"          |
| 1"                             | 1" GLASS FIBER                                | CFS-DID 3" HC12 | 5"                       | 11-1/2" to 12-1/2"          |
| 1"                             | 1-1/2" GLASS FIBER                            | CFS-DID 4" HC12 | 6"                       | 11-1/2" to 12-1/2"          |
| 2"                             | 1" GLASS FIBER                                | CFS-DID 4" HC12 | 6"                       | 11-1/2" to 12-1/2"          |



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Sheet 2 of 2

Scale -

Date Jan. 23, 2019

Drawing No.

**FB  
5005b**

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