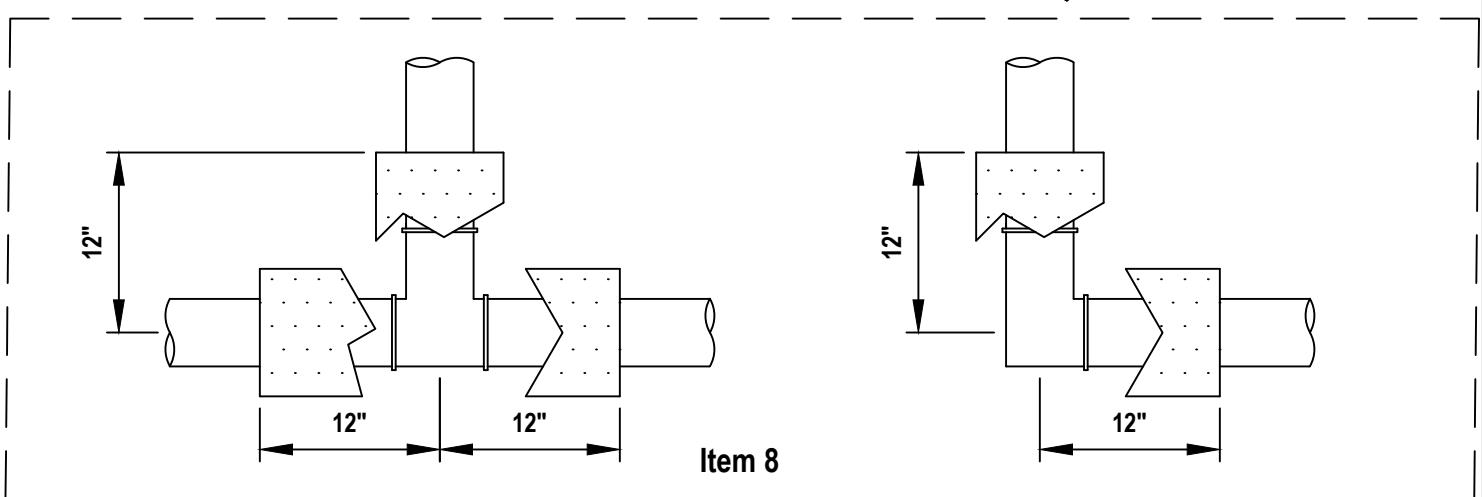
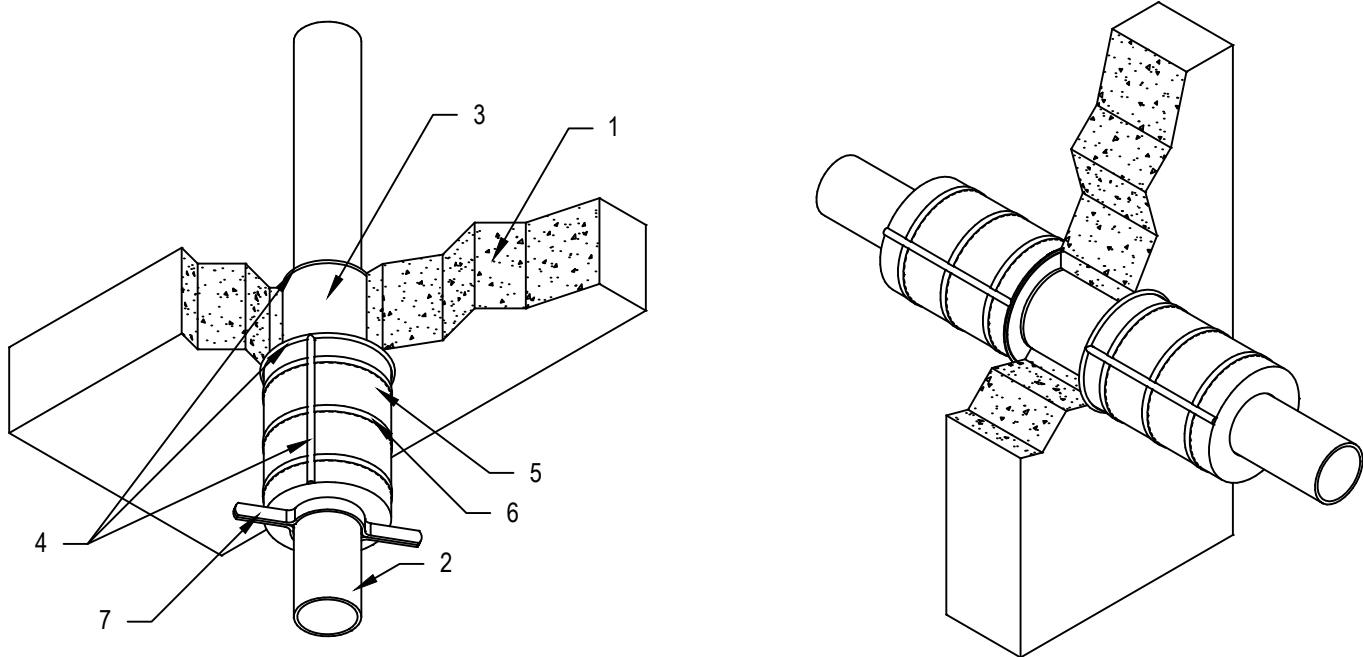


Hilti Corporation
Design Number HI/PF 120-01
Through Penetration
FS-ONE MAX Intumescent Firestop Sealant
ASTM E814, UL 1479, CAN/ULC S115
Rating: See Table 1

Table 1.

