Hilti Corporation
Design Number HI/PF 120-11
Through Penetration
FS-ONE MAX Intumescent Firestop Sealant
ASTM E814, UL 1479, CAN/ULC-S115
Rating: See Table 1
Pressure Differential: Positive, 0.01 in. w.g. (2.5 Pa)

TABLE 1. RATINGS

	ASTM E814, UL 1479	CAN/ULC-S115
F-Rating	2 Hr	2 Hr
T-Rating	0 Hr	NA
FT-Rating	NA	0 Hr
FH-Rating	NA	2 Hr
FTH-Rating	NA	0 Hr

TOP VIEW

SECTION A-A

SECTION A-A

Floor/Ceiling Assembly

Wall Assembly
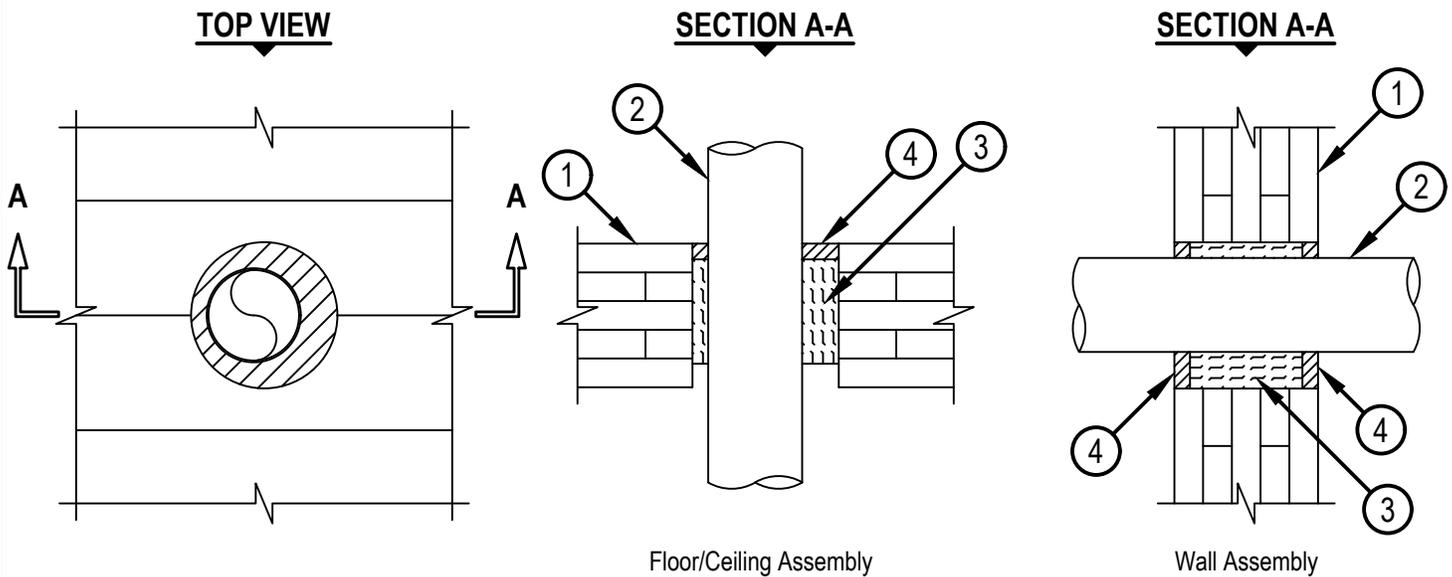
FIGURE 1. THROUGH PENETRATION FIRESTOP SYSTEM

Hilti Firestop Systems

Intertek

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HI/PF 120-11

1. FLOOR/CEILING OR WALL ASSEMBLY : Use a 2 hour fire-rated floor/ceiling assembly or wall assembly consisting of min. 6-7/8 in. (175 mm) cross-laminated timber (CLT) with a min. 5-plys. Cross-laminated timber (CLT) assembly to be certified in accordance with ANSI/APA PRG 320 (2018 or later). Size of opening through assembly to be a max. 8 in. (203 mm) diameter.

  A. (Optional, Not Shown) GYPSUM BOARD : For floor/ceiling assemblies or for wall assemblies (Item 1), directly applied gypsum board protection may be included with the following requirements:

- One or more layers of min. 1/2 in. (13 mm) thick Type X gypsum board may be directly applied to the bottom of the CLT floor ceiling assembly, or to one or both sides of the CLT wall assembly (Item 1). Each layer of gypsum board is to be attached to the CLT assembly in accordance with local code requirements.

2. PENETRATING ITEM : Install penetrating item centered or offset within the opening. Offset may range from min. 1/2 in. (13 mm) to max 1-7/16 in. (37 mm) Install one of the following penetrating items:

- Maximum 6 in. (152 mm) diameter Schedule 10 (or thicker) steel pipe.

- Maximum 6 in. (152 mm) diameter cast or ductile iron pipe.

- Maximum 6 in. (152 mm) diameter copper pipe or Tube (Type L or heavier).

- Maximum 6 in. (152 mm) diameter rigid steel conduit or EMT.

3. PACKING MATERIAL : Use only packing material bearing an Intertek Certified Label and meeting the following minimum requirements. Install min. 4 pcf (64 kg/m^3) density mineral wool batt insulation in the annular space of the opening in the floor/ceiling or wall assembly (Item 1), tightly packed (compressed min. 33%) around the penetrating item (Item 2) as follows:

- Floor/Ceiling Assembly - Install min. 5 in. (127 mm) thick layer recessed min. 3/4 in. (19 mm) from the top of the CLT floor/ceiling assembly (Item 1). Mineral wool may be recessed a max 1 in. (25 mm) from bottom of floor/ceiling assembly.

- Wall Assembly - Install min 5 in. (127 mm) thick layer recessed min 3/4 in. (19 mm) from both surfaces of the CLT wall assembly (Item 1).

4. FILL, VOID, OR CAVITY MATERIAL : Intumescent Firestop Sealant

  CERTIFIED PRODUCT : Hilti Corporation, Penetration Firestopping; FS-ONE MAX Intumescent Firestop Sealant.

- Floor/Ceiling Assembly - Apply min. 3/4 in. (19 mm) thick layer of Hilti FS-ONE MAX Intumescent Firestop Sealant to fill the void left after installing the packing material (Item 3) on the top of the floor/ceiling assembly (Item 1).

- Wall Assembly - Apply min. 3/4 in. (19 mm) thick layer of Hilti FS-ONE MAX Intumescent Firestop Sealant to fill the void left on both sides of the wall assembly (Item 1) after installing the packing material (Item 3).

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Hilti Firestop Systems

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