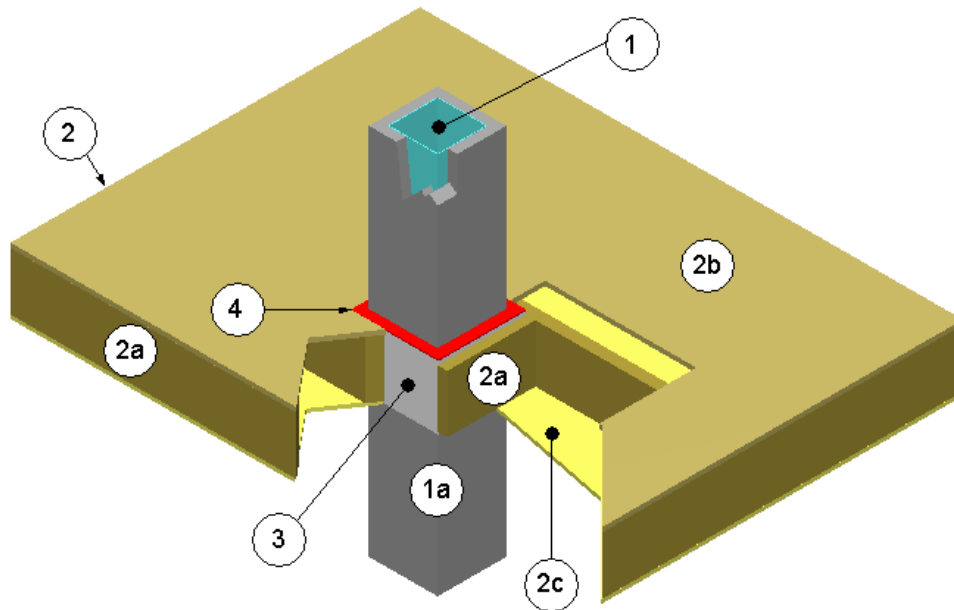


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**Unifrax I LLC**  
**Design No. UNI/PV 60-01**  
**Through Penetration**  
**FyreWrap® Elite 1.5 or**  
**FyreWrap® EZ 1.5 or**  
**FyreWrap® 1.5 or**  
**FyreWrap® Max 2.0**  
**ASTM E 814-06**  
**T Rating – 1 hr**  
**F-Rating – 1 hr**

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1. **PENETRATING ITEM** – Use a rectangular steel duct constructed of minimum 26 GA sheet steel with maximum area of 64 square inches and maximum dimension of 8 inches (maximum rectangular dimensions: 8 x 8 inches).

A. **CERTIFIED MANUFACTURER:**  
Unifrax I LLC

**CERTIFIED PRODUCT:**  
Insulation Blanket

**MODEL:** FyreWrap® Elite 1.5,  
FyreWrap® EZ 1.5, FyreWrap®  
1.5, or FyreWrap® Max 2.0

Protect penetrating item with one layer of Insulation Blanket applied with a minimum 3 inch overlap onto the preceding piece at the joints and secured to the duct using minimum ½ inch wide by 0.015 inch thick carbon steel banding spaced 10-1/2 inches on center. Longitudinal overlaps can occur within the opening but circumferential overlaps cannot occur within the opening through the floor assembly (Item 2). One circumferential overlap must be flush with the bottom of the floor assembly (Item 2) and bottom of packing material (Item 3).

2. **FLOOR ASSEMBLY** – Install penetrating item (Item 1) through a framed hole created in an ASTM E 119 (UL 263 or NFPA 251) one-hour fire-rated floor assembly having the following components as part of its construction:
- A. Minimum 2 x 10 wood joists spaced a maximum 16 inches on center except at the position of the penetrating item where the juxtaposed joists are spaced a maximum 15-1/2 inches on center with a maximum distance between joist faces of 14 inches.
  - B. Minimum 3/4-inch thick plywood attached to the top of wood joists (Item 2a).
  - C. Minimum one layer of 5/8-inch thick, Type X, gypsum wallboard attached to the bottom of wood joists (Item 2a).
  - D. Create an opening through the floor assembly (Item 2) to accommodate the protected penetrating item (Item 1) and the conditions of Item 2e with maximum area of 196 square inches and maximum dimension of 14 inches (maximum rectangular dimensions: 14 x 14 inches). When the hole penetrates the wood joists (Item 2a) additional reinforcement is required to maintain the floor assembly's (Item 2) strength at that location.
  - E. Position the penetrating item (Item 1) concentrically in the opening (Item 2d) so that the annular space is a maximum 1-1/2 inches on the sides. Insulation on

penetrating item (Item 1) cannot contact sides of floor assembly (Item 2) around opening (Item 2d).

3. **CERTIFIED MANUFACTURER:** Unifrax I LLC

**CERTIFIED PRODUCT:** Insulation Blanket

**MODEL:** FyreWrap® Elite 1.5, FyreWrap® EZ 1.5, FyreWrap® 1.5, or FyreWrap® Max 2.0

**PACKING MATERIAL** – Fill the annular space between the penetrating item (Item 1) and floor assembly (Item 2) with scrap Insulation Blanket without its foil scrim. Cut the packing material into strips. Compress width of packing material installed into annular space a minimum of 33%. Insert packing material into the opening (Item 2d) to completely fill the entire annular space and recess the top surface of packing material a minimum 1/4 inch from the top surface of the floor assembly (Item 2), to accommodate the fill, void or cavity material (Item 4).

4. **LISTED MANUFACTURER:** Hilti Corporation

**LISTED PRODUCT:** Sealant

**MODEL:** FS-ONE Intumescent Firestop Sealant

**FILL, VOID, AND CAVITY MATERIAL** – Apply a minimum 1/4 inch depth of sealant over the recess created by the packing material (Item 3). Level the sealant flush with the top of the floor assembly (Item 1).