HI/PF 120-01

	ASTM E814, UL 1479	CAN/ULC-S115 2.5Pa Pressure Differential
F-Rating	120 Minute	120 Minute
T-Rating	120 Minute	NA
FT-Rating	NA	120 Minute
FH-Rating	NA	120 Minute
FTH - Rating	NA	120 Minute



Hilti Firestop Systems

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February 27, 2020

Intertek

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HI/PF 120-01

1. FLOOR/CEILING OR WALL ASSEMBLY: Use a 2 hour fire-rated floor/ceiling assembly or concrete or block wall assembly consisting of min. 7 in. (178 mm) thick normal weight (100-150 pcf (1600-2400 kg/m³) reinforced concrete or 7-5/8 in. (194 mm) thick Concrete Masonry Units (CMU). Create a round through-opening with diameter of 6 in. (152 mm).

2. PENETRATING ITEM: Install one of the following penetrating items:

- Max. 4 in. (102 mm) Cast or Ductile Iron Pipe
- Max. 4 in. (102 mm) Rigid Steel Conduit or EMT
- Maximum 4 in. (102 mm) Schedule 40 (or thicker) Steel Pipe

3. PACKING MATERIAL: Install min.4 pcf(64 kg/m³) density mineral wool batt insulation in the annular space, compressed 25% around the penetrating item (Item 2) as follows:

• Floor Ceiling Assembly - Install min. 6-3/4 in. (171 mm) layer recessed 1/4 in. (6 mm) from the top or bottom of the floor/ceiling assembly (Item 1)

• Wall Assembly: Install min. 6-1/2 in. (165 mm) layer recessed 1/4 in. (6 mm) from both surfaces of the wall assembly (Item 1).

If the floor/ceiling or wall assembly (Item 1) is greater than 7 in., the 12 in. length of insulation (Item 5) may be reduced the amount the floor/ceiling or wall assembly (Item 1) exceeds 7 in. If the insulation (Item 5) is reduced, the packing material (Item 3) must be increased by the same thickness in the annular space.

4. FILL, VOID, OR CAVITY MATERIAL: Use the material listed below.

CERTIFIED MANUFACTURER: Hilti Corporation

CERTIFIED PRODUCT: Sealant

CERTIFIED MODEL: FS-ONE MAX Intumescent Firestop Sealant

Apply nominal 1/4 in. (6 mm) layer of FS-ONE MAX Intumescent Firestop Sealant to fill the 1/4 in. (6 mm) void left after installing the packing material (Item 3). After installing the insulation (Item 5) around the penetrating item (Item 2), apply a nominal 1/4 in. (6 mm) bead of FS-ONE MAX Intumescent Firestop Sealant in the longitudinal seam of the insulation and at the insulation (Item 5) and floor/ceiling or wall assembly (Item 1) interface.

5. INSULATION: Install one layer of 12 in. (305 mm) long, 8 pcf (128 kg/m³) density, hollow cylindrical mineral wool pipe insulation around penetrating item (Item 1) installed below the floor/ceiling assembly (Item 1) or on both sides of the wall assembly (Item 1). For penetrating items (Item 2) 2 in. (51 mm) or less in diameter, use min. 1 in. (25 mm) thick insulation. For penetrating items (Item 2) with a diameter greater than 2 in. (51 mm), use min. 2 in. (51 mm) thick insulation. As the thickness of the concrete floor/ceiling assembly or wall assembly (Item 1) increases greater than 7 in. (180 mm), the 12 in. (305 mm) length of insulation may be reduced by the amount that the slab exceeds 7 in. (180 mm).

6. STAINLESS STEEL CLAMP: Install 1/2 in. (13 mm) wide stainless steel hose clamps to secure insulation (Item 5) around penetrating item (Item 2). Install hose clamps around insulation spaced 2 in. (51 mm) from the ends of the insulation and max. 8 in. (203 mm) on center (oc) between.

7. RISER CLAMP: Install 4 in. (102 mm) galvanized steel riser clamp around penetrating item (Item 2) flush with the end of the insulation (Item 5) (not required on horizontal penetration).

8. TEE/ELBOW (Optional): Attach to penetrating item (Item 2) when required. When installing tee or elbow at a distance greater than 12 in. (305 mm) from the floor/ceiling or wall assembly (Item 1), insulation (Item 5) is only required from the floor/ceiling or wall assembly (Item 1) to the tee or elbow. If the tee or elbow is less than 12 in. (305 mm) from the floor/ceiling or wall assembly (Item 1), insulation (Item 5) must be installed from the floor/ceiling or wall assembly (Item 1) to the tee or elbow and installed min. 12 in. (305 mm) from the junction of the tee or elbow in both directions. Secure insulation (Item 5) around tee/elbow using stainless steel hose clamps (Item 6) spaced max. 8 in. (203 mm) oc.



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